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COTTAGE INDUSTRIES OF INDIA

[GUIDE BOOK & SYMPOSIUM]

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PUBLISHERS' NOTE

Our **SILPI**, a monthly journal devoted to **Art, Industry, and Commerce**, is not unfamiliar to the public in India and elsewhere. Its earnest devotion to the cause of our arts and crafts some of which need immediate attention has earned wide-spread appreciation. In consequence, numerous inquiries regarding the cottage industries in the various parts of our country have poured into our office from several quarters, from persons or groups of different callings and interests—artists, artisans, traders, co-operative or private small industrial concerns, etc. There was noticeable in them a kindling of popular interest in our small industries and a keen sense of disappointment at the meagreness of the information available regarding them. Alive to this situation, we chose to meet this general demand by bringing out a comprehensive handbook on the subject. We were encouraged in our endeavour by the Government of Madras and, in particular, by the Hon'ble Sri V.V. Giri, Ex-Minister for Industries and Labour, Madras. Our sincere thanks are due to them for their appreciative attitude towards us.

To collect the latest available material on the subject was no mean task, particularly at the time when the future of our country was in the melting pot and Governments as well as private bodies and individuals were breathlessly watching the outcome of the national political endeavours. Response was at first very slow from several quarters, though not entirely absent. Thanks to the patient endeavours of our editorial staff, some valuable material was gradually forthcoming. This material consisted in Administrative Reports and some stray notes and the like. We thank the various Governments and their Departments of Industries and Co-operation for their sincere co-operation and kind response to our appeal. Much information was compiled

at our office from the stray notes and Reports and other available sources.

A number of articles relating to the economic and technical aspects of certain small industries have been kindly contributed by some specialists in their respective fields. We have acknowledged with thanks their courteous contributions severally and individually elsewhere in this book. We, however, record here our grateful thanks for their kind response to our request.

We regret the omission of *Who's Who* and *Statistical Supplement* in this volume. This omission could not be helped, since there has been little response from the Provinces and States in this behalf. We apologize to our readers for this omission and promise to furnish the sections in our next edition. We have, however, kept up the pictorial interest of our numerous readers by furnishing an interesting pictorial supplement. We are grateful to the A.I.V.I.A., Wardha and the A.I.S.A. Andhra Branch and the Departments of Industries and Co-operation, Madras for their kind and generous loan of the use of their blocks in our Supplement.

It is one thing to prepare a book and another to push it through the press. The hardships and disappointments which publishers are obliged to suffer without a word in the matter of securing paper supplies are notorious. Control or decontrol, the hardship experienced by us has been the same.

Finding a good printer is extremely difficult now-a-days. We have, however, been rather fortunate in this respect ; for the Madras Law Journal Press kindly agreed to take up our work. In spite of the pressure on them from various other items of work, they found time to push our matter through the press, even though our book swelled into a larger volume than at first estimated. We heartily thank the Press for their kind and courteous execution of the work. We also thank the Solar Printers, Madras, who printed our colour plates neatly.

We have great pleasure in offering to our numerous readers this volume *Cottage Industries of India*. This book, probably the only comprehensive publication on the subject in our land, contains a good deal of information regarding cottage industries in all Provinces and many important States. It may be observed that its scope is wider than the territorial limits and political boundaries of India of today. For, it had been designed to be a ready-referencer comprising all the Provinces and States in India as it existed before the Partition ; and therefore the latest available information had been collected from the several units. The Partition came only after our manuscript had been got up. The Partition being after all a political event, it was felt by us that a rearrangement of the matter was unnecessary in view of the economic unity of this ancient land of cottage industries. We have, however, maintained the political interest in the Partition in the notes on the general features of the several Provinces and States. Of course the book has been brought up none too soon ; for would it not be futile and ill-advised to launch upon such a scheme at present when the Partition and the political ferment have tended to make constructive work well-nigh impossible? We feel gratified for having made available to the people of this ancient country a pen picture of their arts and crafts as they were on the eve of the Partition and political unrest. We thank the numerous Governments, private bodies and individuals and our own editorial staff for having contributed to our achievement. We thank in particular Sri Viswanathan Tekumalla, our Co-opted Editor whose knowledge of and long experience in the field of cottage industries and patient work have contributed not a little to the success of our endeavour.

We also thank Madam Marcella Hardy for having kindly gone through the pages of the book and prepared the *errata*.

Finally, we acknowledge a debt of gratitude to our General Editor, Sri V. R. Chitra, but for whose earnest co-operation we could not have ventured on such a huge undertaking.

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D. SAMBASIVA RAO

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3. Dr. J. C. Kumarappa, Wardha
Village Industries and Progress
4. Sjt. O. C. Gangoly
Art in Modern Industry
5. Rao Saheb G. Jogi Raju
The Need to Develop Food Industries on a Cottage Basis
6. Sjt. M. Vinaik, A.I.V.I.A., Wardha
What For Is Rice polished ?
7. Mr. Abbas Khaleeli, I.C.S., Madras
Fish Curing as a Cottage Industry
8. Sjt. M. P. Gandhi, Bombay
The Handloom Industry in India
9. Sri V. V. Raman, Madras
The Weaver Speaks
10. Sri V. R. Chitra, Madras
Doll and Toy making
Power Lathe Vs. Country Lathe
Industrial Museums : Their Functions
11. The Director of Industries & Commerce, Madras
The Hand-made Paper Industry (Sri T. Venkajee)
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12. Sri T. N. Srinivasan, Madras
Rural Credits and Debts

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INTRODUCTION

For over a quarter of a century the Provincial Governments throughout the country have been planning to develop cottage industries. Committees and Special Officers were appointed to survey the existing cottage industries in the respective Provinces and drew up plans to revive some of them and give relief to the struggling craftsmen. Elaborate reports were published by some of the Provincial Governments by passing Acts such as State Aid to Industries Acts, Co-operative Societies Acts, etc. Enormous sums of money were spent on these Committees and for the publication of these reports. But no benefit seems to have been derived by the traditional craftsmen and not one of the handicrafts that were once the pride of our country has been properly established by any of the Provincial Governments under any of these provisions. If some of them are still thriving and some progress has been made, it is so in spite of the Provincial Governments.

In 1921 after the political awakening under the inspiration of Gandhiji certain national institutions have sprung up in several parts of our country to resuscitate some of the indigeneous art-crafts. Not much progress was made in their efforts due to suppression by the British Rule in India on the one hand and lack of proper understanding and fore-sight in the political leaders who sponsored them, on the other hand. The country was thrown into confusion since 1920, fighting the British-set Administration for political freedom, which resulted in destructive propaganda ignoring completely the economic freedom. The political consciousness that was developed by the Congress happened to be also one-sided. The little *Swadeshi* spirit that was infused into the blood of our nation during the *Vande mataram* movement was slowly allowed to die for want of proper political leadership. It was at this time that Poet Rabindranath came out openly and criticised the Congress leadership and requested Gandhiji to revise and introduce some constructive programme along side the boycott movement. Rural reconstruction work and the rehabilitation of village industries were in his mind when he criticised the Congress

Programme. Irrespective of public criticism Rabindranath started *Sri Niketan* at Sural two miles away from his world-renowned school *Santi Niketan* at Bolpur. *Sri Niketan* is the very first institution in India where young men and women are trained in rural reconstruction work since 1922. Even today there is only one *Sri Niketan* in the whole of India where rural uplift work such as improving rural sanitation, health, education and recreation is taught, practised and spread out far and wide in the country. Not content with rural reconstruction work alone, the poet took up the revival of handicrafts and started *Vi-Chitra* at Calcutta and *Kalabhavan* at *Santi Niketan* where several indigenous handicrafts such as *kantha* stitching, *alpona* lacquer-work, book-binding, pottery, jewellery, leather-craft, *batik* and embroidery were introduced, and many school boys and girls, including the Art students, were given training in several of these crafts. The Poet invited artists and artisans from all over India and from countries like Japan, France, Germany, and China to come and work in his institution for mutual benefit.

After a decade or so the work at *Sri Niketan* and *Santi Niketan* drew Gandhiji's attention and somewhere about 1934 Gandhiji gave directions to the Congress High Command to include constructive work as a part of the Congress Programme, and to resuscitate village industries as the chief item of the Constructive Programme. But, unfortunately, the Congress was not able to command expert personnel to undertake this tremendous task, with the result that the Committees constituted by the A.I.C.C. to draw up a programme of work for the development of village industries, failed to place before the country a wise or workable programme. Paddy husking, oil pressing, *gur* making, and hand-made paper were taken up and an association was formed under the name of the All India Village Industries Association. The All India Spinner's Association was also formed to develop hand-spinning and hand-weaving on a scientific basis. Luckily the Congress never lacked finances for starting anything on an all India basis. Both the above Associations received enough financial help and wide publicity. It is, however, to be construed as our misfortune that at a time when the whole world was industrialising after the first world war, we were foolishly arguing and discussing how best to go back to the ancient methods. Constructive work was the catch word of

every Congressman right from the leader to the worker. Everyone indulged in some form or other of constructive work and village industries, as a result of which today the Congress members who are well saddled on Ministerial *gadhis*, and at Municipal Councils, etc., are still talking on constructive work and improving village industries while most of the villages throughout the country have not even good drinking water—leave alone sanitation, medical aid or proper shelter.

Due to foreign domination and exploitation for over 200 years we have developed a strange complex in our character and life. We have forfeited all our traits. We belong neither to the glorious past nor to the modern industrial age. We are mere Indians having been born on the Indian soil, dissociated from Indian culture and character, struggling for breath in a free atmosphere. We have seen two gigantic wars in the last thirty-five years and we have seen how before our eyes small and big countries have risen to the peak as powerful nations and how they have also collapsed before our very eyes. Great Britain perhaps is the only country which benefited by these wars and she has, by handing over her colonies to their peoples, extricated herself from the danger zone—the next war. As for India, from the internal security point of view we were quite safe till the 15th of August, 1947, though we were at a great disadvantage, not being free to do what we thought good for us and for our country. But after the D Day (15th August, 1947) we have been confronted with insurmountable difficulties and problems. While solving one we are creating a few more problems, dangerous and unhealthy for the growth of any country.

The whole country is in confusion with contradictions *galore*, individually as well as collectively; one Provincial Government trying to do exactly the opposite of what its neighbouring Province does resulting in the people losing confidence. All this confusion may be due to lack of co-operation and co-ordination between the Provincial leaders on the one hand and, on the other, proper men not being put at the helm of affairs to plan and work for the benefit of the State and its people taking into consideration all aspects, cultural, industrial and moral with which a nation should be built.

When the Congress legislators first accepted office in 1937, the Provincial Ministers broke all records in giving

hopes to the people with the result that every one expected a paradise on earth. The Congress which has been accusing the Government all along till it took *office* and promised to break the red tapism and other departmental vices has itself fallen a victim to it and the red tape has only become in their hands *more red*.

The writer was deputed to North India by the Government of Madras to study and report on the methods of industrial education imparted in various Provinces in India. He visited all the industrial schools and establishments in the Punjab, United Provinces, Bengal, Bihar, Central Provinces and several Indian States and submitted a report on his return to the Government in which it was stressed that there should be a close co-operation between Provinces, at least from the Government side, and also emphasised that there should be a co-ordinated plan for imparting industrial education and exchange of technical knowledge between Provinces. This report does not seem to have seen the light of day, perhaps due to some sharp difference of opinion in the Cabinet.

It may be mentioned that more than once there was a demand for copies of this report on the floor of the House. (1938).

Again during the first Congress regime, Mr. V. V. Giri, the then Minister for Industries and Labour, Madras, sponsored a Conference of Industries Ministers from the seven Congress Provinces with a view to studying the industrial possibilities of the various Provinces and utilizing the existing industries for the improvement of the Country. Even this effort has not proved successful yet.

For the first time in the history of the Indian National Congress, the President, Sjt. Subas Chandra Bose, some time in the first week of October 1938, declaring the Conference open, said "Congressmen today have not only to strive for liberty but have also to devote a portion of their thought and energy to problems of national reconstruction considering that they are within sight of power and *Swaraj* is no longer a dream to be realized in the distant future." "National reconstruction" said the Congress President "would be possible only with the aid of science and scientists. There is at present a lot of loose talk about the schemes for bringing about an industrial recovery in the country but to my mind the principal problem that

we have to face is not industrial recovery but industrialization. India is still in a pre-industrial stage of evolution."

Talking of Cottage Industries, Sjt. Subhas Chandra Bose said that there was no conflict between cottage industries and large scale industries. Such a conflict, if any, arose out of misunderstanding. He was a firm believer in the need for developing India's cottage industries, though he held that they had also to reconcile themselves to industrialization. In the most industrially advanced countries in Europe a large number of cottage industries still existed and thrived. In India the handloom industry, despite keen competition, had not lost ground. Industrialization therefore did not mean that people should turn their backs on cottage industries. In the peculiar national economy which existed in the Country, he firmly believed that they should do their best to develop cottage industries side by side with the large scale industries. The Conference authorised Sri V. V. Giri to take necessary steps in bringing into existence the All-India National Planning Commission. The National Planning Committee met for the first time on 17th, December, 1938, under the Chairmanship of Shri Jawaharlal Nehru. Sjt. Subhas Chandra Bose, Congress President, inaugurated the proceedings. In the course of his opening speech Pandit Nehru observed as follows: "It is clear therefore that not only is it open to this Committee and to the Planning Commission to consider the whole question of large scale industries in India, in all its aspects but the Committee will be failing in its duty if it did not do so. There can be no Planning if such planning does not include big industries. But in making our plans we have to remember the basic Congress policy of encouraging cottage industries."

This National Planning Committee, which was to give the country a blue print of a plan for industrialisation including development of cottage industries and nationalisation of certain major and key industries, unfortunately died at the sub-committee stages about 1941.

During the war years (World War II), Advisers' regimes in the Provinces realised that each Province should lay out a programme for industrialisation on a country wide basis and did some useful work instead of platform lectures, of course using the deliberations of the National Planning Committee to their full advantage.

World War II benefited India fairly well in the sense that the British Administrators in India realised that unless India was industrialised to a great extent they might lose the war. For instance when the War department wanted blankets they could not get them in India for the simple reason that there was no proper organisation to handle the business ; Provincial Governments had no organisation except the Co-operative and the Industries departments; the former lacked technical personnel and knowledge whereas the latter lacked organisation and experience. Provincial Governments when put to the test simply collapsed and the Central and the Provincial Governments had therefore to fall back on the industrialists. The help and advice of Sir A. Dalal and Dr. John Matthai in the Central Government, and several others in the Provinces were sought. Along with this reorientation came several well thought out plans such as the "Bombay Plan", and the "Gandhian Plan", from the side of the Central Government. Before any of these were put to work the British decided to transfer power to the people of India; and this gave a set back in the sense that our Governments, Provincial as well as the Central, were confronted with more knotty problems, immediately after taking over the administration from the British and had no time to think of any of these problems.

Neither the Provincial Governments nor the Central Government are now in a position to think carefully over the development of cottage industries on an all India basis and place before the country a co-ordinated plan. Some of the Provincial Governments have not made up their minds whether to develop cottage industries on a scientific basis using to the full advantage electricity and labour saving modern appliances along with large scale industries, or to leave them to their fate to continue to work with crude implements producing unartistic and uneconomical articles which when put in the market stand no chance before the imported goods of the same category. We cannot close our eyes and trade on false nationalism when every other country is facing realities with open eyes and is marching towards rapid progress.

Take for instance Japan and China which very closely resemble our Country and for centuries depended like us only on hand labour and traditional implements. **How**

they have adapted themselves to the changing conditions and have re-organised their social and economic structure while maintaining intact all their natural characteristics! None of these handicrafts has deteriorated either in quality or in standard like ours. On the contrary they have improved from the commercial point of view. Their handicraft and cottage industry products are very successfully competing with the products mechanically manufactured on a large scale by England, Germany and America, not only in Japan and China but in every country including England, Germany and America. To cite one example, Japanese made "Union Jack" flags were imported in large quantities by English businessmen during the Coronation celebration of King George VI. After the celebrations there was a great uproar in the Parliament against permitting Japanese made "Union Jack" flags and the Government replied that due to shortness of time and raw material this course was taken up by them. The truth however was that British made flags were more expensive though mechanically produced. These flags were not manufactured in the Japanese factories but were all made in the small establishments affiliated to one organisation. The same thing may be said about the hand made paper. The hand-made paper dealers' association within record time supply any quantity of paper without the slightest difference in the quality—all collected from several manufacturing units. It is the same thing with ceramics; all pre-war tea-sets (15 pieces a set) that were sold for Rs. 1-8-0 in India were the products of the small establishments. How Japan was able to make such a progress in her cottage industries and why India, though placed in a better position from the point of raw materials, is in such a deplorable state is a matter which should be thoroughly investigated.

If Japan has become a first rate industrial country in the twentieth century it is due to her cottage and small scale industries. When Europe and America were machanising industries, depending more on machines than on human hands, Japan realised the potentiality of the machine and re-organised the social and economic structure of her villages. She made her villages the nerve centre of industrialisation. Electricity was made available to every village and to every artisan in the village. Modern labour saving machinery and equipment was supplied to the cottage industrialists

on easy instalment basis and associations were started for helping them to standardise the goods, improve them to capture the foreign markets and, lastly, to protect them from internal and external competition. Thus Japan built up her industry in the early part of this century by flooding the foreign markets, especially in the dependent countries in Asia where German, English and American goods held monopoly with all privileges as rulers of the Colonies.

Japan entered the foreign markets with consumer goods, toys and cheap textiles just before the first World War and established herself well during the war and monopolised the Colonial markets and entered European and American markets crushing all competition. Even when they were grappling with the after effects of war and economic depression, the western countries could not crush Japanese industry due to the reason that Japan built her industry on a different basis. Japan never allowed human energy and labour to submit to the machine as it was the case with America and Europe. It made use of the machines to assist and save human energy and labour. Man was not the slave of the machine but was the master of the machine in Japan where even the big industries were decentralised and carried into the heart of the country—the villages.

Take for instance India today and compare it with either Japan or Germany and see where we stand. Before any of these countries we stand no comparison. We are still on the political platform with nothing but contradictions in our ideology or conception of life. Though we started the slogan 'go back to the village' and 'revive the village industries' thirty years ago, we are still rowing round the starting point. We have not seriously applied our minds to this problem due to lack of proper understanding and clear-cut notions.

We are developing our industries on the British and American models centralising them in a few places, drawing all the labour from the villages to the point of over-crowding these industrial cities and deserting the villages. Similar mistakes are done in other respects too. We are developing our cities and towns, entirely neglecting our villages with the result that the villagers are migrating to the urban areas for education, for medical aid and for receiving elementary amenities in life. The disparity between our villages and

towns is so great that the tiller of the soil and the rate-payer have lost hope and, in despair, are migrating to the urban areas, with the result that the agricultural produce is gradually declining.

“Grow more food” is still the slogan raised throughout the country. It is three years since the Congress have come to power both at the Provincial and Central Governments. There has been more misery and communal conflict than the expected milk and honey or the consolidation of the Indian Nation. It is not late even now to start moving in the right direction. It may be too late to-morrow !

But, now the question facing some of the Governments, particularly of the Provinces, seems to be how to start moving in the right direction in the absence of data regarding the cottage industries in the country. Years have passed in wishful thinking or hap-hazard measures regarding cottage industries; and the need for concrete data, which could form the basis for constructive work is still felt by many a Province and State. Thanks to the Silpi Publications this need is supplied by the publication of this handbook. Its pages give one a pen-picture of the past and the present conditions of our cottage industries. While one may take pride over our industrial past as he turns over the first pages, he will soon find from the subsequent ones how little has been done to promote cottage industries. He will also find later on, to his relief, what eminent men say or suggest about developing the small industries on sound lines. It might be that the legislative enactments included in the book may be scrapped or modified when the new Constitution begins to function. Nevertheless, the book will afford the most comprehensive background for any Government or public or private body to take stock of the position, to compare it with that of the sister Provinces or States and to proceed on proper lines in the matter of building up the national industrial edifice. It is earnestly hoped that all the Provinces, and public bodies and private institutions labouring for the promotion of cottage industries will take up the matter in right earnest and give the Nation the long promised Industrial Paradise.

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V. R. CHITRA

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MASULIPATAM KALAMCARI PALAMPHORE

COTTAGE INDUSTRIES OF INDIA

SECTION I—PRELIMINARY

I. COTTAGE INDUSTRIES—OUR INDUSTRIAL HERITAGE

VISWANATHAN TEKUMALLA

OUR industries had been, for decades past, victims to the indifference of the State and the indolence of the people. There had been, so to say, little planned action or co-ordinated effort on the part of the Government and the nation in industrial matters. Planning was, however, first contemplated during the last Congress regime (1937-40), but before any progress could be recorded the popular ministers were out of office. The global war having made national reconstruction the main concern of every nation, our planning has again emerged to the forefront; and, thanks to the establishment of National Government at the centre, the matter is now receiving nation-wide interest.

Of all problems of planning, that of our industries is formidable: Seeing that mechanisation of industries is in full swing everywhere on the globe and knowing that India is one of the eight industrial countries of the world, are

we to forge ahead on the same lines as the Industrial West? Or are we to march along the old tracks even in this Age of the Machine? The answer to this depends on a proper understanding of the cultural progress of the East and of the West.

The cultural progress of the East is essentially different from that of the West. Let us compare India, typical of the East, with Western Europe, typical of the West. True it might be that as Maine said in the *Village Communities of the East and the West*, the primitive Teutonic Township of Western Europe exhibited some likeness to the village-community of Ancient India. Both were cultivating groups; both were self-acting, self-sufficing communities with their Councils of Elders and their hereditary trades. But the course of their history led them on different lines. The smallness of the country rendered the inhabitants of Western Europe susceptible to political and other vicissitudes while their strenuous industrial life left them little leisure to develop a variety of peaceful arts and crafts. On the other hand, the vastness of India left the people unaffected by wars and dynastic changes, while their rural life gave them enough leisure to pursue peaceful arts and crafts. At last in the eighteenth century, the Industrial Revolution of the Western Europe took the people under its sway and, having cut them off from the vestiges of ancient traditions, led them towards modern industrialism. India, on the other hand, dwelt more or less in its ancient tradition and culture; her vigour and vitality showed little sign of decay and her traditions and culture few signs of impingement by Westernism. The fateful years were yet to come.

The spell is now on. Our age-long socio-economic structure has been impaired and popular faith in our tradi-

tions and culture shaken by the infiltration of Western industrialism. But nothing like a complete annihilation has occurred. Our traditions and culture have been fairly strong and Western infiltration rather feeble for a complete change to occur as in the West. But the ugliness of change is there. India is now a conglomeration of feeble modern Western industrialism and fragmentary ancient native culture.

India is now at the threshold of momentous changes in the character of her industry. Neither the radicalism of those who ignore our socio-economic life and ancient culture nor the diehardism of those who harp on their fragmentary knowledge of our Past and eschew new influences can help to promote our industries on sound lines. Only the wisdom and wariness of a Janus who can probe into the Past and look forward into the Future can guide us right through.

Let us then probe into the Past that we may know our industrial heritage.

Chronologically, our heritage extends over several millenniums—from about 5000 B.C. to about 1800 A.D. This period may be divided into two periods, ancient and mediaeval. The former extending upto 800 A.D. covers historically the Hindu period, while the latter dating from about 800 A.D. to 1800 A.D. covers for the most part Muslim and Moghul rule interspersed with Hindu ascendancy in certain parts of the country, particularly in the South.

The sources of information are chiefly numerous works of the artists and craftsmen of India. They consist of textile goods, luxury articles, household wares, paintings, temples, mosques, pillars, caves and other monuments and

works of art. These material remains are made of wood, metal, stone, ivory, textile fibre and other raw materials, mostly of indigenous origin. Besides these material remains, there are abundant literary sources consisting in the accounts of foreign and Indian travellers and historians who could not help jotting down appreciatory notes of what caught their eyes and ears as monuments of Indian artistry and craftsmanship.

The range of production of the Indian artists and craftsmen was as wide as the range of the raw materials employed by them. It varied from the production of utility goods like coarse cotton cloth, household ware, and agricultural implements to the production of art-ware and luxury articles like jewellery, ivory carvings, and *kalamkari* (hand-printed and painted) cloth. One interesting feature was that no clear-cut demarcation was possible in respect of some articles which combined utilitarianism and art—for instance, lamps and lamp-hanger hooks and copper and brass utensils.

And now of the several industries which spread the halo of glory and splendour around our antiquity:

It has become customary for some of those interested in the revival of our arts and crafts to identify our industrial heritage with the glory of our art-industries only. It might be that the utilitarian industries appear too common place in their eyes to attract their attention. But this would render the picture of our industrial heritage rather incomplete; for utilitarianism and aestheticism were the two eyes of our ancient industry; and each by itself could not have completed the picture of the life of our ancients. A note on our ancient industries must then

include not only our art-crafts but our utilitarian industries.

I.—Utilitarian Industries.—The Indian village was much more than a mere territorial or administrative unit. It was a balanced economic unit. The Indian village community was, in the words of Maize, “an organised, self-acting body.” It included “a nearly complete establishment of occupations and trades for enabling it to continue its collective life without assistance from any person or body external to it.” Besides the main cultivating group, it had an auxiliary group of artisans who performed certain duties to the members of the community as a whole. The carpenter did his part in making carts, ploughs and other agricultural implements, and in house-building; the blacksmith made or repaired agricultural implements and the iron parts of houses; the potter made earthenware for the use of all the villagers; the cobbler made footwear, belts and other leather-goods for the villagers; the village weaver converted into cloth the yarn spun by the village women. It was significant that spinning was as common a domestic occupation among women as cooking. These hereditary craftsmen were not only the servants of the community but its component members as well. They were sometimes paid by an allowance in grain but more generally by the allotment of a piece of cultivated land to each family in hereditary possession.

II.—Art Industries.—While a majority of the hereditary artisans pursued the humble arts and crafts which furnished the community with articles of use and comfort, there were yet a considerable number of them who produced artware for the aesthetic-minded and the luxury-loving.

Their patrons were the imperial, provincial and local rulers and the nobility even as the patrons of the village artisans were the village community. The wealth of the Indian rulers and nobility was immense. The courts were at once the scenes of pomp and display and seats of beauty and art; for while many of them patronised art out of vanity, the others, being artists themselves, patronised art for its own sake. They summoned artists and craftsmen to their courts either at their capital towns or at their temporary encampments elsewhere. Artisans, craving royal patronage, flocked at the courts which thus became exclusive seats of skilled manufacture and decorative art. "Everyman who claimed to belong to the higher class of artificers took his loom or his tools and followed in the train of the king." Sometimes some peculiar manufacture or special art established itself in the vicinity of a sacred shrine and threw out colonies of artisans, thus making the centre a seat of arts and crafts.

The important art-manufactures of India fall under six classes: 1. Textile manufacture, 2. Metal work, 3. Stone work, 4. Wood work, 5. Ceramics, 6. Glass work.

1. *Textile manufacture*: The textile industry may be divided into two branches: (A) textile spinning and weaving, (B) Textile dyeing and printing.

A. *Textile spinning and weaving*: This consists of three branches: (a) cotton, (b) woollen and (c) silk.

(a) *Cotton spinning and weaving*: By far the most important branch of the textile industry developed by our ancients was the cotton industry. The Indian cotton industry is as old as civilisation itself. India is the original home of the cotton industry. She developed hand-spinning and hand-

weaving to a high degree of excellence even in those ages when Western Europe, the abode of modern industrialism had been wriggling in ignorant barbarism. The earliest evidence of our textile glory dates as early as about 5000 B.C. when our finest muslins wrapped the Egyptian Mummies. Mention is made in our Vedas of the custom of the bride clothing the bridegroom in cloth woven out of yarn spun by herself. This custom, apart from showing the universality of hand-spinning among women, is quite suggestive of a sense of aestheticism among our ancients. The Hindu Epics, *the Ramayana* and *the Mahabharatha*, are replete with references to the excellent textiles of our land.

Coming to the historical times, we have a chorus of praises of our textiles by the Greeks like Herodotus, Arrian, Megasthenes, Strabo, Pliny and the author of the "Periplus of the Erythraean Sea". For instance, Megasthenes wrote: "Their (of the Indians) robes are worked in gold, and ornamented with precious stones, and they wear also flowered garments made of the finest muslin."

This art of the native textile artisans was not merely tolerated but was patronised by the Muslim rulers of India, who, being an oriental people, were themselves lovers of our arts and crafts. For instance, it was said that one of the Delhi Sultans of mediaeval India had in his service 500 manufacturers of golden tissues who wove gold brocades worn by his wives or given away as presents to nobles and their wives. Marcopolo, the Italian, who travelled in India in the thirteenth century wrote about the muslin of the Tefugu Country, "In sooth they look like tissue of of spider's web! There is no king nor queen in the world but might be glad to wear them."

There were four principal regions of the cotton industry: Dacca and its surroundings; Masulipatam and the Coromandel; Gujerat; and the Indus Valley.

The Moghul period was the golden age for the Indian cotton textile industry. The Moghul Padshas had a higher sense of beauty and art than their Muslim predecessors in Delhi with whom love of luxury and pomp was stronger than love of art. The cotton industry of all parts of the country received their attention. Abul Fazl wrote: "His Majesty (Emperor Akbar) pays much attention to various (textile) stuffs".

But the place of honour, however, was held by the muslins of Dacca among the woven varieties of India. These muslins were known to the Greeks as "Gangetica". Their manufacture which consisted in hand-spinning and hand-weaving required skill of the highest order, for, "they will spin their thread so fine that the eye can hardly discern it". Tavernier, the French art-connoisseur who visited India in the seventeenth century mentioned a coconut all beset with pearls, which contained "a turban that had sixty cubits of Calicut in length to make it, the cloth being so fine that you could hardly feel it in your hand." It was said that when Emperor Aurangzeb admonished his daughter for her scanty attire, she remonstrated that she had seven *Jamahs* on. One important test of the excellence of the muslin was to pass a cloth measuring twenty yards through a lady's ring. A piece of muslin of quality measuring fifteen yards by one would weigh only 900 grains. A skein of yarn is said to have measured two hundred and fifty miles for a pound's weight, which means fineness near- ing 550 counts. Varieties of muslin were known by poetic

names such as *abrawan* (running water), *baftawa* (woven air), *subbanam* (evening dew), which are self-explanatory. Baines thought that these muslins might be "the work of fairies or of insects rather than of men."

Almost equal to these muslins of Dacca in excellence were the muslins of the Northern Circars. Masulipatam known as *Masalia* to the ancients and Vizagapatam were noted for muslins. The long cloths, *ginghams*, handkerchiefs of several important centres of the Coromandel coast like Nellore, Pulicat and Arcot were prized much both at home and abroad.

Gujerat and its neighbourhood produced fine and coarse varieties to meet the large demand at home and abroad. The Indus Valley also produced some fine and coarse varieties like *diapers* and *dangaris* which had a large demand at home and abroad.

(b) *Woollen industry*.—The woollen industry is also one of the oldest industries of India. Its antiquity and excellence are borne out by the hand-spun, hand-woven, embroidered shawls which formed part of the costume of the people of Mohenjo Daro, the Lost City of the Indus Valley, which dates back to about 5000 B.C. There were two important classes of woollen goods: shawls or *chadars* and pile carpets.

Kashmir has been, from time immemorial, the chief centre of shawl production. It is significant that even to-day *Cashmere* stands for a woollen of fine quality. The shawl industry received the imperial patronage of the Moghuls, particularly of Emperor Akbar. Other important centres of shawl manufacture were Lahore, Amritsar and Rampur. Of the excellence of a *chadar* in Baroda Palace, Sir George Birdwood wrote: "It was composed

entirely of inwrought pearls and precious stones disposed in an arabesque fashion and is said to have cost a *khor* of rupees. Although the richest stones were worked in it, the effect was most harmonious."

The pile carpet industry is ancient like the shawl industry. Kashmir and Multan were probably the chief centres of the industry. The industry made considerable progress during the centuries following the Muslim conquest of India. Muslim carpet weavers developed the indigenous industry by introducing Persian models. This industry is said to have reached a very high degree of excellence during the Moghul period. The art spread to South India during the period of the Muslim infiltration into the South: and for many centuries the art progressed under the patronage of the local rulers at Masulipatam, Ellore and Warangal. Of the carpets of Warangal it has been said that "they were remarkable for the exceedingly fine stitches which numbered nearly 12,000 to the square foot."

(c) *Silk industry*.—The Indian silk industry was important even before the Christian era. The author of the "Periplus" mentioned silk as an important article of India's trade. Hiuen Tsang, the Buddhist pilgrim, wrote in the 7th century that King Harsha offered to the image of the Buddha at Prayag thousands of silken robes embroidered with gems. The industry was in progress even under the Sultans of Delhi; for the Tughlaq Sultans had in the State manufactory 400 silk weavers who made silk dresses and robes of honour for the Court. Even in the Hindu Empire of Vijayanagara which flourished in South India during the same period as the Delhi Sultanate, silk was an important item of the dress of the nobility.

Indian silk was in demand "from Cairo to Peking." Of the high esteem in which our silk products were held by the other countries, Sir George Birdwood wrote: "The wild tribesman of the Malayan Archipelago did not consider his freedom earned until he had stored up a pile of them equal in weight to himself. On the coast of Africa, these were exchanged for four times their weight in gold."

Apart from the common varieties of dress made of indigenous varieties of silk, namely *tasar*, *muga* and *eri* there were rich fabrics of mulberry silk, dyed laudably in indigenous dyes. Bengal and U.P. in the north, Bombay in the west, and Mysore, Madras and Hyderabad in the south were famous for silk manufacture. Among the artistic silk manufactures, *kimkhwabs* (gold brocades), *himrus* (silk brocades) and *mashrus* (cotton and silk mixed fabrics) deserve special mention. *Kimkhwabs* which were silk fabrics richly brocaded with gold and silver filigree were *par excellence* the best among the silk fabrics. The poetic names given to some of the varieties of *kimkhwabs*, like *chand-tara* (moon & stars), *murgala* (peacock's neck) and *mazchar* (ripples of silver) express the beauty of their form.

B. *Textile dyeing and printing*.—Our ancients were as fond of colour and design in apparel as woven finery. Textile dyeing may be said to have had its beginnings in India. The earliest evidence of our dyeing goes back to the age of the Egyptian Mummies, wrapped in our indigo-dyed muslin. It was a wonder to the ancients how a white cloth besmeared first with different drugs absorbs colour when immersed in a hot dyeing liquor. Alexander the Great took with him to Greece samples of our dyed cotton cloth. During the centuries which followed, this

industry was practised with increasing skill in many parts of India. Yarn and cloth of cotton, wool and silk were dyed in brilliant hues with indigenous vegetable dyes like indigo, chayroot, lac, turmeric and safflower. The Coromandel where Masulipatam and Nellore merit mention was noted for cotton dyeing; Kashmir, the Coromandel and U.P. for wool dyeing; and Mysore and Bengal for silk dyeing. *Ginghams* and "handkerchiefs" were some of the chief coloured goods produced. The skill of our artisans in dyeing yarn could be seen from the way in which yarn was tied into knots and dyed by some artisans of Chirala in the Coromandel in such a way as to get the form of an animal or a floral design on the fabric even in the process of plain weaving.

Of greater artistic merit was the textile printing industry. This was of two kinds—block printing and hand painting.

Chintz were produced by block printing different colours on cloth by means of mordants. This art was developed to such a level of excellence that blocks numbering from 30 to 60 had to be used to print certain complete designs so as to bring clearly their minute details and colourful effect. This industry is as old as the weaving industry. The elegance and colour of the *chintz* were so much admired by the foreigners that there was a regular trade in *chintz* and money flowed into our country from abroad. Masulipatam, known to the ancients as *Masalia* was the best centre of *chintz* production and export from which no merchantman had ever left the port in bygone days without a cargo of *chintz*.

But what immortalised *Masalia* and so our Ancient India in textile colouring was its hand painting industry.

also known as *kalamkari*. *Kalamkari* consists in bringing on cloth a variety of colour and design by working with wax by means of a brush-like pen. The earliest reference to *kalamkari* work goes back to the period of the Greek invaders when Alexander the Great had occasion to see with admiration our *kalamkari* products in the palace of the Persian Emperors. Marco polo, the Italian traveller of the 13th century was so much impressed with their beauty that he pronounced them "the finest and most beautiful cottons that are to be found in any part of the world." The art of *Masalia* reached its peak of glory under the Grand Moghuls, particularly under Shahjahan who summoned forth artisans from Masulipatam to the Imperial capital to prepare *kalamkari* cloth. It has been said that the Emperor never slept in a tent which had no *kalamkari* curtains. No wonder that King Charles I of England longed for a *kalamkari* cloth for adorning his own palace.

2. *Metal work*.—From "wool" (of the tree as Herodotus called our cotton) to *wootz* (as our steel was called) is no small change in technique and manipulative skill. Yet our ancients were adept in iron manufacture. "White iron" was one of the gifts made to Alexander the Great by the Malawas. The Allahabad pillar of Emperor Samudragupta of the 4th century A.D. is a monumental example of technical skill in iron manufacture. Ball observed that "the iron pillar consists of pure malleable iron without any alloy, and it does not rust although it has been exposed to the air for centuries." He also declared that "it is not many years since the production of such a pillar would have been an impossibility in the largest factories

of the world, and even now, there are comparatively very few factories where such a mass of metal could be turned out." Iron of a high quality was produced even in the Moghul times in Bengal, United Provinces and the Godavari Delta.

Wootz was the cause of much wonderment in the Westerners. This metal furnished the materials for the world famous Damascus blades. It was in demand not only in Asia but in England where it was wrought into cutlery. India was famous for the damascening art, also known as *koftgari* which means encrustation of sword blades, spear-heads, helmets, shields, guns and other weapons. The chief centres of this industry were Kashmir, the Punjab, Rajaputana States, Bengal and Hyderabad State.

Other metals were no less known and employed by our ancients. Brass, copper and bronze have been in use from time immemorial—even from the days of the Indus Valley Civilisation. Apart from the cheap utilitarian goods like utensils which formed the bulk of the country's production in these metals, there were articles of pure artistic merit ranging from small chain bangles, adorning the hands of the lower class women, to stately statues breathing divinity at sacred shrines. India was a veritable store house of products like lamps, drinking vessels, flower vases, *hookas* and household goods, many of which possessed a touch of art. But there was, however, some specialisation in certain parts of the country. The *bidari* work of Hyderabad State which consists in damascening in silver on bronze*; the polished brasses of the Punjab and the Jaipur State with elegant engravings of arabesque form; the tin-and-copper floral design

* A soft alloy of zinc and lead.

engravings and frostings of Kashmir; the brass, copper and bronze cast images and wrought pieces of Madura and Tanjore in Madras with etched or encrusted mythological *motifs* and leaf patterns have an elegant appearance which distinguishes them from the others.

Gold and silver jewellery is another branch of the metal work of our land. India of the past had been the world's manufactory and business house into which flowed gold from every known country of the East and the West. No wonder then that the Indians—an oriental people loving art and ornamentation—indulged in jewellery and ornament. Love of personal adornment is as old as our Indus Valley Civilisation which has left us its heritage of ornaments of rich design and workmanship. Indian jewellery consisted not only in massive pieces but, in those set with precious stones of which India, the land of the *Koh-i-noor* had such an inestimable wealth as to attract the covetous eye of a Ghazni and earn the admiration of an Abdur Razack. Of gold alone, the jewels ranged from a nose-ring to a diamond necklace and from a gold *kumkum* box to a royal throne. Probably the jeweller's art attained its zenith under the Grand Moghuls when the grand peacock throne was wrought for the Imperial builder of the Taj.

Enamelling is yet another branch of the metal work known to our ancients. It consists in the "fusing of coloured vitreous pastes which are really glass, on to the surface of metal or into hollow compartments formed to receive them." Two forms of enamelling are in general vogue: *Cloisone* in which wires are fastened or welded to the surface of the metal in the form of the design and the colouring materials are fused in the spaces of the design

by means of heat; and *Champleve* in which the compartments are excavated in the mass of the metal and then filled up with the colouring materials. Enamelling may be done on gold, silver, copper and brass. Jaipur in Rajaputana was noted for gold enamelling; Lucknow and Rampur for silver; and Kashmir for copper and brass works. Of the art and work at Jaipur, Sir George Birdwood wrote: "Enamelling is the master art craft of the world, and enamels of Jaipur in Rajaputana rank before all others, and are of matchless perfection."

3. *Stone work*.—Both stone building and stone carving were known to the ancient Indians. The earliest traceable executions in stone belonged to the Indus Valley Civilisation and were certainly more elegant than any contemporary productions of other lands. Stone work was well developed throughout India under the Hindu rulers. The elaborate designs of the stone palings of the Asokan *stupas*, the monolithic carvings of the Pallavan *pagodas*, the numerous shrines like the Jain marble temples in Mount Abu in the north and the Hoysala temples of Mysore in the south—all speak of the excellence of the ancient stone carver's art, while the numerous Buddhist, Jain and Hindu images of stateliness and godhead, the cave executions of Ajanta and Ellora display in human form the genius of the sculptor. The keenness with which the art had been pursued by the Hindus is seen in the rise of different schools of art in all parts of the country.

Though not sculpture, other forms of stone work received the attention of the Muslim Sultans of Delhi. Muslim buildings were rich in ornamental carving of which the delicate *jali* work (stone tracery) for the windows of Sidi Sayyid's mosque at Ahmedabad and the decorative

Persian and Arabic lettering on the *Qutb Minar* in Delhi are outstanding examples.

The art, however, reached its zenith under the Moghuls. Marble inlay and mosaic work found favour with the Imperial Moghuls and attained perfection in the art of *pietra dura* in which precious stones are inlaid in marble in exquisite floral design.

As Sir George Watt wrote, Akbar adopted what was beautiful and commendable in the indigenous arts of India. "He introduced the system of encrusting marble with other coloured stones in place of coloured tiles of his Pathan and Persian predecessors. He authorised a liberal use of life portraiture in both animal and vegetable forms. In other words, Hindu treatment of Mahomedan subjects became the rule, not the exception." It is this fusion of Hindu and Muslim styles carried to perfection that is discernible in the Taj, the architectural glory of the East. Apart from varieties of work like sculpture, building-stone carving, there was some localisation based on varieties of stone; for instance the sandstone industry of Mirzapur and Agra, the marble industry of Jaipur and Jodhpur, the lapidary work of Bhera, Delhi and Jodhpur and the inlaid work of Agra and Mysore were prized by every lover of art.

4. *Wood work*.—"Wood carving was in India, as in most other countries, the mother of the art of stone carving." The rich variety of timbers in the country enabled the Indian craftsman to employ it effectively for building and decoration. Asoka's Palace built of wood was said to have stood for centuries. The maritime activity, featuring Indian economic life even from the Vedic times, necessitated the building of sea-faring ships. Under the Hindu

Kings shipping attained a high degree of excellence. The imperial fleet of Chalukya Pulakeshin II was thoroughly organised, consisting of hundreds of ships. The industry flourished well under the Imperial Moghuls. As Moreland wrote, the great bulk of the commerce in the Indian seas was carried in ships built in India. Even as late as the 18th century, Marquis of Wellesley observed the state of perfection in the art of ship-building in Bengal. This industry flourished in several parts of Bengal, the Punjab and Sind in the north and the coastal regions in the south.

And now of wood work as an art: Wood carving as a decorative art was specially liked by the Hindus. The wooden doors and thresholds of many a Hindu house in the Punjab towns, Nasik, Madura and other places, the wooden *rathas* or cars of many temples in South India, and the carved and painted wooden ceilings of the 16th and 17th century Jain temples of Ahmedabad are splendid examples of the carver's art; for the intricate floral design and foliage so exquisitely worked out with the chisel often baffles the imagination of the looker. The wood engraver's art could be displayed not only on varieties of wood like teak and sandal but on coconut shell. Mention has already been made of a coconut, all beset with pearls, presented to the Shah of Persia.

Idols and images were very common forms of expression of the wood worker's genius. Several parts of India, particularly South India, are replete with splendid specimens of the human figures, expressive of human passions and emotions. Mention may be made here of the wooden toys of Kondapalli in Madras Province and the lacquered toys of several parts of India which won praise.

The ivory carving of South India forms a class by itself and the beautifully carved images and inlaid ivory and sandal wood caskets of Mysore, Travancore and Vizagapatam had for centuries been the admiration of every connoisseur of art.

5. *Ceramics*.—Pottery is another craft in India which has an antiquity and considerable artistic value. About the pottery of India Sir George Birdwood wrote, "Truest to nature in the directness and simplicity of its forms, and their adaptation to use, and purest in art, of all its homely and sumptuary handicrafts is the pottery of India." Painted pottery was known to the ancient inhabitants of the Indus Valley. Apart from the unglazed pottery which was in common use all over the land, there were glazed varieties for the use of the rich for decorative and other purposes. On some of the artistic varieties, designs were carved on the half-dry surface and then coloured and varnished. On some others lac-coating was done to impart an artistic appearance. The Punjab, Sind, United Provinces and Madura (in Madras Province) were noted for their artistic pottery. Terracota work and tile mosaic work were also done in elegant styles. The terracota reliefs of the 17th century temples in Bengal and the many coloured mosaics of the Lahore Fort are noted for their artistic appearance.

6. *Glass work*.—Mention has already been made of the excellence of the enamels of Jaipur. This was but a part of the ancient Indian glass industry. Pliny mentioned the making of imitation precious stones by the Indian glass workers. Glass ornaments like beads and bangles were worn by the Vedic women and glass mirrors and bowls were in use in the early centuries of the Christian era. The Muslim Sultans fostered the art by developing paint-

ed glass production. Glass industry was at its best under the Moghuls.

This enumeration of our ancient arts and crafts is not complete or exhaustive; for there were numerous other arts and crafts like painting, making of musical instruments, paper making, *chikan* work and *rangoli*, which though not touched upon in this note, are none the less of art value. But this short enumeration should suffice to drive home to the mind the excellence of Indian craftsmanship and the high esteem in which it has been held by the world.

One might imagine the excellence of the Indian art products to be the outcome of a highly developed and scientific technique in production. But it was not so. The artisans usually worked at their homes. Some of them found employment in State *karkhanas*, for instance those under the Sultans of Delhi and the Imperial workshops of the Moghuls at Lahore, Agra and Ahmedabad. But whatever the place of work, the tools employed by them were of the simplest type. The spinner of the finest yarn used the *takli* or the primitive spinning wheel; the weaver his primitive loom and throwshuttle; the *kalamkari* worker his primitive brush-like pen; the metal worker his tiny chisels and hammer; and so on. They were much the same as those used now in some of the rural art-craft centres. If there was any technique of production worth the name among the artisans it was their masterly knowledge of the raw materials employed. Given the raw materials and the simple tools required for the craft, the artisan's hand did its job. His hand was as dexterous as his mind was versatile. The carpenter could shape anything ranging from a plough to a ship;

and the metal worker from a needle to a pillar as of Allahabad. We learn that a part of the stone relief work of the Sanchi *stupa* was done by the ivory carvers of Besnagar. The skill of our ancients in the use of simple tools with marvellous artistic effect won the unstinted praise of every connoisseur of Indian art.

Even if the technique of production was simple, production in general was however organised. The artisans usually followed their hereditary trades which thus ensured the retention of the family's skill in the art, within its fold. In the village republics the artisans worked on a service-contract system, catering to the needs of the villagers and receiving periodical remuneration from them. But among the independent artificers of the towns and cities in general, the guild system was prevalent. Every trade had its guild which was invested with wide powers like regulating the use of raw materials, regulating the hours of work, educating the children of the members in their family's trade and maintaining the dignity of the trade in the State. We hear of numerous guilds in the Vedic and the Epic period, later Hindu period and in the Muslim and Moghul periods. These industrially, socially and politically powerful and influential bodies helped promote the production of goods on proper lines. Besides these autonomous industrial corporations, the State manufactories gave them many facilities for turning out masterpieces of art. Abul Fazl wrote that improved system of manufacture was taught at the Imperial workshops of Emperor Akbar. Surely these facilities made for production of quality goods.

Such production must needs have found a ready market. The demand for the industrial products of the land in

general was of two kinds— demand for utilitarian goods and demand for art-ware. The former class of goods formed the bulk of the country's production and served to meet the needs of the self-users and the village community in general. But the latter found consumers among the royalty and the nobility and also abroad. The demand abroad for India's art products had never been slack from the days of Herodotus (so far as known to history) down to the beginnings of British rule, the Fifth Act of the tragedy of our industrial life.

The causes of the prosperity of our arts and crafts are now clear: For one thing, keen perception and creative genius have always been the characteristic features of the Indian mind which is essentially oriental in outlook. Secondly, it had been the rare privilege of the Indian craftsman to live in peace even in periods of the worst anarchy and devote his time and attention to his calling in life. Thirdly, the artisan found patronage every where: The village craftsman found his patrons among the village community, while the art craftsman had his patrons among the nobility and the royalty and to some extent among the middle class consumers. The State often gave him protection: For instance, according to Magasthenes, the Mauryan rulers inflicted capital punishment on any person who disabled an artisan. Coming to the Muslim period, we learn from Afif that the Sultan (Tughlaq) promulgated a standing order whereby the prefect of police was to provide any craftsman, out of employ, with suitable employment in the *karkhanas* or in the houses of the nobility.

What are the distinguishinig features of the Indian arts and crafts of old, that they should win the esteem of

the world? Two qualities are considered characteristic of true art—originality and intrinsic aesthetic quality. “Originality,” in the words of Baldwin Brown, “consists in clear cases of invention, not of the development of pre-existing traditions.” *Absolute* originality in art, though it does exist, is said to be rare, the vast majority of cases being called at best a building up on what has gone before. Judged from the standpoint of absolute originality, ancient Hindu art, however, has a claim to originality. In those olden days, art was not a mere adjunct to life. It was “the expression of national and religious feeling and as such was closely related to the activity of the people in the practical and intellectual spheres.” The intense feeling of the ancient Hindus was given expression to by the free use of natural forms such as human and animal figures. Such art of indigenous origin which was the spontaneous representation of form and spirit must indeed be original to the core.

Apart from this representative element, there is the decorative element in Indian art. Exotic in origin (for it has been introduced by the Aryan, Scythian, Hun, Mongol and Muslim invaders) it consists in reducing natural forms like flowers and foliage to decorative patterns as seen in the elaborate stone and wood carvings and other decorative by-work like jewellery and ornamental metal work of the mediaeval temples, mosques, palaces, and tombs. This art could obviously have little pretence to *absolute* originality. It has, however, been conceded by art-critics that “originality in art does not *necessarily* depend on invention, but on the *extent* to which the borrowed or inherited suggestion can be developed into some new and striking contribution to the aesthetic treasures of mankind.” The decorative

art exhibits a remarkable success in imparting that striking freshness and newness which make real art. Judged from this standpoint the decorative art of mediaeval India verges on originality.

Now of the second quality of art, namely, intrinsic aesthetic quality:

The genius of the Indian mind lies in its ability to blend beauty with utility. The desire to decorate in colour and design even the humblest articles of daily use and the desire to introduce beauty into every feature of life is inherent in the children of this land of beauty from time immemorial. The form of a reptile for the lamp-hanging hook, the design of tortoise on the coconut shell used for spinning the *takli*, the form of a lion for the mouth of a cannon, the colourful and gay dresses of traditional pattern—all suggest their keenness in carrying beauty as manifested in Nature into their products. This aesthetic touch which appears in a smaller measure in the humblest articles of daily use is seen in an infinitely large measure in the master-pieces of art.

It now behoves us to see what is the aesthetic impression that is left on our minds by the Indian arts and crafts as a whole. A little comparison of our products with those of the old Germans of Western Europe will make it clear: The old Germanic art was essentially decorative unlike the ancient Roman art which was essentially representative. Germanic art chiefly centred round smithery, the products being those for the personal use and adornment of warriors and their ladies; for instance buckles, fibulae, ornaments, swords, spearheads, and armours. It has been said that German art products possess a common Germanic character, but "from the

purely aesthetic standpoint do not take a very high rank." The critic has also added: "It needs hardly to be said that the early Teutonic designer could not represent natural forms either with the *accuracy* and *spirit* of the Dutch artist or with the *idealising* touch of the Greek, and that he had not the gift of the Japanese craftsman of turning everything he touched to beauty." If these qualities, namely, accuracy and spirit, idealising touch, and gift of turning everything to beauty go to make true art, Indian art must indeed be of the highest order, for it combines in itself the distinguishing qualities of the Dutch, the Greek and the Japanese artist.

Ah! the Romance of Indian art and industry!

But, alas! how rapidly it vanished in the 19th century!

The story of its decadence is probably the worst tragedy of human art. Its principal actors were the Britishers. The ill-taste and thirst for commercial gain of the British trader killed the artistic outlook of the Indian craftsman, while the jealous and hostile attitude of the British producer intimidated him. Who does not know the sad episode of the cutting off of the thumb of many a poor weaver of Bengal? What a sad contrast to the protection he enjoyed under his Indian rulers! The craftsman had begun to groan under foreign oppression. He could only look to the patronage of the middle classes, now that the old ruling houses had disappeared. He was baulked. The middle classes gave a cold response, since their taste had undergone some change under foreign influence. This was the last straw on the camel's back.

Decades of economic servitude have passed; and now, thanks to the national awakening, India wants to hold her own and to regenerate her national art and industry.

This brings us back to the question, whether we are to forge ahead on western industrial lines or move along our old tracks. The answer is now simple, for we know our heritage:

Our heritage consists in the following:—

(1) Self-sufficiency and corporate life of our village republics. As Bishop Caldwell said, the Indian village may be regarded as the most permanent institution and the self-sufficiency and corporate life of the village republic the greatest heritage of our nation.

(2) Originality in art.

(3) Talent to perceive beauty in Nature and Life and to blend beauty with utility.

Such valuable heritage cannot be ignored; for it teaches us to make our life culturally *full*, while Western industrialism makes life, at best, merely comfortable. Let us make our life comfortable, by all means, but let us make it *full* also by allowing our heritage to *guide* us in our industrial policy.

II. ASIA'S ART HAS COMMON SEED AND FLOWER*

O. C. GANGOLY

It has been abundantly clear that closely knit together by intimate bonds of unity, the Asian nations have marched side by side, locked in each other's arms on the brilliant roads of spiritual progress, demonstrating the high intrinsic values of Asian civilisation. Their intercourse with the West has been on the whole, unhappy, and has proved in many cases disastrous to their high spiritual ideals and superior cultural life, and ancient heritage.

The gradual domination and the progressive commercial exploitation of the Asian races by many of the European powers during the 18th, 19th and 20th Centuries have interrupted the intimate relationship that had existed between India and her brethren in the neighbouring countries during the previous centuries.

This relationship must now be renewed and tightened up.

The pernicious economic exploitation of India and the enslavement of her intellectual artistic life have ruined her arts and crafts, and the finest traditions of her Architecture. In this predicament India has many things to learn from her brethren in the East and South-East regions, and to rehabilitate her broken cultural and artistic life by

* By courtesy of the *Indian Express*, Madras.

borrowing many elements from her brethren in Further India and Indonesia.

GREAT TRADITION

The native architects of Siam and Cambodia have still preserved their great architectural traditions as illustrated in many of their modern buildings and the Indian builders of to-day may learn many secrets of sound architectural principles from her brethren in the East. We could invite some master architects from Siam and Cambodia to come to India or send out batches of young Indian architects for training in those countries.

In the field of Applied Art, such as woodcarving and lacquer-work, the Burmese, Siamese and Javanese artists still possess valuable technical secrets which could be imparted to the modern Indian craftsman. In the porcelain industry, the Indian worker has many things to learn from the famous masters of the craft in China and Japan.

In the field of textiles, the modern printers of Batik Cloths (Wax-Prints) of Java could help to transmit this beautiful craft to Indian textile workers. A very happy and effective way of renewing cultural intercourse, and active cultural exchange can be secured by presenting selected collections of old and modern Indian paintings to China, Burma, Siam, Indo-China, Cambodia and Java to be displayed in suitable Indian galleries and museums to be set up in those countries. The courtesy could be reciprocated by similar gifts of selected master-pieces of old and modern paintings and other works of Art from those countries to India.

Exchange professorships should be established for the purpose of lecturing on Indian Art in China, Burma, Siam,

Indo-China and Java, and for lectures on Chinese, Burmese, Siamese, Indo-Chinese and Javanese Art in India.

Cultural societies on the lines of the **Sino-Indian Society** established at Shantiniketan should be established in all the principal cities of Cambodia, Viet-Nam and Java and should be subsidised to carry on active cultural intercourse between India and her brethren across the Indian Ocean.

TROUPES MUST BE SENT

To disseminate the knowledge of Indian music, ancient and modern, expert, musical and dramatic troupes should be sent out to those regions from India, and similar troupes should be invited to visit India, periodically, from China, Burma, Cambodia and Java. Indian institutes should be built in those countries where distinguished Indians could go in and live for some time and carry on intimate cultural intercourse with their brethren in those regions.

In this way, the superficial differences in dress, social habits, and manners will be polished off and obliterated and all the Asian races will be brought under one cultural denomination and harmonised in an identical spiritual unity manifest in analogous, social, intellectual and religious life—a life which is destined to produce master-pieces of Art in the future which will surpass their achievements in the past.

The traditional 'Yellow peril' of the European imagination is also destined to survive all atomic thunders and flower out as a 'Yellow blessing' and by the amber hues of its cosmic rays cure all the maladies of the mad civilisation of the West.

ENCOURAGING ART*

Recent methods of art encouragement and patronage in the West may be studied with benefit and adopted. For five years before 1939, the Federal Arts Project of America employed about 5,000 artists at an expense of 100 million dollars and distributed the output of 100,000 works to schools, hospitals and other public institutions. In addition to this, unselfish enthusiasts organised art centres and galleries (stationary and touring) throughout the States and succeeded in making the man in the street more art-minded. In Russia any boy interested in drawing is at liberty to undergo art-training at State expense and become a practising artist.

CRAFTSMANSHIP AND CULTURE

"The important part which craftsmen, more especially Oriental craftsmen, have always played in the world's history as missionaries of civilisation, culture and religion, is not generally realised by bookmen. Even at the present day the Indian craftsman, deeply versed in SILPA SASTRAS, learned in folk-lore and in national epic literature, is though excluded from Indian Universities—or, rather, on that account—far more highly cultured intellectually and spiritually, than the average Indian graduate. In medieval times the craftsman's intellectual influence, being creative and not merely assimilative, was at least as great as that of the priest and bookman."

E. B. HAVELL.

* (From "Development of Asian Art" by Trivikram Narayan, *The Social Welfare*, 2nd May, 1947.)

III. "COTTAGE INDUSTRIES"—ITS MEANING*

Of the three general classes of industries—large, medium and small—the connotation of the first two is fairly clear; but there seems to exist much confusion among the general public in regard to the last which consists of at least five types bearing more or less varying characteristics—handicrafts, home industries, cottage industries, small-scale industries and village industries. Many a writer who has treated of small industries has not merely ignored the different connotations of these terms, but has positively assumed most of them as synonymous. But in the case of rural, cottage, and small-scale industries, some differentiation has, however, been made by a few writers. This confusion, evidenced by the general usage of the terms obviously necessitates their definition.

It is probably no idle speculation that these different connotations are based on some historical sequence in the currency of these terms which, certainly, affords such an interesting study that a brief sketch here will not only be not out of place but positively necessary.

Probably the earliest known term was *handicrafts*. Small industries were for a long time known as handicrafts owing probably to the sole agency of the dexterous human hand and the display of the individual's skill in shaping things.

* Adopted from *Cottage Industries—What they are*—Sri Viswanathan Tekumalla, 1946.

Gradually there came in a change in the nature of the application of human labour. The application of the individual's skill gave place to the devotion of the collective genius and co-operative effort of his whole family, thus infusing into the product a spirit of harmony—a soul—which characterised the family's life. Not infrequently outsiders worked under the master-craftsman, but their relationship savoured of apprenticeship. The family's occupation rose from the status of a mere 'handicraft' to that of a *home industry*.

Later on these ideal conditions underwent a change; and industry came to be commercialised. Of course, the family still worked together; but paid assistants began to supplant the apprentices. Industry was now not always based on the home which was the economic unit. The general lack of harmony in production made "home industries" an anachronism; and the more comprehensive term *cottage industries* came into vogue.

Of late another type of small industry has entered the field—the *small-scale industry*. It is the outcome of gross commercialisation of industry. In it even the cottage atmosphere is entirely absent; factory atmosphere prevails and work is strictly on business lines. Artisans are employed by a small industrialist on a regular work-and-wage system.

It will be observed that the human factor runs throughout the historical sequence of this nomenclature. This human factor must determine the definition of these types. For, are not these industries pursued by human beings and for human beings? Unfortunately this factor is ignored and minor criteria are given undue importance. Hence the



Wood Carving in the Round *Travancore*



Stone Carving in the Round *Orissa*

present confusion. Much of it can be avoided if correct definitions are arrived at in the light of modern conditions. The precise connotation and denotation of each of the various terms may now be determined:

1. *Handicrafts*.—Handicrafts are those industries in which production is characterised by the sole agency and dexterity of the human hand and the play of the individual's skill in shaping. They admit of no use of machinery even of the simplest type. For instance, needle-work remains a handicraft only so long as the work is done by the hand and ceases to be a handicraft the moment the sewing machine enters the field. Handicrafts always represent the highest type of art since no art excels that produced by the human hand.

2. *Home Industries*.—Home industries represent the ideal state of industrial development. They may include handicrafts, but they possess distinct features of their own. The raw material is either locally secured or imported from outside; the use of hand-or power-driven machinery is an option; and capital investment is theoretically unlimited though the smallness of the home unit itself constitutes the limiting factor. But the distinguishing feature is the nature of the human labour employed. The independent master-craftsman is aided by his family; and occasionally outsiders are also employed not as assistants but as apprentices on whom the master-craftsman bestows sincere personal interest and attention. The products exhibit the collective genius and co-operative effort of the workers and savour of the harmony of the family's life.

3. *Cottage Industries*.—"The expression cottage industries is not easily defined." It is a very comprehensive term. For some years past attempts at defining cottage

industries have been made by some committees and individuals. But they have taken into account only the place of work and the question of the use of power; and have ignored the human aspect—the nature of work and employment which must guide one in distinguishing cottage industries.

A complete and precise definition has not yet been evolved. It still remains a *sine qua non* of a clear comprehension of the problem of cottage industries. An endeavour will be made here to evolve such a definition. But before it is recorded it will be of advantage to mention some of the chief merits of cottage industries under four convenient heads—place of work; capital and equipment; raw-material; nature of labour employed:

(a) Place of work: Work may be carried on by the artisan either in or at his own home, or his employer's or in a small *karkhana* run by a small *entrepreneur* irrespective of urban and rural surroundings.

(b) Capital and equipment: Theoretically, capital investment is unlimited; for instance art-crafts like ivory-carving may require much capital. But in practice, the natural smallness of the cottage industrial establishment (either the home-unit or the small *karkhana*) and the importance given to labour are themselves the limiting factors; that is to say, the limited scope for the employment of men and machinery and the assignment of greater importance to labour than to raw material generally keep the capital investment within measurable limits.

The equipment may consist of tools which are either owned, or hired, or given by the employer. It may also consist of hand or power-driven machinery. But in the case of the latter, the limiting factor is the value of the

product as distinct from the cost; that is to say, the utility value (if not the aesthetic value also) is not allowed to suffer on any account by the use of mechanical appliances: for we now observe that the utility value of rice, the chief food article, and of the *veena*, an extremely delicate art-product, suffers irretrievably by the use of power machinery.

(c) Raw-material: The raw-material used is usually locally available. But it may also be imported from outside as in the case of metal, ivory, sandalwood, and the like.

(d) Nature of labour employed: Not only the artisan's family and apprentices but paid assistants as well find employment; but the number in any unit does not exceed nine because a larger family-cum-apprentice unit deprives the industry of its "cottage atmosphere", while a *karkhana* employing a larger number is at once brought under the Indian Factories Act. The work of each cottage unit is directed by a master-craftsman or an industrial *entrepreneur*. It is these characteristics—also known as the human factor—that constitute the distinguishing mark of cottage industries and indicate them as a compromise between home industries and small-scale industries. Division of labour does not generally obtain: and if at all it does, it is of the simplest type. All workers are familiar with all processes of production except the finishing one which is usually done by the master-craftsman. Consequently work does not suffer during the absence of any worker. The position of human labour is unique: it is valued higher than raw-material and also higher than machinery: Machinery functions merely as an artisan's tool, but does not supplant him, much less enslave him;

any machinery which tends to kill his individuality is excluded.

These, then, are some of the chief characteristics of cottage industries on which a correct and comprehensive definition has to be based. And in accordance with the same, cottage industries may be defined thus: Cottage industries are industries where artisans, not exceeding nine per industrial unit, find employment in urban or rural areas, either as independent workers or apprentices or assistants in or at their own or their employers' homes, or as wage earners in small *karkhanas*, and work with capital, limited in practice but not in theory, adopting at times a simple and harmless division of labour, and employing such hand or power-driven machinery as does not interfere with the utility and art value of the products whose market is by no means merely local.

IV. "COTTAGE INDUSTRIES"—SOME IMPORTANT DEFINITIONS

1. The *State Aid to Industries Act (Madras)* defines cottage industry as an "*industry carried on by a worker in his own home.*"

2. The *Indian Industrial Commission* of 1916-18 defined cottage industries as "*industries carried on in the homes of the workers. In these the scale of operations is small and there is but little organization, so that they are, as a rule, capable of supplying only local needs.*"

3. The *National Planning Committee* have tentatively defined cottage industries as "*industries in which a worker works with his own tools in his own home and with the aid of his family or hired labour not exceeding five persons.*"

4. The *U. P. Industrial Finance Committee* have defined cottage industry as "*an industry carried on in or at his own home either on his own account or under the direction of his karkhanadar.*"

5. The *U. P. Industrial Reorganisation Committee* have defined cottage industry as "*an industry in which work is done generally speaking in the houses of the artisans and occasionally in small factories run by small industrialists of the entrepreneur type, power-driven machinery being rarely used.*"

6. The *Bombay Economic and Industrial Survey Committee* of 1938-40 defined cottage industries as "*industries where no power is used and the manufacture is carried on, generally speaking, in the home of the artisan himself*"

and occasionally in karkhanas where not more than nine workers are employed."

7. The Government of Madras have defined cottage industry as "*an industry to which the provisions of the Factory Act are not applicable, and in which an article is made by a worker or a group of workers, organised or otherwise, partly or wholly in their homes or their neighbourhood, on his own account or on behalf of an employer or organisation and in which power not exceeding 2 H.P. is or is not used.*"

8. Sri Viswanathan Tekumalla in his brochure on cottage industries defines cottage industries thus:

"Cottage industries are industries where artisans not exceeding nine per industrial unit, find employment in urban or rural areas either as independent workers or apprentices or assistants in or at their own or their employers' homes or as wage-earners in small karkhanas and work with capital, limited in practice but not in theory, adopting at times a simple and harmless division of labour and employing such hand or power-driven machinery as does not interfere with the utility and art value of the products, whose market is by no means merely local."

V. COTTAGE INDUSTRIES—THEIR PLACE IN OUR NATIONAL ECONOMY

VISWANATHAN TEKUMALLA

Ever since the advent of Western industrialism in our country, there have been two distinct agencies of industrial production, *viz.*, large mechanised industries and small industries, popularly known as handicrafts, home industries or cottage industries. During the early years of this so-called industrial renaissance, the former slowly encroached on the domain of the latter, thus unwittingly hastening the extinction of the age-old arts and crafts which had already suffered from Western industrial aggression. But when the *Swadeshi* Movement was launched as the visible economic symbol of a political upheaval and an earnest attempt was made by the industrial enthusiasts of the period to stem the tide of foreign imports by means of Indian mill manufactures, it soon became clear that the Indian mill industry, could not by itself cope with the situation. The need for the co-operation of the small industries of the land in the sacred cause was perceived and the surviving ones were pressed into useful service. This gave some status to the small industries, though it be that of a handmaid to the mechanised industry.

Circumstances were for a time favourable to the small industries. In 1910 the Secretary of State for India forbade State managed commercial enterprises. In 1913 came the banking crisis and the failure of some large industrial enterprises. This was followed by the Great War (1914-18) which for about a half-decade made it impossi-

ble for India to start large-scale industries or to import foreign goods. This series of handicaps to large industry was a good luck chain to the indigenous crafts which were now not slow to benefit by the situation. The Co-operative Societies Act, 1912 which enabled the artisans to co-operate for self-elevation enhanced the status of the small industries of the land. Thus by the end of the second decade the small industries felt their position so secure as to claim equality of status with the large-scale industries of the country.

The Political Campaign of 1921 and 1931 with its insistence on *khaddar* and other indigenous crafts created an atmosphere conducive to the development of many cottage industries. In consequence there was increased industrial activity among the small producers in many parts of the country. Their production increased in quantity and variety. About the same time there was some reorganisation among the large-scale industries of the country. For instance, the textile mills which formed the bulk of the large-scale industrial activity of the country switched over to new lines of production as suggested by the Textile Tariff Board. They also began to produce coarse cloth which looked like *khaddar*. The rice and flour mills began to displace the handpounding industry. This encroachment was not tolerated by the cottage industries. The mutual co-operation and co-ordination of effort of the two groups of the earlier years degenerated into competition and rivalry between them.

The history of the 'thirties' was one of an endeavour on the part of the large-scale industries to elbow their rival out of the industrial arena and the tough defence put up by the latter at each bout. The Economic Depression

I] THEIR PLACE IN OUR ECONOMY

placed the puny cottage worker at a greater disadvantage than the big mill owner; and the new *Swadeshi* slogan created a popular sentiment in favour of Indian mill products. Yet he met the situation with dogged tenacity, crouching lower and lower and accepting a narrower margin of profit. For years he had defended his position thus, but had not gained a definite point over his better-placed rival. The last bout came off during the industrial rehabilitation which followed the economic crisis. The puny boxer soon found a spring-board in the Congress Election Manifesto. Swinging forward with added might he made an impression on the opponent and drew the attention of the public.

The year 1936-37 marked a turning point in the fortunes of cottage industries. For decades, they had to shift for themselves. But now their cause was vigorously championed by the Congress which came into power in several Provinces. Talks about industrial planning were in the air. The position of the cottage industries drew universal interest. These small industries came to be viewed against a larger perspective of world cottage industry.

World conditions were favourable to cottage industries. Japan presented to the Indian mind an amazing picture of a bee-hive of organised home industries: About 62.5 per cent of the industrial establishments in that country were small ones having less than ten workers each. In these establishments which were mostly of the domestic type production was done under the most modern conditions with the latest manufacturing appliances and processes. Labour conditions were congenial since the assistants were mostly apprentices living peacefully under the

employer's roof. Products of these small establishments were either assembled or finished at central units and inspected by Industrial Associations. This imparted to the products the appearance of large-scale factory products of standardised quality and finish. Japanese industry showed how "manufacturing efficiency" obtaining in Europe and America could be harmoniously combined with "low costs of production" obtaining in Asia.

It was also seen that even in Germany, the most advanced industrial country in Europe, cottage industries had adjusted themselves to modern conditions and that about a eighth of the German people subsisted on them. The importance of cottage industries and handicrafts in Denmark, Switzerland, Hungary, Italy and parts of the British Isles also drew the attention of India.

Apart from the development of cottage industries, there was a definite trend towards decentralisation of industry. In U.S.A., the land of cartels and combinations, a definite tendency towards decentralisation of industry was noticeable.

This world perspective of cottage industries and industrial decentralisation trends impressed upon the Indian mind the need for preserving the cottage industries of India. While discussion centred round the question of assigning them a place in the national industrial plan, no definite conclusion had been arrived at, with regard to their position *vis-a-vis* large industries. Large industries still held the field as the main bulwark of national defence against commercial aggression and cottage industries were probably considered an auxiliary force. That geese could save Rome and that Horatius and his comrades could keep back a whole host did not occur to the nation. It required

a war to drive home to the mind the relative importance of large and small industries during war and unrest.

The war has put the two groups to acid test. In China it became unmistakably clear that cottage industries afforded the best line of defence when large industries failed and the country lay prostrate helplessly. Their service to China and her democracy during war time drew the attention of every nation. Coming to our own country we find that cottage industries did yeoman service during war. They contributed their quota to war effort on a *par* with large industries, and where the latter failed or were handicapped for want of machinery or other resources, the small industries threw in their whole weight with war effort. Decentralisation of production was also given a trial in some parts of the country. For instance, in Hyderabad, production centres were scattered to outlying villages, which sources of supply could be depended upon in case the large-scale industries in the bigger towns got dislocated due to war conditions. This scheme has been reported to be fairly successful.

The suitability of cottage industries for production during peace and war has been amply proved. The definite advantage this type of production holds over the large industries during war has been clearly demonstrated.

We have entered on the post-war period which has a distinctness of its own in as much as it contains the tendencies towards settlement to the normal and widespread attempts at maintaining wartime conditions. We are now endeavouring to plan our industry. It behoves us to plan for peace and war not with regard to the present only but with due regard to the course our industry had run during the recent decades.

What place would our cottage industries take in such a grand national plan?

Plans have been drawn up recently by several economic groups for the economic development of India. We have the Bombay Plan, the People's Plan and the Gandhian Plan. All the three Plans agree on the imminent need for industrial development with a view to make the country self-sufficient and to better the condition of the worker; but they differ in the actual execution of the plans. Their plans exhibit a marked divergence of views on the relative importance of large and small industries in national industrial organisation.

The Bombay Plan says that *adequate scope* should be provided for small-scale and cottage industries along with large-scale industries. This is important not merely as a means of affording employment but also of reducing the need for capital, particularly of external capital, *in the early stages of the plan*. It is difficult to define the considerations on which the choice between large and small-scale industries and cottage industries should be determined. The factors involved in the choice are numerous and conflicting. But generally it may be stated that while in basic industries there is little scope for small industrial units, they have an important and useful place in consumption goods industries where their function is in many cases complementary to that of large units.

This statement discloses the following points:

(i) There is a lack of clear-cut notions regarding the relative importance of large and small industries.

(ii) It, however, recommends the provision of *adequate scope* for them particularly because it helps to reduce the need for capital.

(iii) Small industries can at best be only a stop gap arrangement for supplying consumption goods during the early stages of the plan when the problem of capital will be keen. With the solution of this problem these small industries should go out of the scene.

(iv) Even as such they are to be only complementary to large units.

Obviously the plan is capitalistic in its outlook. To it small industries are first a means of employment requiring little capital. It, however, desires to make a cat's paw of them and jettison them after its purpose is served. It also narrows down the scope of small industries to the production of only consumption goods complementary to large units. The cultural value of the small industries is simply ignored. And even in cold capitalistic considerations it overlooks the fact that in Japan, the land of small industries, even machines are produced at small industrial establishments and also that the organisation of industry at the top is capitalistic in nature while at the bottom it is cottage basis.

The People's Plan says, "The improvements in the standard of living of the people are, in the last analysis, dependent on the productivity of labour being increased. Increase in the productivity of labour depends upon the extent to which more and more perfected and developed machinery is associated with labour in the process of production. That being the case, any considerable use of the cottage industries cannot be reconciled with the spirit of the plan which is to open up for the people a prospect of continually improving standards of living. On the other hand in certain branches of production, there would be

limits to the extent to which mechanisation of the process of production can be carried out. With an enormous labour power at our disposal, as we have to-day, it may be urged that the extension of mechanisation of production may spell disaster for a good part of the labour power, which may have to be left unemployed. This consideration, however, is mistaken for it is based on looking at the problem from only one angle. Extension of the process of mechanisation of production instead of being accompanied with unemployment, may as well be accompanied with greater amount of leisure for all and thus may constitute the real foundation of the cultural development of the people. And this solution of the problem is alone consistent with the spirit of the kind of planned economy which we are proposing." The above statement bears out the following points:

(i) Improved standards of living are ultimately the result of the use of more and more perfected and developed machinery.

(ii) Cottage industries, by the reason of their unadaptability to increasingly perfected machinery are a snag to the improvement in the standards of living.

(iii) Extension of the process of mechanisation in production instead of causing unemployment, will give the workers much leisure for cultural development.

The People's Plan shows clearly a fundamental misconception regarding cottage industries. It identifies them with handicrafts and so spurns them as anachronisms in this age of the machine. It does not see that cottage industries admit the use of even highly developed machinery and that in Japan production on a large scale is made

possible by the co-operation of small units using highly perfected and developed machinery.

Then again it attaches too much importance to machinery and considers its employment possible only in large-scale industries. It even recommends an extension of the process of mechanisation into every line of production. Concerned as every labour organisation is, with the physical fitness of the *proletariat*, the plan aims at improving the standards of living by elevating "half-filled bellies" and "half-clad bodies". In doing so it does not give adequate importance to cultural development of the people without which life could at best be "good life" but not "full life."

The plan of course opens up a vista of cultural development; but its approach is mislaid. It states that extension of the process of mechanisation gives greater leisure and promotes cultural development. It is extremely doubtful if this could be achieved. Indiscriminate extension of mechanisation is prone to kill the soul of the worker by making him a part of the machine, devoid of individuality and creative instinct. It is also prone to kill in several cases the value of the products. For instance, food products like rice, flour and oil lose their food value if produced in mills. The preservation of the soul of the worker and the value of the products is possible only under cottage industrial conditions where consumers' goods are produced with an eye to utility and art. "

And now the Gandhian Plan: Its author says: "Judged by the three People's Principles of nationalism, democracy and livelihood, all the three types of plans—Nazi, American, and Russian—fall short of our ideal. The last one satisfies to a great extent at least the last principle of livelihood.

But mere livelihood is not enough; there must be freedom and scope for the development of the individual.

✓ What then is the alternative? The solution lies in simplicity, decentralisation and cottage industrialism." "The chief objective of National Planning in India should be the attainment of maximum self-sufficiency in Village Communities at least in regard to the consumption goods industries." "The foundation of our Planning will thus be the village unit; the economic reconstruction will be from the bottom upwards, and not from the top downwards." In such a plan cottage industries would receive the best attention. But the development of a few basic or key industries shall not be neglected. The use of cheap electricity specially for decentralised key industries would be essential. But its use in cottage industries would be "limited and controlled with a view to avoiding the possibilities of rural unemployment and in order to minimise dependence of village communities on a power supply whose distant source may be beyond their immediate control."

The position of the large-scale consumers' goods industries during the period of transition shall be as follows: "The large-scale consumers' goods industries like textile, oil, sugar, paper and rice mills shall be allowed to continue, provided they fall in line with the strict discipline and control of the State. They shall not be permitted to compete with the corresponding cottage industries. They shall exist only so long as the village industries are not able to produce the required quantities of these consumers' goods.

This Plan which embodies some of Gandhian economic ideas has some excellent features. It lays emphasis on self-sufficiency in industrial production, decentralisation of industries, and cultural development of the masses. But in

its attempt to stop the "craze" for wholesale mechanisation and urbanisation of industry, it tends to push the pendulum on to the other side by laying too much emphasis on ruralisation and circumscribing the scope of certain vital factors of industrial production. For instance, the Plan purports to develop only a few small industries popularly termed "village industries" which are mainly utilitarian. Art-crafts like ivory-carving, pile-carpet weaving and inlaying on wood or metal are out of its purview, since simplicity of wants is one of its basic principles. These art industries stand for the cultural distinction of the nation and any plan which endeavours to build up a cultural edifice on mere utilitarian industries must needs be unsound. Secondly it aims at the cultural development of the masses only. The so-called higher classes also are obviously in equal need of a change of outlook which makes for real culture. Some of their false notions of ethics and aesthetics need to be changed. The failure of the plan to take note of this makes its programme incomplete. Thirdly, it narrows down the scope of the use of power. While it advocates the use of power in decentralised basic or key industries as essential, it considers that their use in cottage industries should be limited and controlled, unlike what is done in Japan, Russia, and elsewhere. Manufacture of consumers' goods like rubber goods, electrical goods and bicycles is an important feature of modern cottage industry; and unless a liberal use of power is allowed it is likely that these industries which cater to the requirements of the average man cannot be developed in our country in decentralised units. Fourthly, the Plan aims at the gradual *elimination* of large-scale consumption goods industries and even during the transition period it circumscribes their field of activity by making them

complementary to cottage industries. In the case of consumers' goods industries like rice, flour, sugar and edible oils such elimination will be well-advised for reasons of health and welfare. But in the case of paper, textiles, and non-edible oils, there is no justification for such drastic action. Such industries may progress side by side with cottage industries in mutual adjustment.

The existence of same bias, political or economic, in the estimates of the three independent socio-economic groups reduces their acceptability. A proper estimate of the position of large and small industries should be unbiased. In a country like ours where communism has not made much headway and capitalism still finds favour with the congress—the party in power—to some extent, there is bound to be some social inequality and some urbanisation of life for many years to come. Cheapness and utility cannot but be the primary considerations of the poorer sections of the people. These cheap utility products are turned out both by mills and small industries. Utility ennobled by art must be the consideration of certain favoured sections of the people. These goods are produced by the small industries. Culture has a place in the life of the rich and the poor; for while a proper appreciation of aesthetic values as seen in rich craftsmanship is a mark of culture among the well-to-do, a proper appreciation of the utility value of self-sufficiency cloth and of food stuffs made by cottage workers makes for culture among the masses. A proper appreciation of cost relative to social position is as much a mark of culture among the rich and the poor. Utility ennobled by culture (*i.e.*, utility *cum* culture) must then be the basic principle of assessing the relative importance of the large and small industries. Considering from this standpoint, we shall

have to conclude that, in a country where socio-economic values are seasoned by cultural understanding, large and small industries must have an equal place in national economy. Under the aegis of a National Government, the nation is moving towards such a consummation. The general bias for decentralised economy, the desire for *urbanisation*, and the spread of the co-operative movement have made the atmosphere fairly favourable for such a consummation. It is then safe to assign our cottage industries a place of honour on a *par* with our large-scale industries. They no more fill up crannies and crevices left by the big industries. If the latter are the arteries in the body industrial, our cottage industries are capillary blood vessels which carry the blood to every part of the body and keep the body industrial, vigorous and active.

COTTAGE INDUSTRIES OF INDIA

SECTION II—GENERAL CONDITION OF COTTAGE INDUSTRIES

I. GENERAL CONDITION IN PROVINCES

I. ASSAM

1. GENERAL FEATURES

Assam was constituted a separate political Province in 1912 under a Chief Commissioner. It became a Governor's Province under the Government of India Act 1919. The Government of India Act of 1935 gave it Provincial Autonomy which actually came into operation in 1937. Assam has a bi-cameral legislature, a Governor and a Cabinet of ministers to assist him. The Congress administered the Province from 1937 to 1941 when the Congress Cabinet resigned giving place to the Advisor regime, under Section 93 of the Act of 1935. The popular government again came into power after the war in 1946. In the division of India, Assam forms a part of the Indian Union with the exception of Sylhet District.

Assam was 55,000 sq. miles in area with a population of 10·2 million in 1941, consisting of Hindus, Muslims and people of tribal religions. About 40 per cent. speak Bengali, and 25 per cent. Assamese; the hill tribes speak Burmese and Tibetan languages.

The annual average rainfall of Assam is 100 inches, Chirapunji alone recording over 500 inches annually. The Province had 1,300 miles of railway and 6,000 miles of road, 700 miles of the latter being metalled. The surface being densely covered by hills and forests, the means of communication are expensive and difficult. Waterways of the Brahmaputra and its tributaries offer the best means of transport. The important products of Assam are tea, rice and wheat besides rubber, silk and cotton. The percentage of population engaged in agriculture is 89 and that in industries is 11.

For the year 1945-46 the revenue and capital receipts were about 25 crores of rupees and expenditure was about thirty crores. Shillong, the capital, and Gauhati are the two important cities.

There are a few cottage industries of importance which are largely utilitarian.

2. GENERAL CONDITION

The numerous villages of Assam have a fairly large variety of cottage industries. Since Assam is not as advanced industrially as some of the other provinces there are very few large-scale industries. The demand for goods is largely met by cottage industrial products. Some of the principal cottage industries of the Province are handloom weaving, sericulture, gold and silver work, brass, bell metal and iron work, pottery, cane and bamboo work, hosiery and soap making.

The most important cottage industries are handloom weaving and sericulture. Assam is one of the two or three Provinces in our land where cottage industries are largely pursued as a self-sufficiency measure. Cotton-weaving is done by women and almost every house has a

loom. Silk manufacture is found in the Assam valley, the weaving being done by women. These two industries have developed considerably during the past two decades. The development was marked during the last decade on account of the subsidy granted by the Central Government since 1935-36 for hand-loom weaving. Though imported goods of finer texture and colour tended to displace the indigenous cloth, the efforts made by the Government at revival of hand-loom weaving have been fairly successful. A large number of fly-shuttles have since been introduced and the cloth output and earnings of the weavers have increased considerably. The development has, however, not been quite satisfactory for, of 421,000 looms in the Province about 11,000 or 3 per cent. only are fly-shuttle looms and the rest the primitive throw-shuttle looms. Efforts are being made by the Government and private bodies to popularise the use of fly-shuttles. In sericulture also there has been considerable development.

Silk worm rearing and silk manufacture are the characteristic industries of the Assam Valley. All the varieties of silk like *Pat*, *Muga* and *Eri* are produced in the Province. The white cloth made of *pat* silk is an article of luxury. *Muga* silk is largely used by the women of all classes and as holiday dress by men. *Eri* silk which is coarse in texture and durable is used as warm cold season clothing by the Assamese villagers. The manufacture of silk is largely a domestic occupation. There were in 1941, 203,000 silk handlooms which amounted to 50 per cent. of the total loomage in the Province. The efforts of the propaganda of the Department of Industries have helped a good deal in the development of the silk industry in the Province.

The jewellery of the Province consists in gold *filigree* work and enamelling of lockets, ear ornaments, etc. The

production of lac ornaments set with false rubies and cheap garnets is a peculiar industry of the Province. The ornamenting of cloth with cowries is the most popular industry in the Hill tracts.

The Province has an abundant supply of cane and bamboo which has facilitated the development of ornamental cane and basket work. This industry received particular care during the War in order that the demand for baskets from the Defence Services might be adequately met. This industry helped to raise the supplementary income of the agriculturists. The demand for such products having fallen due to the end of the War it has become necessary for the industry to explore a market among the civilian population.

Other important cottage industries of Assam are brass and bell-metal works and blacksmithy. Bell-metal products are cast in moulds while brass work is done by hammering out sheets of metal. The *Morias*, a class of Mahomedans, are engaged in the industry.

The articles produced are utilitarian, meant for meeting local demands. Iron workers make use of imported metal and iron smelting has almost died out. Metal workers in general have experienced much difficulty during recent years in obtaining adequate raw materials on account of War conditions.

Pottery which is pursued by the *Kumhars* and *Hiras* is of the simplest type. The *Kumhars* work on the wheel while the *Hiras* beat out the clay to a thin sheet and lay one strip upon another till the vessel is complete. The products are meant to meet only local demands.

Lime burning is another extensive cottage industry of the Province. The condition of the cottage industries in

III : ASSAM: INDUSTRIAL CO-OPERATION

the Province in general requires improvement to a large extent. It is gratifying that the Government have been bestowing attention on this vital aspect of the industrial life of the Assamese.

3. INDUSTRIAL CO-OPERATION

Though co-operative credit societies received much attention in general in Assam, the need for organising non-credit and industrial societies for giving economic relief to the small artisans and producers did not go unnoticed.

Weavers' co-operative societies may be mentioned as the most important industrial co-operatives in the province. As early as 1935 weavers' co-operatives began to be organised with a view to encourage handloom weaving which is the most important cottage industry in Assam. Though in the Assam Valley women are engaged in handloom weaving as part-time work for producing cloth mainly for self-use, yet in certain parts of the province the industry is carried on for the market. Since foreign competition threatened to kill the industry, the need for strengthening it through co-operative enterprise was realised. Much progress was in evidence during the recent years. The Co-operative Department evinced keen interest in introducing improved processes and appliances for weaving.

There were in 1941-1942, 31 weavers' societies with 285 members in the Assam Valley. The members had 274 fly shuttle looms which showed their interest in improved methods of weaving. Many men also took to handloom weaving as whole time occupation since it afforded possibilities for regular business. The societies were financed by central banks of the locality. The Government Emporium supplied the necessary materials on hire purchase system

and on joint security. The societies repaid in instalments from sale proceeds of finished goods.

The societies are supervised by a Co-operative Weaving Inspector assisted by some Demonstrators. New designs are supplied to the societies usually by the supervisors. A part of the production is sold locally. The Government Emporium also places orders with the societies for goods conforming to certain designs and specifications. Handloom cloth is finding increased demand chiefly due to the co-operatives.

The War has helped the weavers' co-operative movement considerably by increasing the demand for co-operative handloom fabrics.

The Khasi Co-operative Weaving Society at Shillong is imparting instruction in improved methods of weaving to the Khasi girls. The society is progressive with an extensive market.

The Assam Bell Metal Utensils Manufacturing Society is in the Kamrup district. It was started in 1939 with a view to revive bell metal industry. In 1942 there were 534 workers in the society out of a thousand families in the locality. The share capital upto January 1941 was Rs. 9,780. The society has progressed considerably during the war though scarcity of raw material was a serious handicap. The enterprise seems to open bright prospects for bell metal work in the province.

Among the industrial co-operatives in Assam may be mentioned co-operative milk societies. There were in 1942, 15 such societies out of which 5 were practically working. The general supervision of these co-operatives was done by Agricultural Department. The Gauhati Co-operative Milk Societies' Union at Gauhati had four working milk socie-

III. ASSAM: INDUSTRIAL CO-OPERATION

ties. This Union supplied milk to Gauhati town. In 1939-1940 it handled 1,02,616 lbs. of milk valued at Rs. 8,394 as against 79,790 lbs. valued at Rs. 7,887 in the previous year. The Union has a managing committee of the representatives of the societies. It is one of the four milk unions in the province. Next in importance to Gauhati Union comes the Karimganj Union. The other two Unions were reported to have failed financially.

Industrial co-operation on the whole holds out a bright future for the province, if only a keen interest is taken by the Government and the people.

India is a land of villages, and Government must attach the greatest importance to the development of cottage and small scale industries in order to ensure a balanced economy. From their very nature, the development of these industries must remain the responsibility of the Provincial and State Governments, but it should be the business of the Central Government to make continuous efforts to make them ancillary to large scale industries. Their healthy expansion depends on the provision of cheap electrical power, provision of raw materials at economic prices, organised marketing of their produce and developing the latest skill in arts and crafts for which the land was once so famous.

DR. SHYAMA PRASAD MOOKERJEE

II. BENGAL

1. GENERAL FEATURES

The partition of Bengal in 1905 was an event of dissatisfaction to the whole country. This partition was annulled in 1912 and Bengal was constituted a Governor's Province. It was reconstituted in 1921 under the Reforms Scheme. It received Provincial Autonomy under the Government of India Act 1935 with a bi-cameral legislature, a Governor and a Cabinet of Ministers.

This autonomy began to work in 1937 under a coalition ministry. The administration was taken up by the Governor under Section 93 of the Government of India Act for a time. Subsequently the Suhrawardy Ministry came into power. In the division of India, West Bengal forms part of the Indian Union while the East Bengal goes into Pakistan.

Bengal was 77,521 sq. miles in area prior to partition. Its population was 60.31 million in 1941. Bengali is the chief language spoken by about 90 per cent. of the people. About 33 million are Mahomedans, 24 million Hindus and the rest Christians, etc.

The climate of Bengal is tropical. The average annual rainfall is about 75 inches. The Ganges and the Brahmaputra fertilize the whole region.

93 per cent. of the population live on agriculture and allied industries. 85 per cent. of the world's jute and 50 per cent. of Indian tea and much of India's rice and wheat are produced in Bengal. Jute, timber and fisheries and paper making are the chief large-scale industries.

Calcutta and Dacca are the chief cities. The revenue of the Province in 1945-46 was about 107 crores and expenditure 120 crores.

In the 86,000 villages of Bengal there are numerous cottage industries many of which may be classed under art-crafts and others under utilitarian-crafts.

2. GENERAL CONDITION

1. *Handspinning*.—Handspinning was once the pride of Bengal, and so of India, but now not in a flourishing condition. Cotton was formerly cultivated extensively in several parts of Bengal, but during recent years cotton cultivation has gone down due to the growing of other commercial crops. The Chittagong Hill Tract is still the chief cotton growing centre of the Province. Though a large part of the cotton grown in the Province goes to feed the mills of Bengal and elsewhere, a considerable part of it is consumed by handspinners.

Handspinning is a part time occupation mainly for the women of the rural classes. In a few cases it is a whole time occupation for women who are not fit for other work. Such women make their living from spinning. The counts spun range from 8s. to about 60s. Dacca, Santipore and Chittagong have been for long the chief centres of cotton spinning. Dacca has been by far the most important centre. In former days the spinners of Dacca could spin out of local cotton subjected to a special slivering process, fine yarn rising upto 500s. out of which the world famous Dacca *muslins* were woven. The hostile attitude of the British dealt a death blow to the art craft. The industry was almost extinct by the first quarter of this century, but it received some impetus

from the non-co-operation movement and the *swadeshi* sentiment. There are a number of production centres in the Province such as the Khadi Pratisthan of Sodepur. Several attempts are being made by the Government of Bengal to press the *Charka* into useful service in these times of cloth scarcity. But the work so far turned out is meagre considering the ancient conditions of the industry.

2. *Handloom weaving*.—The weaving of cotton fabrics from yarns of coarse-medium and fine counts is done in many districts such as Jessore, 24 Parganas, Howrah, Dacca, Burdwan and Mymensing. The principal castes engaged in weaving are the *Tantis*, the *Jugis*, and the *Jolas*. The *Tantis* practically limit themselves to weaving of all the finer qualities of cloth and have no liking for agriculture; but the *Jugis* and *Jolas* who generally weave coarse cloth have agriculture as a secondary occupation since coarse cloth weaving does not yield a living wage usually.

Handloom weaving is largely a whole time occupation in Bengal, 75 per cent. of the weavers pursuing it as such and the rest as part time work.

Three types of looms are in use in the Province—the throw shuttle loom, the fly shuttle loom, and the semi-automatic loom. Some decades ago only throw shuttle looms were used almost by all the weavers. Subsequently due to the changed economic conditions caused by the first wave of *Swadeshi* enthusiasm, the fly shuttle came into use. There were in all 2,13,886 looms in the Province in 1921 and 2,00,000 looms in 1932. The number fell further to 1,42,461 looms in 1940. Of the looms existing in 1940 about 32 per cent. or 45,102 looms were throw-shuttle looms and about 67 per cent. or 95,759 looms were fly-

III. BENGAL: GENERAL CONDITION

shuttle ones. Of the semi-automatic type there are 1,600 looms in the Province.

The yarn that is used by the weavers ranges from 8s. to 100s. generally. Dacca weavers were using 300s. to 400s. yarn till before the recent war. The yarn was of imported variety. Owing to the non-availability of the imported superfine yarn, the weavers are at present using the finest Indian yarn available.

Bengal has a rich variety of handloom products. The most important of them are, *sarees*, *dhoties*, *gamchas*, *chaddars*, *lungis* and *shirtings*.

The *muslins* are the speciality fabrics of Bengal. Dacca was once the most celebrated production centre for the world-famous Dacca *muslins*. But now the old art craft is extinct. Instead, the centre produces *muslins* out of mill yarn. Among the *muslins* the figured variety also known as *Jamdanis* are the best fabrics. The ornamentation is done during the process of weaving by inserting an extra coloured weft into the cloth to form the figure or ornamentation, the design of which is drawn on paper as a guide to the weaver. The cloth is begun as in the case of an ordinary cloth but as the weaving goes on, the weaver refers to his paper design and at the proper place, he takes his needle and coloured weft thread and works out the pattern into the cloth. Two persons generally work together to save time and labour. Two most important kinds of *Jamdanis* are *Sheborga Jamdani* and *Jaladar Jamdani*.

The weavers in many cases are in the clutches of *beparis* and *mahajans* who advance them moneys and exploit their labour.

The weaving industry has during the recent years given scope for the co-operative movement. There are at present 1,500 Weavers' Co-operatives in the Province. The weavers' co-operative movement is doing its best to improve the industry and the workers. The Bengal Government also have endeavoured to improve the industry by organising Demonstration Parties in the Province and training weavers in improved processes.

The War and the aftermath have, however, wrought havoc to the cloth industry of Bengal. Handloom weaving suffered severely due to lack of yarn while the demand for cloth and the price of cloth rose high. The demand for cloth can be judged from the fact that during 1945 and 1946 there were very large exports of *sarees*, *dhoties* and *lungis* from the production centres in the Madras Province. Dealers who exported cloth to and sold cloth in Bengal cleared huge profits since the margin of profit was in many cases as high as 40 to 50 per cent. The handloom industry of Bengal badly needs rehabilitation at the earliest time.

3. *Jute spinning and weaving*.—Jute spinning and weaving is more important as a cottage industry in Bengal than elsewhere in India. Jute is grown in abundance in the Province. While the bulk of jute production goes to the mills, a considerable part is turned into cloth on cottage basis. Some Hindus known as *Kapalis* and some Muslims are engaged in the industry as a hereditary occupation. They either grow their own raw material or purchase it. The women spin the jute fibre into yarn by means of a *takko* or spindle. One seer of jute can be spun in a day. Men convert this twine into cloth or ropes. The gunny cloth is woven on a primitive loom generally as a part time

work. Women also weave during their leisure hours. The workers are financed by *mahajans*. Gunny bags and quilts are made out of rough twine and sails out of fine spun thread. The bags are usually 27" by 72" in size, each bag requiring $\frac{3}{4}$ seer of jute twine. One bag can be produced per day on an average by a family.

The rope generally consists of 3 strands. The strands are spun into length by means of revolving spindles placed horizontally between two bamboos and rotated by hand. The finished products are used by sailing vessels and there is a fair demand for these ropes. Dacca, Hooghly, Backerganj, Rangapur, and Chittagong are the chief districts for this industry.

During recent years the Government have endeavoured to introduce and popularise improved jute spinning appliances among workers. Jute Weaving Demonstration Parties were also sent by the Government Industries Department for training weavers in improved weaving. Much more propaganda is required for improving the industry.

4. *Silk Industry*.—As important as the jute cottage industry is the silk industry of Bengal. An ancient industry like cotton weaving, silk manufacture is pursued at present in many parts of Bengal such as Malda, Chittagong, Birbhum, Murshidabad and Dacca.

Four kinds of silk are in use in the Province. *Mulberry*, *Mug*, *Tasar* and *Eri* silk.

There were about 1940 some 14,426 silk handlooms producing annually 1,00,000 yards valued at Rs. 60,00,000, forming 10 per cent. of the total production of the whole country.

Silk worm rearing is done in many districts like Malda, Murshidabad, Nadia, Rajshahi, Bogra and Midnapore. Mulberry cultivation is receiving increased attention: for instance mulberry cultivation was 46,548 *bighas* in 1944-45 as against 38,348 *bighas* in the previous year. Cocoon rearing received impetus as a result of the War. The cocoon rearers got their supply of seed from three sources, *viz.*, Government nurseries of which there are seven in Bengal, (at Berhampore and Piasbari); selected rearers; and ordinary rearers. The Government are taking a keen interest in rearing by employing Peripatetic seed examiners and by organising Rearing Demonstration Centres at Malda, Murshidabad and Birbhum. This has improved the quality of the seed. The quantity of cocoons reared amounted to 29,15,047 *kahans* valued at about Rs. 1,16,46,431 in 1944-45. Reeling is done in all the silk worm rearing districts. The industry, particularly in Malda, is in the hands of *Mong* women. The country *ghais* are used largely for silk reeling. The reelers procure cocoons from *hats* or rearers and reel the silk by the heated basin process. The reelers stock their cocoons. But for the purpose they are mostly in the hands of *Marwaris* and *beparis*. Most of the silk is exported outside the districts. The Government of Bengal have taken keen interest in scientific silk reeling. Hence they organised six Reeling Demonstration Parties in Malda, Murshidabad and Bankura Districts for training reelers in the production of war silk.

A considerable part of the silk that is produced in the Province is woven in the Province itself. The Weavers belong to the Hindu and Muslim communities. The

Mongs are a sub caste engaged in silk industry. Silk weaving is a part-time occupation in villages and a whole time one in towns and cities. Silk is purchased direct from the reelers and *beparies* and converted into cloth. The weaving is done largely on ordinary looms; but there are many fly shuttle looms also. The varieties of silk cloth produced are *sarees*, *dhoties*, *thans*, *lungis* and *chaddars*. Pure silk weaving is found chiefly in Malda District.

Other varieties of cloth produced are called *Matkas* and *Kataris*. *Matka* cloth is cloth produced from yarn of pierced cocoons. This yarn is spun on *takkos* or spindles and hence is not quite uniform. So the product is coarse. *Tantis* are engaged in it as part-time workers. *Katari* weaving is the weaving of fine coloured fabrics with silk and cotton yarn; usually red, yellow, deep blue, patched yellow silk and black cotton yarn are used. Muslims are largely engaged in this industry, particularly in Malda District.

A considerable part of the silk cloth produced, particularly *Tasar* and *Mug* is for self-use locally. Much silk of the fine variety is exported outside the Province.

The War gave an impetus to the silk industry since silk was largely required for parachutes. Consequently cocoons sold at Rs. 180 to Rs. 200 a maund though the control rate was only Rs. 115. 72,876 maunds of cocoons were produced in 1944-45 and 50,000 lbs. of silk was supplied for War purposes in that year. The Government opened a Silk Conditioning House at Calcutta for testing and grading and certifying grades of silk. The industry holds out a bright prospect in the post war period.

5. *Embroidery*.—Embroidery is an art-craft which is largely pursued in the Province especially in Dacca,

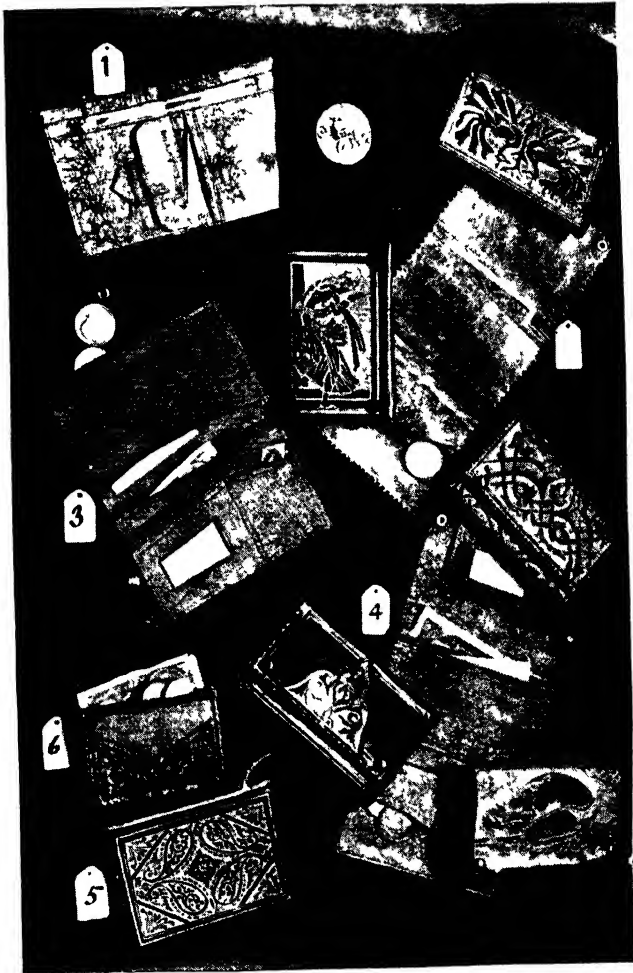
Murshidabad, Hooghly and Howrah Districts. It is mostly part-time work done by women and in a few cases by men during their spare time. The workers are chiefly Muslims. Embroidery is done for the market by workers of the lower classes and for self-use by women of the higher classes.

Embroidery in general consists in working out on a piece of cotton, silk or wool some designs like flowers, fruits, birds and other conventional designs, with a needle and silk or cotton thread or gold and silver lace. *Phulbati*, *Zarodasi* and *Kamdani* are some of the important types of embroidery. *Sarees*, bed-covers, table runners, door curtains, table-cloths, turbans, handkerchiefs, caps and horse trappings are produced with an aesthetic effect by the embroiderer.

The Indian market for the embroidered goods is only limited. The products are largely exported outside the country.

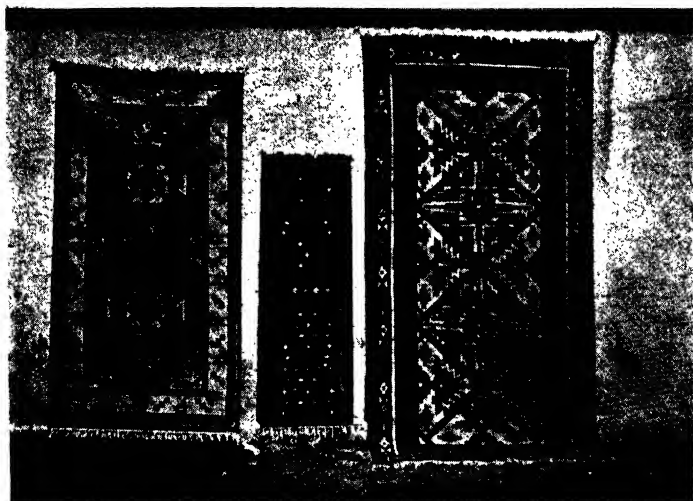
Dacca Embroidery is a class by itself. Its peculiarity is that it is never done with cotton thread but silk even on cotton and mixed weave cloths. Either mulberry or *mug* silk thread is used. Another peculiarity of Dacca work is that the outlines of designs are block printed on the cloth. There are two varieties of embroidery done at Dacca, *viz.*, *Chikan* work proper and *Kasida*. The fundamental difference between the two is that while in the former the designs are worked out in twisted silk threads in the latter work is done with untwisted *Mug* silk thread. The *Tantis*, *Goalas*, *Pals*, *Baniks* and *Shahas* are engaged in this occupation as spare time work for supplementary earnings. The *karikars* (actual cottage workers) are financed by the *mahajan* (capitalists) through *ostagars*

SOME ART PRODUCTS OF SRI NIKETAN



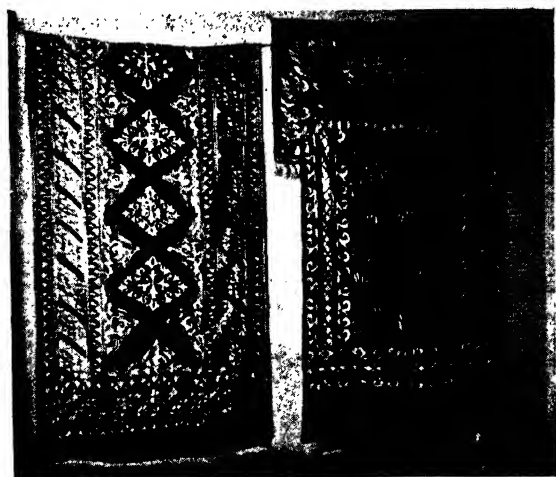
Money Purses with Modelled Work

Sri Niketan



Multi-coloured Cotton *Dhurries*

Sri Niketan



A *Sari* and Door
Curtain

Batik Work on *Murshidabad*
Silk
Sri Niketan

(middlemen) who distribute cloth, thread and designs among the *karikars* and pay them for their work by the piece. The products were largely exported abroad in former years.

The foreign markets for the embroidered products suffered heavily during the recent war but a home market was however created for a considerable part of the product due to the presence of military personnel in the country. Now after the war, efforts are slowly being made to revive the foreign markets.

6. *Metal work*.—The Province is noted for metal work which comprises both utilitarian types such as brass, bell-metal and copper work and blacksmithy and artistic type like gold and silver smithy, *filigree work* and *bidri* work.

Brass and bell-metal work and copper smithy are seen in all the districts, particularly, Calcutta, Midnapore, Murshidabad, Bankura, Birbhum, Dacca, Malda, Dinajpore, Rajshahi, Noakhali and Chittagong. Hindu sub-castes like *Kansaris* and several Muslims are engaged in this work. Work is done both as a home industry where the whole family works with unpaid apprentices and on the *karkhana* system with paid assistants. The *gata* system of labour, *i.e.*, exchange of labour with fellow workers is also seen. The raw material used is generally in the form of machine-rolled metal sheets. A considerable part of raw material is procured in the shape of old vessels which are sold away or exchanged by public. The *beparis* (small dealers) obtain such materials and supply them to the *mahajans* who supply them in their turn to the workers for re-melting and working into vessels.

Goods are produced both by casting metal in moulds and turning them and by hammering out metal plates into vessels. Re-melted brass is usually cast in moulds. Bell metal is not beaten to shape but only cast in moulds. The goods that are produced are generally *thalis*, *dekchis*, *lotas*, *badnas* (cap moulds) and other vessels and lamp and *hooka* stands. The goods which are mostly utensils are meant for domestic use and therefore have local sale. The Hindus generally use brass and bell-metal ware and Muslims copper ware. The inside of vessels required for kitchen use is tinned by a class of professional tinkers called *Kalliwalas*.

The workers are in the clutches of the *mahajans* who finance them.

The industry suffered considerably during War for want of imported raw material which largely fed the industry before the War. It is still in large need of rehabilitation due to persistent lack of enough raw material.

Blacksmithy is found in every part of the Province. The chief occupation of the blacksmith is the repair of agricultural and other tools and implements. In former days he used to manufacture on a large scale *daos*, sickles, axes, spades, nails, bolts; hammers, and numerous agricultural implements. Some made even cutlery, guns and padlocks. But the advent of imported iron ware hit the industry very hard. Though the War stopped foreign competition the blacksmith is handicapped by the formidable competition of the local factory made wares. Consequently he is forced to be a repairer only.

Of the artistic metal industries gold and silver smithy is the most important. These workers are found in every part of the Province, especially in towns and cities. They

produce ornaments of gold and not only ornaments but utensils, caskets and trophies, etc., out of silver. Due to pressure of work in former years there had been some specialisation like wire drawing or ribbon plate drawing in a small machine to supply basic material for ornamental work. Lapidary work or stone grinding is also one specialised type of work. The stones polished by lapidaries are used for gem setting. The high prices of gold and silver during recent years have made it difficult to purchase much gold and silver. Yet, during the same period fashion has brought in many new designs. Consequently the smiths are engaged in making new patterns out of old articles by remelting them.

Filigree work is a special type of ornamental metal work done in precious metals in particular. Dacca is the chief centre for it. Two classes of Hindus known as *Swarna Banics* and *Karmakars* and many Muslims are engaged in this work which produces bacelets, necklaces, earrings, *attar dans*, and the like.

Another important part of artistic metal work of Bengal is *bidri* work which consists in inlaying of silver with a kind of copper. This is seen in Murshidabad.

7. *Wood work*.—The wood work of Bengal is both of the utilitarian and artistic types. Among the utilitarian types the most important are building works, carriage building, packing case making, boat and ship building, loom manufacture and repair work. Among the artistic type the most important are cabinet making, picture framing, wood carving and *hooka* making.

Employment as carpenters in building work is the commonest for these artisans. Some of the carpenters engage themselves especially during the slack season in

repair work or packing case making out of deal wood. Carriage building was formerly a thriving cottage industry but the advent of automobiles has hit it hard.

Cabinet and furniture making is at present employing a very large section of the wood workers. The demand for wooden furniture has of late increased considerably. It is significant that though in former years this industry was managed by European firms it is now very largely in the hands Indian businessmen. These industries are found in almost all the districts. Some of the carpenters are engaged in the manufacture of looms for weavers.

One of the most important small industries of the Province is boat making. This is pursued chiefly in Calcutta, Tipperah, Chittagong, Dacca and Backerganj Districts. The sub-castes engaged in this work are *Sutradhars* and *Nama sudras*. A number of Muslims also are engaged in boat making. There is a large variety in the shape and size of boats built. Some of the important types of boats are *dingies*, house boats, *sarangas*, *gadus*, (fishing boats) and *jalayanos* (deep sea fishing boats).

Of the artistic type of wood work cabinet and furniture making of quality finish is by far the commonest in the Province. These pieces are sometimes exquisitely carved unlike the ordinary pieces of furniture available all over. Wood carving of a general type for windows, screens and doorways is found here and there. There are numerous institutions where wood carving is well developed. Sri Niketan of the Visvabharati is the most important of them.

Hooka making is an art craft which has an antiquity and a name. *Hookas* are made in Districts like Calcutta, Howrah and Tippera. The *Hooka* cups are made of cocoanut shells cut into two and dried carefully. Ordinary

ones are made out of shells of Dacca, Backerganj and Noakhali Districts and other local produce. But the conical variety is made out of shells of cocoanuts imported from Ceylon and Cochin. A special decoction is used to dye the shells and make them dark in colour. *Hooka* stems are turned out in Mujaffarpur. There is a large demand for these *hookas* all over Northern India.

Among the art crafts of Bengal may be mentioned picture framing for which Calcutta and Dacca are the most important centres. This industry has been flourishing during recent years due to an increase in the public taste for pictures. This is engaging a fairly large number of artisans.

8. *Tanning and leather goods manufacture.*—Leather tanning is a very important industry in many parts of the Province. Its chief centres are Calcutta, Birbhum, Dacca, Rajshahi, Burdwan, Bankura, Maldah and Chittagong districts. The workers engaged in it are generally *Kashais* (who are Muslims) and *Charmakars* and *Chamars*. A number of *Rishi* families are engaged in it in the Dacca district. There were also many Chinese tanners, particularly in chrome tanning. Tanning in Bengal varies widely from rough curing and partial tanning to high class tanning and chrome leather manufacture. The raw material consists of cow and buffalo hides and sheep and calf skins. These hides and skins are collected from slaughter houses and from individual dealers. The tanning materials used are salt, lime, *babul* and myrabolams. The tanning establishments are generally small, each having some twelve pits and two unhairing and fleshing beams. Some tanneries are tiled while many of them are thatched buildings.

The hides are first cured with salt. They are soaked in water and put in lime pits, the liquor being strengthened

on alternate days by the addition of fresh lime. The tanning is done by the bag process. After treating the hides in liquors for about a week, they are sewn up in the form of a bag and hung up and filled with crushed bark solution. This process is very slow and formerly extended over a period of one to six months; but it is now quicker.

The Department of Industries, Bengal have taken interest in the development of tanning. Research is conducted and demonstrations are organised by sending Peripatetic Demonstration Parties to moffusil places to train the tanners in improved methods of tanning. Some of the students have even started cottage tanneries.

The leather that is tanned is consumed largely in Bengal itself. Superior varieties are exported to other provinces.

The tanned leather is used for leather goods manufacture in districts like Calcutta, Birbhum, Bankura, Burdwan, Maldah and Chittagong. *Moochis* and *Charmakars* and Chinese shoe makers are engaged in this work. The manufactures consist of shoes, slippers, belts, purses, suit cases, portmanteaus, harness and saddlery, bellows and even drums of high quality. The work is generally done on cottage or home basis, a family turning out on an average about 20 pairs of shoes a month. The goods have local sales generally, the finer varieties being exported to other provinces.

The Department of Industries has a leather goods making section which trains students in improved design and work. Demonstrations are also given by these trainees and small shoe making establishments are run by some students. Names and addresses and approximate monthly out-turns of the shoe makers in Calcutta and Howrah area

have been compiled and a scheme for helping them has been drawn.

Glue making is an important side industry, of the tanners. Glue is made out of fleshings and the product is receiving increasing popularity.

9. *Pottery*.—Pottery is seen in Bengal both as a utilitarian industry and an art craft. In the former form it is found everywhere in the province, particularly in Howrah, Khulna, Burdwan, Birbhum, Dacca, Chittagong, Backerganj, Tipperah, and Noakhali districts. Communities known as *Kumars* and *Kumbhakars* are engaged in this industry. The chief raw materials, clay and sand, are purchased by the potters in some districts like Dacca. Production is carried on with the primitive potter's wheel. The wares that are turned out are baked in a kiln by using cheap fuel. Coal is used in Burdwan district. About 5 maunds of coal is required for baking some hundred and twenty large earthen vessels. The breakage in baking is 20 to 25 per cent. The wares have local sales generally. *Beparies* purchase them and sell them for cash or grain in places where the production is small.

The wares turned out are chiefly cooking vessels, water pots, jars, tobacco pots, *hookas* and crude tea cups. The cooking vessels of Patihal and jars of Shakrail in Howrah district and Kallygunge in Khulna district have a name. The best wares are said to be made in Burdwan district on the banks of the Bhagirathi where the clay is particularly suitable for the manufacture of durable potter. The black earth jars of Khulna district are good for storing oil and grain. The pottery industry has suffered much due to the popularity of metal utensils among Hindus and enamel ware among the Muslims.

Tile and brick making is an important branch of the potter's job. This is usually a supplementary occupation and even some Muslims who are primarily agriculturists are engaged in it, as a side job. Howrah, Chittagong, Tipperah and Noakhali are important districts for these manufactures; and the roofing tiles of Jhapardah in Howrah district are noted.

Among the artistic wares may be mentioned the earthen toys of Krishnagar and Kulgadi and images of Backerganj. Decorated or ornamental pottery of graceful form is produced at Sasaram and Siwan. The vessels are baked in earthen jars to prevent contact with flames. They thus become black when baked and are then glazed with a mixture of clay and fuller's earth.

Porcelain or white earthen ware and superior glazed ware are rather rare in the Province, probably for want of suitable clay, and the custom of changing earthen vessels often among the Hindus.

10. *Paper making*.—Paper making was a very important cottage industry in Bengal about the beginning of the century. A number of villages in Hooghly, Dacca and Chittagong districts were engaged in this work. The advent of machine made paper has affected it very much. Yet in spite of large mills like the Titaghur Paper Mills, hand paper industry is found at some centres in the province. Several educational institutions and some cottage industrial centres like the Seva Sangh of Contai in Midnapore district, paper making is taught as an important handicraft.

At several places this is only a supplementary occupation. For four or five months in winter paper is made and in summer and rainy seasons, agricultural work is attended to.

Waste paper cuttings from book-binders, etc., are largely used as raw material. Other raw materials are rags, old-gunny cloths or fibres. Old fishing nets of sunn-hemp are also used though some what rarely. Jute fibre is much in use in Dacca district. The process of manufacture is the same as in other provinces. About 4 maunds of raw material can be worked up into paper by a family in a month. Where jute fibre is used three men can produce 5 or 6 reams of paper in a week. The varieties that are generally produced consist of document paper, kite paper and blotting paper. During the recent war, there has been increased demand, even for writing paper. Consequently, hand-made paper industry had much opportunity to meet the demand to some extent. The demand for hand-made paper having at present fallen, it has to be seen how far the industry would be able to hold its own in future. Its market for superior varieties of paper not required for book-printing may continue without a set back. The All-India Village Industries Association, Wardha, is doing its best to revive the cottage industry and place it on a firm footing.

11. *Soap making*.—Soap making was formerly a very important cottage industry in districts like Calcutta, Dacca, Chittagong and Noakhali. The advent of foreign soaps and the expansion of factory soap manufacture affected the cottage industry. But during the recent war due to increased demand for toilet goods, the industry had a chance to expand. A number of cottage industrial establishments for soap making were started during the recent years.

The raw materials used are cocoanut oil, ground-nut oil, *mowa* oil, animal fat and soda. Some soap makers use injurious ingredients like soda silicate, kaolin and chalk as

fillers in the production of cheap and inferior soaps. The process of soap making is not yet up to date at all centres, though it is not as primitive as before. The Department of Industries is taking interest in the development of soap making by organising demonstration parties in improved processes. There are numerous soap making units in and around cities like Calcutta and Dacca. The soap produced is of the washing and toilet varieties. The products have generally local sale, but the superior varieties often have a market outside the district and province. The All-India Village Industries Association is doing its best to popularise the production of soap from indigenous raw materials like the fuller's earth.

12. *Ivory, horn and conchshell work*.—These industries form an important group of the minor art crafts in Bengal.

A. *Ivory work*.—Calcutta, Murshidabad, Rangapur, Districts are noted for ivory work. The material is bought by workers in the Calcutta market. Formerly a workshop consumed about 150 lbs. of ivory a year. During the early years of the last war, there was slump for ivory goods. But during the later years the demand increased due to the coming of many European and other military officers. Ornamental images, bangles, combs, necklaces, caskets and buttons, paper weights are made out of ivory. Bengal has always been famous for its ivory carving the peculiar feature of which is the minuteness of the work, which requires about 80 different tools. The goods have a market extending over the whole of India. There is some competition with the goods of U.P., Madras and the Punjab.

B. *Horn work*.—Dacca, Rangapur and Calcutta are some of the important districts, for horn work. Many

Muslims are engaged in this work. Buffalo and deer horn is used as raw material. It is purchased locally from dealers. About 15 to 20 maunds of horn used to be consumed by each workshop annually during the recent years. The workers purchase 2 to 3 maunds of horn at a time.

Combs are generally made out of horn. The workers cut out of the hollow portion with a hand-saw and sell away the solid portion to button and toy makers. This hollow portion is heated on charcoal fire and flattened into horn plates. Combs are cut out of these plates with a hand-saw and polished with char-coal powder and oil. About 40 combs can be made in 2 or 3 days out of 7 or 8 *seers* of horn.

Buttons, snuff-boxes and small toys are made out of these solid horns. The tools required are lathe, bow, drill, chisels, *etc.* Buttons are cut out of solid pieces by means of revolving lathe and chisels. *Kharms* (wooden sandals studded with horn pieces) and bangles are also made of horn. The market for horn goods is mostly in the province itself.

C. *Conch-shell work*.—Bankura, Tipperah and Dacca are the most important districts for conch-shell work. Dacca is an old centre for conch-shell bangles. In fact, it is the demand of Hindu women for such bangles that has kept the industry alive.

A sub-caste known as *Shankharies* is engaged in conch-shell work. The shells are bought by the workers generally from Calcutta dealers who import them from Cochin and Madras and also obtain supplies from local fisheries. The workers in Tipperah district get shells from the fisher-men who carry on pearl-fishery in Meghna river. The tools used are usually a circular saw, polishing files and knives.

The products consist of *churis*, buttons, bracelets, bangles, chains, rings and small images. After the shell has been cut into rings, the outer surface is polished by rubbing against a flat sand stone and the inner side by rubbing against a such covered mandril. From one shell usually four bangles are made but some times even 6 or 8 are made according to the sizes of the shells. Superior bangles are set with pearls, rubies, etc.

Out of these spirals, beads are made. The filings and chippings are used for making lime.

The peculiarity of the Dacca shell industry is that the different stages in the process of the manufacture of the bangles are done by separate workers. The products of conch-shell work have an extensive market covering the whole province and the neighbourhood.

13. *Fishing*.—Fishing is a very important occupation of the fishermen of the sea-side and river-side villages. Jessore, Dacca, Backerganj, Chittagong and Tipperah districts are the most important districts for the fishing industry. The nets are usually made by the fishermen themselves. In districts like Chittagong, some Muslims also make them as supplementary occupation, their primary occupation being agriculture. The nets are made either of hemp twine or of cotton yarn spun into twine of 3 strands by means of a spindle (*takko*). The nets on being woven are immersed in a decoction of gab fruit and oil to make them water-proof. There are various kinds of nets, such as *Phandajal* (a long narrow net for *Phanda* fish), *Tanajal* (a drag net), *Behandijal* (a big stake net), and *Phelan* (a small conical net). Net making is a family industry in which the women and children also do work during spare time. There is an export of nets from some centres, by some *beparis* or *mahajans*.

The *Jalias*, *Malos* and *Nikaris* are engaged in fishing industry.

Fish forms a very important item of food of the *Bengalis*. It is consumed mostly in fresh state. The surplus catch is preserved by salting and drying by the fishermen in fish curing yards. The varieties of fish caught include prawns and sharks.

Shark oil is manufactured from the shark particularly during the rains. The oil is prepared in a crude manner by boiling down the lever of the fish in an earthen jar or an iron pan. The yield is 5 to 10 maunds a month during July to October. Fish oil has now an increasing demand for medicinal purposes.

The Department of Industries, Bengal, is taking a keen interest in developing the industry which forms a very important source of food. A number of fish curing yards are opened and improved methods of fishing and curing are introduced among fishermen.

14. *Gur & Sugar making*.—*Gur* and sugar making is a very important industry of Bengal. It is found chiefly in Calcutta, Birbhum, Dacca, Chittagong, Backerganj, and Noakhali districts. In districts like Calcutta and Dacca, *gur* and sugar is made out of sugarcane juice, while in districts like Backerganj, it is made out of date palm juice. *Gur* is made by the crude process of boiling the juice in open pans. In places where sugar is made out of *gur*, the cottage industrial system is in evidence. The sugar that is produced as cottage industry has a market but *gur* is considered to be superior to sugar in quality. Factory sugar has tended to replace *gur* and cottage sugar industry. Yet popular sentiment being in favour of the cottage industrial product, the latter is able to hold its own.

15. *Paddy husking and flour milling*.—Paddy husking and rice milling are seen in all districts. Rice is the staple food of the people. The advent of the rice mills has hit cottage industry very hard. Mill rice eating has become a fashion of the rich and the poor in many parts of the country. But of late medical research having pointed out the superiority of hand-pounded rice and hand-milled flour, many people are again taking to the consumption of hand produced rice and flour. Paddy husking is still done by means of the crude wooden lever which is placed horizontally and is supported by two upright posts placed in the ground on which pivots the horizontal lever rests. This lever is actuated by a woman pressing on the end nearest the pivots with one of her feet, thus lifting the other end and allowing it to come down sharply on the paddy as soon as the pressure of the foot is withdrawn. In some places paddy husking is done by means of a wooden *chakki*. Stone *chakki* is used for flour milling. The All India Village Industries Association, Wardha, is doing useful work in popularising hand-produced rice and flour.

16. *Oil pressing*.—Oil pressing is seen chiefly in districts like Calcutta, Chittagong, Backerganj, Tipperah and Noakhali. *Kulos* are engaged in oil pressing. Oil is extracted by means of ordinary *ghanis* from gingelly castor and mustard seeds and coconut kernels. In Noakhali district oil is extracted from a fruit called *punnal*, which grows in Sandip island in the district. Punnal oil industry is an old one, carried on by the local Muslims. The oil was formerly used for lighting, but now it is used in soap making. The oil finds a ready market in the province itself. Oil mills have been offering a keen competition, but

propaganda regarding the superiority of *ghani* oil has helped the cottage industry much in holding its own.

The Department of Industries, Bengal has conducted some research into the possibilities of improving oil milling and refining and into the utilisation of oil in the soap industry. The result of the research and the demonstration should help the oil pressing industry to develop.

17. *Salt industry*.—Salt is manufactured by rural workers on a cottage basis along the coastal belt of the province. The chief districts are Midnapore, 24 Parganas and Chittagong. The production is carried on by the open field system, where salt water is allowed to dry up in the sun. The salt workers are greatly handicapped by flood and rains by which that part of the province is often affected. During the recent Bengal famine the salt workers of Midnapore and 24 Parganas suffered much. With a view to render relief to the salt workers during rain, flood and famine, the Department of Industries, Bengal launched a scheme for warehousing salt manufactured by rural workers on cottage basis. The scheme was given effect to in Midnapore and 24 Parganas and later extended to Chittagong. There are at present at least 16 warehouses operating in the maritime districts of Bengal. During 1944-45 about 69,000 maunds of salt was collected at the warehouses.

Samples of cottage salt are collected by the Special Officers, and analysed to determine the percentage of common salt (Sodium chloride) and proportions of foreign elements. The villagers are taught modified methods with a view to improve the quality of salt. Samples of salt earth also are analysed and the villagers are instructed in the matter extracting salt from it.

3. INDUSTRIAL CO-OPERATION.

Though in Bengal agriculture dominates as a means of employment yet the cottage industries play an important part in national economy. Apart from a large number of artisans who take to a particular industry for generations, the peasantry has to fall back on small industries during the period of seasonal unemployment. It is very difficult to ascertain with any degree of accuracy the number of artisans in each of the following classes of cottage industries in the Province:—

(i) Industries with cotton, jute, silk and wool:—spinning and weaving.

(ii) Industries with metals:—blacksmithy, brass work, etc.

(iii) Industries with wood:—carpentry, toymaking, etc.

(iv) Industries with leather:—shoe-making, bag-making, tanning, etc.

(v) Industries with earth and sand:—pottery, brick making, etc.

(vi) Miscellaneous:—paper-making, button making, conch-shell working, mat-making, etc.

Since the publication of the Industrial Commission Report in 1918, attempts were made to organize co-operative societies among artisans. For instance the Co-operative Department organized many Co-operative Industrial Unions with weavers' societies as their constituents at some important weaving centres. But the progress of cottage industries on co-operative lines was not very encouraging; for the Unions not having enough business ex-

perience simply aided the societies by supplying credit without giving any technical advice or guidance. A complete re-orientation of the position was, however, made with the Government of India grant for the development of handloom industry. The Unions began to help the primaries in the supply of raw materials and finance, introduction of improved looms and weaving patterns, improved methods of dyeing yarn and weaving cloth, and also in marketing the finished cloth. The old moribund societies thus not only received a new lease of life but a vast expansion of activities in connection with the development of handloom industry was recorded. The Department carefully reviewed the work of the Unions while distributing the Government grant.

As the present industrial activities on co-operative basis are more or less confined to handloom industry. A detailed report is given below:—

There are at present 3 classes of co-operative organisations in the Province:—(1) Primary societies, (2) Unions and (3) Provincial Co-operative Industrial Society, Ltd.

(1) Primary societies:—The area of operation of a primary society is generally a single village union or *thana*. Its membership which is open to *bonafide* weavers only ranges from 20 to 200. There are, however, a few exceptions: for instance, the Bikrampore Co-operative Weavers' society, Ltd., and the Mymensingh Co-operative Weavers' Society, Ltd., have a large membership consisting of weavers; and they operate independently. The smaller primaries are affiliated to Unions. These primaries are of both limited and unlimited liability. The primaries are mostly dependent upon the Unions for supply of raw materials, technical advice and marketing facilities.

At present there are over 1,500 primary societies in the Province.

(2) *Unions*.—These Unions are situated at important weaving centres. Their membership is open to societies as well as individuals. They are of limited liability with an area of operation extending over a subdivision or district. The objects of the Union are to encourage collective production and disposal of goods, to finance the affiliated primary societies, to organise co-operative societies among weavers, to supervise and guide the primary societies in all matters.

The Unions are provided with small grants for purchasing semi-automatic looms, jacquard looms, etc. They also have a special fund for supplying improved weaving appliances to weavers on easy instalment system. Through their weaving supervisors they demonstrate to weavers the manner of working improved apparatus. They also have dyeing equipment for dyeing yarn for weavers and to teach improved methods of dyeing. Their weaving supervisors help the weavers in introducing new designs, colour schemes, etc., under the guidance of an expert textile designer attached to the Provincial Society.

The Unions have done much help to the weavers in the matter of supplying raw materials. The Marketing Officer secures large-scale orders for the Unions. After producing the goods through the primaries the Unions arrange to execute the orders through the Marketing Officer. There are at present 22 Co-operative Industrial Unions comprising more than 1,500 primary societies with a total membership of roughly 1,25,000 weavers.

The total working capital of the Unions is about Rs. 1,250 lakhs. The Unions sold yarn worth Rs. 152

crores to their constituents and sold cloth worth Rs. 136 crores during 1946. The Union at Maldah has as its object the development of indigenous silk while the others are concerned with handloom cotton weaving. The Union at Bagerhat (Khulna) has a weaving mill of its own. There are both handlooms and power-looms. It has also got a calendering and sizing machine which has been provided at Government cost. The most important handloom centres are Dacca, Narayanganj, Santipore, Serampore, Chowmohani, Pabna and almost all the weavers of these centres are affiliated to co-operative weavers' organizations there.

3. *Provincial Co-operative Industrial Society Ltd.*— This is federation of all unions and important societies, with membership open to individuals also. It supplies raw materials to the Unions and carries on propaganda work for popularising handloom products for which it receives an annual subsidy from Government. The Provincial society is also an emporium of handloom products where a large quantity of superior goods is disposed of to individual consumers and dealers.

With a view to help the Unions in technical and business matters a Special Assistant Registrar has been appointed out of the Government of India grant and has been given technical staff consisting of 13 weaving supervisors, 6 weaving experts, 1 marketing officer, 1 textile designer and 2 canvassers. 8 experts and 12 supervisors have recently been added to the staff.

It may be said that at least 50 per cent. of the weavers of Bengal are in the co-operative fold. Though a very large number of weavers are outside the co-operative movement it is gratifying to note that most of the

weavers in the most important weaving centres like Dacca, Pabna, Tangail, Kusthia, Chowmohani, Chittagong, etc., are co-operatively organized. The fairly satisfactory progress of weavers' co-operative movement in the Province is due to three factors: (1) War orders: During the recent war period when the textile position was bad the Co-operative Department undertook to supply textile goods worth Rs. 75 lakhs through its co-operatives. The Government supplied the necessary raw materials and also advanced a sum of Rs. 5 lakhs. This gave employment to numerous weavers who were until then not able to ply their looms for want of yarn. (2) Rehabilitation: As a measure of relief to the artisans who had been hit by famine the Government endeavoured to give employment to weavers through co-operative societies. Thus many weavers' co-operatives came into existence. (3) Control of yarn: Agency was given to weavers' co-operatives for distribution of yarn. This encouraged weavers to join co-operatives since membership ensured a regular supply of yarn.

"The salvation of cottage industries not subsidiary to agriculture lies in co-operation."

—THE BENGAL BANKING ENQUIRY
COMMITTEE

III. BIHAR

1. GENERAL FEATURES

Bihar became a separate province under a Lieutenant Governor in 1912. In 1921 it became a Governor's province under the constitutional reforms of 1919. It received autonomy under the Government of India Act of 1935 with a bi-cameral legislature, a Governor and a Cabinet of Ministers. There are numerous feudatory states in and around Bihar. In 1937 the Provincial autonomy came into effect with Congress Ministry which resigned in 1941 giving place to Advisers' regime under Section 93 of the Act. After the war, popular Government again came into existence in 1946 under the Congress Ministry. In the division of India, Bihar forms a part of the Indian Union.

The province is 69,950 sq. miles in area with a population of 3,63,40,000 in 1941, out of which 90 per cent. are Hindus.

The average rainfall of Bihar is about 48 inches a year. The climate is dry. The province is rich in agricultural, mineral and forest produce. Over 80 per cent. of the people depend on agriculture, while 7.8 per cent. depend on industries. The province produces rice, sugarcane, tea, oil-seeds, etc. Its coal, mica and iron are the best in India. Steel and sugar are Bihar's largest industries.

The province has 28,000 miles of road including 3,386 miles of metalled road. Patna is the capital. The other important towns are Ranchi, Gaya and Jamshedpur.

There are numerous cottage industries in the province, some of which are of artistic value.

2. GENERAL CONDITION

When the Congress accepted Ministry in Bihar, the development of cottage industries received prompt attention. A plan of co-ordination with the Bihar Branch of the All India, Spinners' Association was immediately chalked out according to which the Industries Department of the Bihar Government purchased handspun yarn worth about a lakh of rupees from the Association and started weaving a pure khadi cloth through the handloom products development parties and the weavers' co-operative societies. The khadi produced is returned to the Association for marketing and the Government agencies do the work of weaving on no profit and no loss basis. The arrangement is to continue. This not only enables the Association to concentrate on hand spinning, but it also releases a large part of its capital that used to be locked up in undisposed yarn. It increases the production of pure khadi. The weavers who do the work now, were accustomed for years to weave cloth out of mill made yarn only and so there was some disinclination on their part at first to weave khadi. They thought that they would not be able to do it but nothing succeeds like success. They saw by practice that they could do it, and they do it now. All kinds of artificial controls over handloom cloth by the weavers in general have been removed and so the weaver finds his profession remunerative now, in spite of the insufficient supply of yarn. Yarn is distributed to the weavers through their own associations and through the Weavers' Co-operative Societies, whose

number and production have been more than doubled during the last one year of the Ministry's functioning. The Bihar Cottage Industries Institute at Gulzarbagh, Patna, the Bihar Wool Emporium at Gaya and the Silk Institute at Bhagalpur intensified their work with the result that during the last one year, the value of the goods produced and marketed by them was ten times of the figure for 1939.

Collaboration has also been established with the Bihar Branch of the All India Village Industries Association for putting into effect improved technique in taking *gur* out of *palmyra* juice. A grant of Rs. 5,000 has been sanctioned for the purpose. The intention is to popularise the making of such *gur* by toddy tappers so that they may have an alternative means of livelihood when prohibition is introduced. The actual work will be done under the supervision of an expert from Wardha.

It is fully recognised that the development of power resources will give a fillip to cottage industries and investigations are, therefore, proceeding in the Damodar Valley, in the Kosi valley and in the area served by the Electric Grid Scheme, where electrical energy will be produced on a large scale, in order to find out what cottage industries could be developed by the use of such power. The starting of new rice mills has been banned so that the *dhenki* may not disappear while all applications to import machinery for the starting of large scale hosiery factories have been refused, so that the hosiery industry may develop on the lines of cottage industry with the use of electric power, if necessary. The extension of flour mills has been similarly discouraged so that the power-driven or hand-driven *chakki* may hold its own.

The communal riots of October-November, 1946, created new problems for the Industries Department by displacing a large number of weavers from their homes and their profession. A scheme of Industrial Homes for Refugees was promptly drawn up by the Hon'ble Minister in charge of Cottage Industries and work started under his personal supervision. The refugee weavers get adequate food and wages in these homes and they weave cloth. This has increased the supply of cloth. Special quota of yarn has been arranged for these industrial homes as well as for the weavers' co-operative societies. A number of shoe-makers in the riot affected areas also lost their trade. They were promptly organised under a shoe-makers' co-operative society and the supply of raw materials as well as the disposal of their finished goods were taken over by it. A leather section is also being opened in the Bihar Cottage Industries Institute, Gulzarbagh, Patna, for giving training to the shoe-makers in improved craftsmanship.

The amounts of stipends and grants given to the students and the institutions for training in cottage industries have been considerably augmented, and a number of new scholarships sanctioned for such training in the Bihar Vidyapith. The institutions meant exclusively for women have received equal attention. Soap making on cottage industry basis has been encouraged by reserving the bulk of our import of cocoanut oil, for that purpose.

The importance of fish culture is fully appreciated. Half a dozen men have been sent to Bengal for intensive training in fish culture. The number of fry distribution centres has been doubled and arrangements have been made to increase the supply of fish fry from the Sone river by

banning fishing in places where the fish breed. A bold programme of repair to the numerous tanks and ponds in the Province has been adopted and the grant of loans on an extensive scale for the purpose has been sanctioned. Development, however, is hampered not only by the inadequacy of trained personal who can impart training in new and improved crafts to the people, but by the lack of desire to improve on the part of the people themselves and their disinclination to give up their ancestral methods of trade in favour of improved and modern methods.

3. INDUSTRIAL CO-OPERATION

A number of non-agricultural societies for weavers, shoe-makers, tailors, carpenters, black-smiths, fishermen, etc., were started during recent years. Most of the societies being chiefly credit societies, their working was not quite satisfactory. The progress of cottage industrial production and sale societies has been far slower than that of the credit societies. Among cottage industrial co-operatives may be mentioned weavers' societies and dairies. As an outcome of the Government of India Subvention scheme of 1934 for the development of handloom weaving, a scheme for the manufacture and marketing of hand woven cloth was started by Bihar in 1935. This scheme had for its object the education of weavers in co-operation and business principles and the training of weavers in co-operative finance. The Bihar Cottage Industries was started with a few production societies of weavers and was placed under supervision of the Co-operative Department. There were four societies in Bihar in 1937-38. In 1941-42 there were seven societies with a membership of 511 and share capital of Rs. 12,000 and working capital of Rs. 34,000. The value of yarn purchased was Rs. 29,000, value of goods

sold to Industries Department Rs. 43,000, and value of goods sold through societies Rs. 8,000. The profit earned was Rs. 2,000. The weavers were trained under the scheme in the production of goods which had a demand according to approved pattern and specifications.

Besides the societies affiliated to the Bihar Cottage Industries, there were 28 weavers' co-operatives with unlimited liabilities and a membership of 445. Their paid up share capital was Rs. 3,000 and working capital Rs. 37,000.

The total number of weavers' co-operative societies as on 31st December, 1946 was 30 with a total membership of 1,616. The value of their total production in 1946 was Rs. 6,87,128-3-5. The production consists of a variety of goods such as *dhoties*, *sarees*, shirtings, *malmal*, *gamchas*, towels, duster cloth and *chaddars*. The count of yarn ranges from 9s. used for *gamchas* to 80s. used for *malmal*. A list of the varieties produced is given in Section 9.

The co-operatives for dairy, shoe-making and the like are functioning to some extent. Co-operative enterprise in Bihar is yet to make much progress if it is to be on a par with the condition obtaining in provinces like Madras.

“Any method by which the cottage industries of the country can be preserved would deserve a prolonged trial.”

—MACLAGAN COMMITTEE ON CO-OPERATION
IN INDIA

IV. BOMBAY

1. GENERAL FEATURES

Bombay is one of the major provinces of India. Under the Government of India Act 1935, it became an autonomous province with a Governor, bicameral legislature and a Cabinet of Ministers. Provincial autonomy came into force in 1937 with a Congress Cabinet which resigned in 1939 yielding place to Advisors' regime under Section 93 of the Act. Popular Government was revived after the war in 1946. In the division of India, Bombay forms part of Indian Union.

The province is 76,443 sq. miles in area with a population of 2,08,49,840 in 1941 out of which 80 per cent. are Hindus and the rest Muslims, Parsis and others. Gujarathi, Marati and Canarese are the principal languages.

Rain fall in the province is not uniform, though the average is about 50". The climate is some what moderate.

Bombay is the capital, and Ahmedabad and Poona the other important cities. Bombay is one of the biggest ports on the Indian coast.

About 60 per cent. of people live on agriculture, cotton, rice, and wheat being the principal crops. Cotton is the most important large-scale industry in the province.

The revenue and the expenditure in 1945-46 were Rs. 1,00,52,50,000 and Rs. 99,56,32,000 respectively.

There are numerous cottage industries scattered all over the province, which have real artistic value.

2. GENERAL CONDITION

The following is a brief account of the cottage industries of the Bombay Province. Two points have to be noted here in this connection. (1) The account given below relates to the condition of cottage industries before the war. Since there is no information available regarding the condition of cottage industries during the war period, this account has to be considered as the latest available. It has to be noted, however, that the condition has improved considerably due to war demands though the measure of improvement cannot be stated with precision. (2) The classification adopted is the one that has been adopted by the Bombay Economic and Industrial Survey Committee.

1. *Textiles*.—

(i) *Handloom Weaving*.—Handloom weaving is still the most important industry in the Province and gives employment to more than a lakh of artisans. Various estimates have been given of the number of handlooms in the Province, but it has been assumed that their number ranges between 72,000 and 1,00,000 of which a good proportion are of the fly-shuttle type. The estimated production of handloom cloth in the Province was about 190 million yards before the war. Yarn of 20s. to 40s. is largely used and the goods produced are mainly *sarees*, *Khans*, *Paithanies* and *pithambers* and *dhotis* and *towels* to a little extent. Of late the weaving of shirtings, coatings, bed-spreads, table cloths, etc., has been begun. The monthly income of the weaver in the prewar period ranged between Rs. 4 and Rs. 16, the average amount being about Rs. 8 which worked out at 20 per cent. of the value of the handloom cloth.

(ii) *Printing and dyeing of cloth.*—Over 4,000 artisans are engaged in dyeing and printing cloth and in other occupations connected with the preparatory process of textile manufactures. Of them the calico printers are to be found mostly in Bombay City and Ahmedabad, Khandesh and Nasik districts. The industry is run largely on the *Karkhanadari* system. There are very few independent artisans. In 1938 there were at Ahmedabad 125 *Karkhanas* employing nearly 1,500 artisans who were paid at annas 10 and 12 per piece for printing and annas 2 to 3 per piece for border. The equipment consists of wooden stands and dies of different designs, varying in price from Rs. 5 to Rs. 30. The cloth used for printing is locally bought and the printed cloth is sold to the mills or to the dealers. The *Karkhanadars* have decent earnings, the smaller ones earning on an average Rs. 100 to Rs. 120 per mensem. In Khandesh work is done on contract system for dealers or independently. In the former case the pre-war rates were one anna for printing and one anna for washing a piece of 10 yards. A family can prepare about 32 pieces in a week; and their pre-war earnings stood at Rs. 15 to Rs. 20 per mensem. The independent worker could earn only Rs. 8 to Rs. 10 during that period. Hence there was a tendency on the part of many independent artisans to take to either contracts or wage systems.

(iii) *Wool Weaving.*—This industry caters to the needs of the rural population only and is carried on in Dharwar, Kaira, Poona, Belgaum and Bijapur districts. Over 17,000 persons are engaged in this industry. The products are mainly *kamblis* (blankets); and coatings and shirtings are produced to a small extent. The wool used is locally obtained and is not of good quality. One very

important feature of this industry is that it is not carried on on a capitalistic basis. Independent artisans produce and sell their products either to the trader or at the weekly fair. Their looms are still old-fashioned; and the output does not exceed three *kambli*s per week per loom. The Industries Department is, however, trying to introduce improved looms. Before the War traders used to buy *kambli*s at Rs. 1-2-0 to Rs. 1-12-0 a piece and sell them at a profit of 3 to 4 annas a piece. The weavers could earn annas 3 to 6 per working day, the monthly average standing at Rs. 6 to Rs. 8. Spinning is done by women and one woman can spin 30 to 40 tolas of yarn per day which in pre-war years brought her as. 1½ to 2. The women spinners find employment in this occupation only for 2 or 3 months in each of the wool shearing seasons.

(iv) *Silk Weaving*.—There is no silk rearing industry among the agriculturists of the Province. Silk is imported from Mysore, Kashmir or abroad and in the pre-war years much artificial silk was imported too. This industry is pursued in Surat, Nasik and Poona districts and is similar in organisation to the cotton weaving industry, the only important difference being the greater dependence of the artisan on the middleman due to the relatively higher cost of silk yarn. The growth of an artificial silk weaving factory in Bombay has affected the cottage industry adversely. The demand for *paithanies* and *pagotas* steadily declined and the remuneration of silk weavers was no better than that of cotton weavers. Some silk weavers were obliged by these circumstances to take to cotton weaving. There are nearly 1,000 looms and 1,500 artisans in Nasik district alone.

(v) *Rope, twine, string and other fibres.*—Over 25,000 persons are employed in this industry which is pursued at Satara, Sholapur, Poona, Ahmednagar and Ahmedabad mainly as a rural industry: Raw materials like cotton, *ambedi*, *tag*, *sisal*, hemp and cocoanut fibre are used. In the case of *ambedi*, *sisal*, hemp, and cocoanut coir, the fibre is obtained by water-retting which causes the product to be inferior in quality. Primitive appliances are used for spinning and consequently the ropes are not very strong and of good finish. The workers have not yet learned the manufacture of canvas cloth and fishing nets with *ambedi* and *sisal*. The output is sold at weekly fairs or through middlemen who advance raw material and money. In some regions these industries are subsidiary occupations and they are slack in the rainy season. The rope workers earned as. 2 a day in the pre-war period. In Kanara and Ratnagiri districts, attempts have been made to train the artisans in improved methods. Some missionaries have been trying to introduce the manufacture of costly articles like purses, belts and hand-bags for the foreign market. On the whole the industry is not meeting adequately the needs of the Province.

(vi) *Hosiery.*—This is both a cottage and a small scale industry. Mufflers, socks, hoses, etc., are produced from cotton, silk and woollen yarn, Indian cotton yarn being used most. The cottage hosiery produces mainly for the local demand. Before the war the industry suffered considerably from Japanese competition.

2. *Dress and Toilet Industries.*—Over 1,00,000 persons scattered all over the Province are engaged in this group of industries which comprises leather work, tailoring and embroidery. The leather workers make boots, shoes,

sandals, water, bags, etc. Some of them are master workmen engaging artisans while the others are independent artisans. The hired workers are paid on piece work basis. The equipment of the master workman costs Rs. 200 and of the independent artisan Rs. 10 at pre-war prices. Four artisans can make 86 pairs of sandals and 60 pairs of boots and shoes in a month. The pre-war monthly average income of the master workman was Rs. 15 to Rs. 20 and of the assistant or independent workman Rs. 8 to Rs. 10.

3. *Wood Industries.*—Over 60,000 are engaged in this group which consists mainly of carpentry pursued both in rural and urban areas. The decline in hand-spinning and bullock transport has reduced the demand for *charkhas* and carts respectively. So the rural carpenters are now under-employed, their work at present being the manufacture and repairing of agricultural implements. The decline in the use of sailing boats also has affected them. Carpenters engaged in building industry and furniture making in urban areas are better off than their rural brethren.

4. *Bamboo and basket making Industries.*—Bamboo work is done in Thana district, etc., as a family occupation, particularly by the backward classes. Bamboos are bought from middlemen or brought directly by the artisan from the forest at concession rates granted by Government. Baskets, screens, sieves, mats, winnows, etc., are made and sold directly at fairs or through middlemen who advance them money. The pre-war earnings of a bamboo worker were about Rs. 4 a month. The industry is suffering due to competition from rattan and iron wire products. If an urban demand for fancy bamboo work products can be created the industry will prosper.

5. *Building Industries.*—Over 50,000 are engaged in this group which consists of lime burning, cement work, stone cutting, etc. Lime burning is a seasonal occupation in several districts and is mostly in the hands of middlemen. The monthly average income of a lime burner was Rs. 4 to Rs. 5 before war. There is considerable competition between the lime and cement industries.

6. *Ceramic Industries.*—These industries include pottery and brick and tile making and are pursued by over 40,000 artisans, as urban and rural occupations. Almost every village has its own potter. The raw material, namely silt, is brought from the local tank and the wood for baking the pots from forests and street collections by the potter and his family. Thus the cost of raw materials is almost nil; and the products are largely exchanged in the village. Some persons pursue it as an occupation subsidiary to agriculture. The urban potters are not so well off as their rural brethren in the respect of raw material supply because they have to pay for the raw materials. Aluminium and glazed earthen-ware are keenly competing with the indigenous industry and no attempt has yet been made by the potter to learn the new technique.

Bricks and tiles are made only during the dry season. To make 15,000 tiles or bricks a fortnight is required for 4 or 5 men. The preparation of the kiln and the baking process take a fortnight each. The coal, coke and wood are generally bought at the local fuel depot. The products are crude. The pre-war earnings of a worker were about Rs. 5 a month. The artisans usually borrow from a *sowcar* or dealer who thus gets control over them and their trade. Factory products are competing to some extent with the

local products, but the high transport charges of these bulky articles give an advantage to the local artisans.

7. *Iron and Steel Industry.*—There are over 20,000 black-smiths spread in all districts, particularly E. Khandesh, Nasik and Dharwar. They make agricultural implements like cart axles, wheel bands and crowbars. The use of imported farm implements and the decline in bullock transport have reduced them to the position of mere repairers. Demand for cutlery and iron furniture which is now growing will help them a great deal if they care to learn the technique of production of such articles.

The urban black-smiths formerly used to make locks and crude knives, but they have now given up those occupations and taken service in engineering workshops.

8. *Brass and Copper Ware Industries.*—These industries are next only to handloom weaving and are to be found in urban centres like Hubli, Poona, Nasik, Ahmednagar, Surat, Kaira, Visnagar, Nadiad, Ahmedabad, Kolaba, and Bombay City, Hubli being the largest centre. They are pursued both as semi-mechanised and non-mechanised industries. The former type of industry produces castware, the majority of processes being of the handicraft kind. Scrappings form the raw material and are bought locally. The pre-war wages, ranged between annas 10 to Rs. 1-8-0 according to the nature of the work. The non-mechanised type consists exclusively of beaten ware made from indigenous cast plates of foreign brass and copper sheets. *Handas*, etc., are made in this way. The major part of these industries is under the control of middlemen who give sheets and pay wages at piece rate. The industries are suffering from machine competition. Even at Hubli, which

is the largest centre, there was work for artisans only for three days in a week before the war.

9. *Food Industries*:—Over 30,000 people are employed in food industries which are to be found fairly evenly distributed in all districts, particularly West Khandesh and Poona. The principal food industries of the province are rice grinding and husking and flour grinding, grain parching, making of sugar and sweet meats and condiments. Women are largely engaged in these industries. Rice and flour industries are both rural and urban industries and originally constituted a very important subsidiary occupation to the cultivators of the province. The advent of rice and flour mills has caused the decline of these industries.

Grain parching is done mostly in East and West Khandesh, Dharwar, Bombay City and Sholapur. Even in this industry the machine has made its appearance but on the whole the industry is not seriously affected.

Gur making is not a very important subsidiary industry in the province, though the *per capita* consumption of sugar is higher in Bombay than in any other province. The number of *gur* factories (apart from the sugar factories which compete with foreign sugar) has increased considerably and affected the *gur* industry.

10. *Tobacco Industry*.—*Bidi* making is an important industry for which no machinery or power is employed. It mainly a cottage industry; but in some places it is run under workshop conditions as a small scale industry where each unit employs more than nine persons. *Bidi* making, as a cottage industry, caters chiefly to the local market. In several urban centres, the industry is pursued either as a family occupation or under a small *Karkhanadar*. Under

the latter system, the workers are supplied with tobacco but usually they have to purchase *tumri* leaves. A worker can make 600 to 700 *bidis* in a day for which he could earn before the war annas 6 or 7 at as. 10 *per* thousand. Women as well as men are engaged in this industry. The work is tedious and owing to the general unhealthy conditions, has an adverse effect on the heart and eyesight of the workers. Cigarette manufacture is exclusively a factory industry on account of the need for skilled labour and large capital outlay.

11. *Chemical and Allied Industries*.—This group of industries consists of the manufacture and refining of vegetable oils, manufacture of matches and aerated waters.

(i) *Vegetable oils*.—This industry is practically spread over the whole province and is carried on both on factory and cottage basis. As a cottage industry oil pressing by a *ghani* used to furnish a valuable subsidiary occupation to cultivators of oil seed regions. The oil seeds used are gingelly, *kardi*, *mhowra* and ground-nut. It is stated that the percentage of oil got by the *ghani* method is less than that got by mill pressing; and the consequent larger oil portion that is left in the *ghani* cake is said to detract its value for manurial purposes. This cottage industry is suffering from mill competition. The Bombay Economic and Industrial Survey Committee found that practically in every district the decline of the *ghani* industry was precipitate. A *ghani* worker can press about 50 to 60 maunds of seed a day and during the pressing season his income averaged Rs. 7-8-0 a month during the pre-war period. Most of those who work on these *ghanis* have to supplement their income by working on the fields or by plying carts for hire.

(ii) *Match industry*.—Match industry as a cottage industry on the lines adopted in Madras is not existing in Bombay province. If such an industry is started, it may give much employment to Kanara, Thana, Belgaum and Surat districts.

12. *Confectionery*.—There are many bakeries scattered all over the province. Production in most of them is on a family basis and only the larger bakeries go in for hired labour. The small bakeries usually buy raw materials on credit from the local shop-keeper. Bread, biscuits, buns, etc., are made and sold in the locality by house to house visits. Some bakeries supply by arrangement the requirements of hotels. Generally speaking each town produces its own requirements of bread. Before the war, the industry had some competition with foreign imports and local factories which numbered a few.

13. *Hides and Skins Industries*.—Over 15,000 workers are engaged in the industries connected with hides and skins and horn materials from the animal kingdom. Among these artisans may be mentioned tanners, furriers, brush makers, bone, ivory, horn and shell workers, etc., of whom tanners constitute the largest number. Tanning is done all over the province, but the most important tanning centres are Bombay City, Ahmedabad, Satara, Kaira, Bijapur, Surat and Dharwar. Since hides are mostly (90 per cent.) got from dead animals and skins only from slaughtered stock, the tanning of skins is an urban industry while the tanning of hides is both rural and urban. The tanning materials are largely indigenous vegetable materials such as *turwad* bark, *babul* bark, *ain* bark, *myrabolan*, *avala*, *jambul* and *dividivi* which can be obtained from Government forests and for which there is a great

trade. Besides being carried on in several small tanneries and a few large factories, this industry is pursued as a cottage occupation also. These cottage tanneries are to be found in every *taluka*, town and almost every village. They are not running on an organised basis. They are merely pits, each costing some Rs. 7 before the war. A cottage tanner usually tans only 5 hides a month. Muddy water, crude bag processes and tanning materials collected from villages are used by the workers. So the quality of the product is inferior. The village tanner usually works alone and combines with his tanning agricultural labour when he can get it.

In Ahmedabad, Kaira, etc., there are artisans who make out of factory tanned and imported leather pickers, roller skins for the local textile mills and leather washers for the local ginning factories. Then again there are furriers and brush makers who pursue their calling in Bombay City as an urban industry. Industries connected with bone, horn and ivory are to be found mainly in Ahmedabad. At Ratnagiri fancy articles from bison horn are not now made. There is a large room for these industries in the Province.

14. *Cabinet making, etc.*—This group comprises cabinet making, carriage painting and upholstery. These industries are largely urban. Over 4,000 persons are engaged in this wood work. There are several establishments scattered all over the province and managed by *karkhanadars*. Work is done mainly on contract basis, the tools, etc., being owned by artisans. The products are marketed by *karkhanadars* either by personal canvassing or by maintaining a show room. The need for large capital early for

seasoning purposes makes the industry difficult for independent artisans.

15. *Dairying*.—The annual production of milk in the province has been estimated by the Live Stock Expert to be about 12,50 million lbs. of which 26 per cent. is consumed as fluid milk and the rest as butter, *ghee*, etc. Though there are a few big dairies, dairying is mainly carried on on a small scale. Kaira, Khandesh and Belgaum districts are very important for dairying. Considering the importance of ghee in Indian diet and the low milk consumption in India, there should be ample scope for extending dairying in the province.

16. *Soap making*.—At several centres soap making is pursued as a cottage industry. Laundry soap is chiefly produced since it does not require much technical skill. Villagers manufacture soap either for their own use or for their local markets. Soap making is a seasonal occupation which is not carried on during monsoon. Hired labour also is employed in *karkhanas*.

17. *Fruit canning*.—Fruit is generally consumed in a fresh state. There are, however, a few cannaries in Kanara and Poona districts under small *karkhanadars*. Jelly from mango, guava and other fruits and mango pulp are produced mostly by hand. Some of these canned products have an extensive market.

18. *Gold and silver thread industry*.—This is one of the chief art crafts of Bombay. Work is done on a cottage basis. Raw materials are supplied by the merchants and work is done on a contract basis.

There are various processes such as drawing silver ingots into thick wires, drawing them again into thin

wire, flattening it, spinning it into silver thread and gilding it in gold. All these processes are done by different workers.

The gold thread is used in *kinkhabs*, *caps*, embroidery, etc. Surat is the most important centre for this industry. The high prices of gold and silver have been a great handicap to the workers for some years past.

An allied industry is the production of *piki*, *chalak*, *kinkhab*, etc. This is a handicraft done by out workers for dealers. The appliances used are locally made. Of these varieties the *kinkhab* is the best. It takes ten days to make a piece of *kinkhab* 5 yards in length and 27 inches in width. Since raw materials are costly, the workers are in the hands of the *sowcars*.

19. *Sandal wood and ivory carving*.—Bombay city, Ahmedabad, Poona and North Kanara are important for this work. Sandal wood carving and ivory carving are separate industries except in North Kanara where the workers know both the varieties of work. The tools employed are primitive and locally made. The products such as castors, combs, fans, images, bangles, billiard balls and beads have large demand. The goods are sold through dealers or by street hawking.

20. *Glass work*.—Glass work as a cottage industry is not flourishing. The bangle industry has now declined and only rough bangles, beads, and other pieces for decorating purposes are made by crude hand processes, in Satara, Thana and Bijapur districts. Work is done by *karkhana* system with 6 to 8 persons. Due to the heat of the furnace the workers work for about three weeks in a month. The products being crude, the demand for them is largely local.

21. *Fishing and fish curing.*—This is done by over 60,000 persons, all along the coast of Bombay province. It is a seasonal occupation pursued briskly from September to April. The nets are made of jute by the fishermen themselves. Batches of five or six persons go fishing and the catches are sold by women at the local markets.

At numerous urban centres, middle men have crept into fishing industry. But at some places, there is co-operative enterprise. In districts like Ratnagiri, Kanara and Bombay fish curing is done on a large scale by the fishermen from November to March by the wet or dry processes. Salt is obtained at a low cost. The dry cured salted fish is marketed in the province and in Madras.

22. *Poultry farming.*—Poultry is kept generally for home use. But during recent years poultry keeping as business has received much attention. The Agricultural Department has taken keen interest in popularising the industry by grants of money and supply of superior varieties like white leg horns and Rhode Island Reds. The hatching season is from October to March. The village committees and Egg Co-operatives in several districts have done much useful work, in improving the industry. One great handicap is the high mortality of the poultry and the Department of Agriculture have been trying to reduce the death rate. This industry holds out very bright prospects if properly organised.

23. *Miscellaneous industries.*—There are numerous other cottage industries like joss stick making, *Kumkum* making, cap making, *tulasi* bead making and preparation of Ayurvedic medicines. The demand for them is fairly large since they cater to the daily requirements, of the people.

3. INDUSTRIAL CO-OPERATION

Co-operation among artisans was started in the Bombay province as early as 1906. A number of Co-operative Societies for weavers, boot-makers and carpenters were organised. But these societies were mainly credit societies. By their work they impressed upon the Co-operative Department the possibilities of organising co-operative production and sale. In 1911 the first sale shop was started in Poona by a shoe-maker society.

The Co-operative Department helped the societies much in improving production of goods, particularly cloth and leather.

There was however, stagnation in the work of these societies during 1914 to 1918. In 1918 an important step in industrial co-operation was taken by federating ten weavers' societies into a union.

Till 1920 credit received greater importance among industrial co-operatives. In 1920 the Registrar of Co-operative Societies undertook to organise real producers' societies similar to the French Producers' Societies, which were the most advanced and successful in the world. Numerous societies of soap makers, weavers, potters and leather workers came into existence.

The course of these producers' societies since 1923 was one of slumps, stagnations, losses and cancellations. Only the weavers' societies held on for some years with the help of the Co-operative Department and the Provincial Co-operative Bank. But they also slowly failed and by 1936 there were no real producers' societies, working properly.

II] BOMBAY: INDUSTRIAL CO-OPERATION

A few years later, in 1940, another effort at industrial co-operatives was made by the All India Village Industries Association. Producers' societies for sandal wood carving, bee-keeping, coir work, horn work, metal work, leather work and knitting were organised. The workers purchased raw materials and equipment co-operatively, produced goods and sold them also co-operatively. During the past seven years they have improved satisfactorily. The members also though mostly illiterate have become conscious of their rights and duties. The chief aim of the organisation was to eliminate the dominating influence of any particular individual who might turn the society members into his agents. The problems that cropped up due to war and the splendid example of the Chinese industrial co-operatives, led to re-organisation of industrial co-operatives about 1942-43. Some workers of Bombay endeavoured to explore the possibilities of developing them. New co-operatives for metal workers, hand made paper makers and rope makers came into existence. A District Industrial Association in North Kanara was formed as a federal body of industrial co-operatives. The Industrial Co-operatives Organising Committee did much work in organising societies and training men as organisers.

On 14th October, 1946 there were in the Bombay province 132 societies for weavers, 20 for tanners, 5 for smiths, 3 for fishermen, 26 for dairy farmers, 3 for bee-keepers, 7 for women, 3 for sandal-wood workers, 2 for coir and rope workers, 2 for potters, 2 for paper makers, 2 for labour contract, 1 for basket makers, 1 for oil pressers and 9 for miscellaneous artisans, making the total 218 registered societies.

The handloom weaving industry received most attention in Bombay province. As a result of the Government

of India Subvention scheme for handloom weaving in 1935, Associations were established in several districts. By 1941 there were nine District Associations. They opened shops for cloth and instructed weavers in dyeing better and weaving improved varieties and designs. On 30-6-1946 there were over 4,600 members and over 5,000 sympathisers in the nine District Associations. They did business of over Rs. one crore during 1945-46. The number of District Associations has now grown to 15. One peculiarity of these Associations is that they have remained, with the exception of two, as big primary societies. Only the Bijapur Association has 19 societies affiliated to it besides very many individual workers and sympathisers. The North Kanara Association is a purely federal body with membership open to the societies only. Its constituents are the societies of bee-keepers, horn workers, leather workers, metal-workers, wood workers, oil workers, paper makers and the like. This Association is considered to be a model for the province. It is also significant that the activities of this Association and many other Associations in the province are not confined to one industry only but to many industries.

With a view to co-ordinate the work of the District Associations in working out their schemes, the Provincial Co-operative Association was started in October 1946. It trains organisers opens industrial co-operatives and sale depots at suitable centres and offers technical advice to the artisans. In 1946-47 a Government grant of Rs. 42,480 has been sanctioned for it.

At a Provincial Conference of industrial co-operatives and village industries workers held at Poona in November 1946, a number of schemes were discussed and it was

III] BOMBAY: INDUSTRIAL CO-OPERATION

decided that Government should give financial and other assistance to certain chosen village industries at suitable areas.

The Co-operative Department is not also very slack. A Joint Registrar for industrial co-operatives and village industries was appointed in July 1946. Village Industries Committee was brought into existence with suitable non-officials with a view to secure the support and influence of non-officials. With a view to provide technical training in improved processes and appliances, peripatetic schools, demonstration parties, etc., have been organised and stipends and scholarships have been given. In 1946-47 there were 14 schools and parties for backward classes and about Rs. 16,000 had been disbursed towards stipends and scholarships. Subsidies and loans to the extent of about a lakh of rupees have been sanctioned to the trainees and educated unemployed for the purchase of improved tools and appliances during the same year. The rules for granting of loans to artisans have been so revised as to be applicable to co-operative societies catering for the needs of artisans also. A total sum of Rs. 1,18,865 was sanctioned as grants to the Village Industries Committee for carrying out schemes in respect of oil *ghanis*, hand-made paper, palm *gur*, hand spinning and hand pounding of rice, during the year. Apart from these grants, a grant of Rs. 4,990 has been sanctioned to the All India Village Industries Association during the year, for training students at Wardha. A sum of Rs. 38,205 has been given to the old District Industrial Association during the year. Besides, the Government have created adequate district staff for organising and guiding co-operative enterprise and giving technical advice to the artisans.

In their intensive campaign for an all round development of cottage industries, the Government have given due attention to marketing also. Facilities for internal marketing are provided through the Government Sales Depots organised under the Co-operative Department. There are at present five such depots at Bombay, Nasik, Sholapur, Belgaum and Surat. Two more are to be organised at Nadiad and Bijapur. These depots stock for sale handloom and power loom textiles and various art and craft products like sandal wood carving, horn articles, *sisal* fibre and leather goods, *etc.* Any individual artisan or association of workers can utilise them for marketing their products. The goods are generally purchased outright, but new products are, in the first instance, accepted on consignment basis in order to study their marketability and advise the cottage workers concerned on any improvements in design or technique desirable so as to meet the market requirements. Specific orders are also placed with the workers or their organisations on the basis of competitive quotations for approved types of goods.

The total sales of the Bombay, Surat, Nasik and Belgaum depots were Rs. 3,67,687 in 1943-44, Rs. 4,79,409 in 1944-45 and Rs. 9,13,108 in 1945-46. For expanding marketing some schemes have been introduced. Under the "Customer Agency" Scheme each depot could appoint some co-operative societies in the mofussil as its agents and supply goods against deposit and allow a commission on sales. Agency shops were opened at important military centres like Darna camp. An Inland Agencies scheme was also introduced for selling goods in other provinces of India. Exhibitions also were made use of for popularising the goods.

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The Sale Depots are supervised by a Special Officer for cottage industries products. In 1945-46 all the depots were found to have become self supporting.

The foreign markets also have not been neglected. As early as 1941, the Government appointed an agent in Australia and New Zealand for marketing handloom cotton textiles. During the early years foreign orders were not promptly and properly executed. So in 1944 the Special Officer was given charge of the export section. He reorganised it on the following lines:

1. Samples of textiles were prepared.
2. A scheme of continuous production was introduced by which ready stocks of certain allotted lines could be had.
3. Work was inspected by himself and by qualified inspectors.
4. A system of standardised packing for oversea transport was laid down.

This reorganisation became effective from January 1946. In 1946 orders were received from Australia and New Zealand for 3,65,890 yards of shirting and furnishing cloth valued at Rs. 7,28,300. In the same year 99,544 yards of cloth valued at Rs. 1,52,706 was exported.

It has been ascertained by the Special Officer that there is a foreign market for Indian cotton handloom textiles in Iran, Malaya, Africa and Afghanistan, for woollen manufactures in Ceylon, for *sisal* fibre in Canada and U.S.A., for horn articles in U.S.A. and Canada, for sandal wood articles in U.S.A., for leather goods in Iran and for silver *filigree* in Canada and U.S.A.

Standardisation to meet foreign market requirements has been introduced in respect of sandal wood, rose wood and leather articles. The question of horn articles, wool-lens, and *sisal* fibre products has now received attention.

There is at present a ban on the export of *sisal* fibre and *filigree* products. There was, however, a large internal market for these art products among foreign troops in India. Now it has become necessary to export them abroad to meet the foreign demand. Arrangements to develop foreign markets for these products by all possible means are now in progress.

"We have to seek out and encourage all such handicrafts. Our Culture and Art have languished because our cottage industries have died to a large extent. These must be revived if the village industries have to be resuscitated. If we even encourage at least one man in a village, imagine how many creative forces are let free in the 7,50,000 villages of India to mould the destiny of the Village Industry."

—BABU RAJENDRA PRASAD

V. CENTRAL PROVINCES AND BERAR

1. GENERAL FEATURES

Central Provinces and Berar formed a single province under a Governor after a series of adjustments and re-adjustments between the British and Nizam's Government. Under the Government of India Act of 1935, provincial autonomy was given to the province with a bicameral legislature, a Governor and Cabinet of Ministers. This autonomy came into effect in 1937 when the Congress Ministry was formed. In 1939 the administration passed on into the hands of the Governor and his Advisers under Section 93 of the Act. In 1946 popular government again came into existence. In the division of India the province forms part of the Indian Union.

The province is 1,31,557 sq. miles in area with a population of 1,68,22,584 in 1941, out of which 13 million are Hindus. Hindi and Marati are the principal languages.

The annual average rain fall of the province is about 47". The climate is dry. There are 10,000 miles of road and 2,500 miles of railway in the province.

Over 80 per cent. of the people are engaged in agriculture and less than 10 per cent. in industries. The principal crops in the province are cotton, rice and wheat and the principal industries cement, coal, cotton, and manganese-mining.

Nagpur is the capital and Jabulpore, Amraoti, and Wardha the other important towns.

The revenue and the expenditure of the province during 1945-46 were Rs. 26,28,87,000 and Rs. 25,31,49,000 respectively.

Though Wardha is not noted for art crafts, it has a number of cottage industries of utilitarian value. It is the chief centre of culture and knowledge relating to the development of cottage industries in the province and elsewhere. Sevagram near Wardha is the head-quarters of the All India Village Industries Association and the All India Spinners' Association. It is also the head-quarters of Gandhiji.

2. GENERAL CONDITION

1. *Gur making and Sugar manufacture.*—Sugar cane is grown in the Province. It was crushed by means of wooden crushers formerly but now it is crushed by cast iron *kolhoos*. Besides sugar cane date palm juice and palmyrah juice also are used for *gur* manufacture. These palms grow in the wild tracts along the *nalas* and river banks without any cultivation. If their juice could be utilised for preparing *gur* the available lands on which sugar cane is now cultivated can be utilised for growing other food crops. *Gur* manufacture from the juice of sindhi and palm trees cannot be carried out in mills but only as a cottage industry since otherwise the juice will ferment. It is essential that the people should be taught to make *gur* out of this juice. The census of the available trees is quite essential. The A. I. V. I. A. has a palm *gur* experimental station at Sheogon, Wardha District. Due to the prohibition introduced by the Government, large numbers of the tappers may be thrown out of employment. *Palm gur* making may help these people. There is difficulty in obtaining sweet juice due to certain formalities required by the Excise department. Such rules and regulations have been a great handicap to this industry. The furnaces used for boiling the juice are somewhat crude. There is need for devising a suitable

furnace for sindhi juice boiling. Another important handicap is the prejudice against the use of palm juice *gur*, arising out of sentiment.

The implements necessary are simple and can be locally made. The cost of the equipment was within Rs. 50 during the pre-war years. Much difficulty is felt in obtaining fuel. Free collection of fuel through the aboriginal tribes would remove this difficulty.

2. *Bee keeping*.—There is no organised and systematic collection of honey. Honey is collected from the forests by very crude and unhygienic methods. The combs are destroyed and the honey is sold in an adulterated form. Honey is a valuable item of food. Hence the need to develop the industry on scientific and hygienic lines as in western countries. The use of boxes where there are separate chambers and honey combs will enable bee keepers to pursue the industry on sound lines. This industry can very well be followed by farmers in the villages especially along the forest areas since this will augment their income considerably. The necessary equipment is simple and can be locally made. During the pre-war years a good colony was expected to produce about Rs. 12 to Rs. 15 worth of honey a year.

3. *Pottery*.—This is one of the most important village industries in the Province. *Kumbar*s are engaged in this industry. Formerly they supplied the requirements of almost all the families in the villages. The advent of cheap metal vessels hit this industry very hard. A whole family earned not more than Rs. 6 a month before the War.

The potter's equipment is very simple. The wheel is made either by himself or by his carpenter. Clay is available near by and after shaping his pots he dries them and

bakes them. The fuel charges are prohibitive, often coming to 25 per cent. of the potter's income. The Mal Guzars and Municipalities and Forest Department take away a very large share of his earnings by means of unnecessary taxes. At Wardha the Octroi duty was 4 annas per cart-load. These duties have become a very heavy burden on the poor potter.

The Province is at advantage in respect of raw materials. Almost all quarries, China clay, quartz and other materials are available. What is required is scientific attention to the development of this industry. Even now a certain amount of glazed ware and jam pots are being imported into the Province. The potters should be able to capture that market by learning the art of glazing. The village potters need the State help in this art, which requires kilns which call for some practical knowledge.

The potters are unemployed during the monsoon for want of some subsidiary occupation.

4. *Glassware and Bangles*.—The Province has practically all the raw materials needed for making block glass but glass manufacture is not extensively pursued. The block glass is mostly imported from Ferozabad and other places. The blocks are all very crude. The glass workers of the Province do not know how to make artistic wares. The collection of the raw materials should be organised and a central unit for block glass manufacture may be started by the Government. Besides bangles the making of tumblers, chimneys and other articles of every day use should also be taught by the Government unit.

5. *Soap making*.—The Province is suited to soap making as a cottage industry. There are large quantities of oil and lime stone and sodium carbonate (Na_2CO_3) available. This sodium carbonate is available at the Lonar

lake. These materials have not been properly exploited, Soap making is carried on in several places but imported caustic soda (Na OH) is used. The manufacture of soap from indigenous materials is yet to receive adequate attention of the artisans in the Province. Soap making can be carried out by women and children in their homes. The equipment is simple and can be made locally.

o ✓ 6. *Hand spinning*.—Hand spinning is pursued in the Province in a number of places mostly on primitive lines. The workers are poorly paid. The A.I.S.A. has opened some centres in the Province to promote hand spinning. The various handicaps to hand-spinning are lack of education and lack of attention paid to the workers by persons and institutions. In many villages the work of the A.I.S.A. centres was somewhat progressive but curiously enough their centres were located in villages where there is hardly any cotton grown locally. The Government seem to have given the largest amount of help to the cotton mills. It is highly essential that similar aid should be given to hand spinning also if it is to make rapid progress in the Province where there is plenty of cotton available.

✓ 7. *Handloom weaving*.—Handloom weaving also is one of the traditional industries of the country side. The introduction of Western tradition in the country brought about distress. With the decline of hand spinning, hand loom weaving also declined considerably; but during recent years it has been revived. The weavers use mill yarn. In *khadi* weaving the industry remains entirely a cottage one but the weaving of mill yarn binds the weavers to the machine. Of course there are limited spheres during which they can reign supreme. Their designs and patterns can only be worked out on handlooms. There are also articles

of original design which can be made only on the handloom ; but apart from this it is bound up with the large scale industry. Its added disadvantage is that it has no good financial and other backing which large scale industry has. Consequently, the weaver became a helpless tool in the hands of the financiers. The mill yarn weaving industry has been in a desperate state particularly before the War. The Industries Department merely contented itself in dealing with isolated improvement without promoting the betterment of the industry as a whole.

The weavers are still ignorant. They succumb to the tricks of the mill yarn dealers with the result that in spite of the whole family working the weavers are not able to get a decent income. The weaver's income was about Rs. 50 for the whole family's labour per year in pre-war years.

The mill yarn weavers used foreign yarn for *saree* and *dhoti* borders. Thus they ruined the sister industries like sericulture, dyeing and printing and making of dyes and colours. Though not the individual weavers, the Government at least should have taken steps to better the condition of the industry and the workers. So far as *Khaddar* weaving was concerned the A. I. S. A. is doing useful work. The work of the A. I. S. A. is a drop in the ocean which only serves to demonstrate the possibilities of developing hand spinning and handloom weaving. The return of the mill yarn weaver is slowly decreasing. It is so because the mills are gaining firmer ground and overwhelming the poor weaver whose production power is steadily going down with increased poverty. There are a number of middlemen on whom the poor weavers have to depend. These middlemen allow a very narrow margin of profit to the weavers. The financial arrangements of the mill yarn weavers differ

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from district to district but generally speaking they are largely indebted to *sowcars*. The fact that the weavers are in such dire need of finance is in itself a reflection on the Industries Department. The industry is in dire need of organisation and Government aid.

8. *Weaving of Wool*.—Next only in importance to cotton, woollen goods rank high. The industry is carried on in a very crude form all over the Province by ignorant and unenterprising shepherds. They rear sheep yielding quantities of low quality wool. They are poor and unable to look after their needs. There is scope for improvement all along the line. Sheep breeding is a scientific industry requiring much time and money. State aid is indispensable; yet no effort had been made by the Government in this direction during the pre-war years. The primitive ways of sheep breeding still continue. The close in breeding has brought about deterioration in the quality of the sheep also. The forest laws and grazing laws are too hard. The returns got from the sheep are in the form of their maintenance allowance and some small remuneration for the folding of their flock in cultivable fields for manurial purposes. They get two shearings in the year though the yield is low and the quality poor. About $\frac{1}{2}$ a seer per sheep would be a good return. The wool is not graded but mixed up in one lot. Hence they get a low return for their wool. Except for the wiry hair under the chest which they appear to waste they use their whole stock of wool purely in making *Kamblis*. The production of other varieties is not known to many of them. There was one man at Bele in Umrer Tahsil who made Jerias from the soft wool, *Kamblis* from the harder wool and coatings, etc., from the soft portions of the wool. Such work could be very helpful to the wool worker. There is not much of

carpet weaving in the Province. This art which requires a considerable amount of training may be taken up by the wool workers under the guidance of the Industries Department. The blankets made by the people are sold in the weekly markets bringing in a return of about $1\frac{1}{2}$ annas per day. Wool is spun on a heavy *Takli* or *Charka* without putting it to any process to soften it. After being sized it is woven as it is into *Kamblis* on a primitive loom. Organisation is the first need of the industry.

9. *Sheep breeding*.—Sheep breeding is a very useful industry for the Central Provinces, for it yields a fairly regular income if developed properly. Mutton is rarely eaten in the villages but some income from the sale of sheep is got occasionally. The waste wool is sometimes used for stuffing the potter's wheel. Cross breeding may increase the yield and quality of wool. Sheep require salt but the shepherds have to buy edible salt inclusive of duty. Though the Salt Act of the Central Government has a provision that salt required for industrial purposes be given free of duty, this benefit is received only by large scale industries and so sheep breeding is handicapped. Some of the shepherds not having been able to buy salt for their flock, the sheep were allowed to lick up some amount of effervescent earth in forest areas but this brought about some disease which ultimately killed their flock. Since then they are giving the salt they themselves use. The removal of the Salt Tax may now help the shepherd considerably.

10. *Carpentry*.—Carpentry is one of the key village industries. The carpenter supplies parts of tools and instruments of other artisans and also helps in house construction. This industry is also languishing due to factory competition. The carpenter himself is importing foreign

tools! Things formerly made in villages are now substituted by ready made goods from towns. The decline of industries like the oil pressing and textile industry and the replacement of bullock cart transport by motor transport has caused the decline of carpentry also. The work of the carpenter has now been largely confined to articles which do not require much skill. Many carpenters do not even understand the need for seasoning wood and so are largely using wet wood. Cart-wheel making which is a skilled industry is now pursued in the crude fashion by these ignorant carpenters. Carpenters require some research and direction in such matters. The Handicrafts School in Nagpur is doing some work in this direction. The carpenter has his primary items of expenditure taken care of by the *dan* system and so is better off comparatively.

The carpenter is definitely tied up with the welfare of the other industries in the village.

11. *Sericulture*.—*Tassar* silk cloth is produced in some villages. The silk is got from naturally found cocoons. In most places a royalty is paid to the Forest Department for obtaining these cocoons. The industry is not carried on on a scientific basis for want of scientific equipment. There are no disease-free layings and no guarantee in regard to quality of the eggs. The industry is very promising if only pains are taken. Even the small market that is available in the form of yarn for *sari* and *dhoti* borders is being killed by imported silk yarn. At one time such silk was got from Bangalore but subsequently foreign substitutes have replaced it. In consequence, there has been much unemployment in this industry and the responsibility is with the Government. It would be useful and helpful if the village weaver was induced to purchase

silk yarn from the producer. This may not be possible unless his environment is controlled by licensing and taking foreign silk yarn dealers. The industry demands Government attention.

12. *Mat weaving*.—Mats are made out of sindhi tree leaves, reeds of river beds, bamboo strips, coarse grass and sometimes from strings of *sann* hemp. The equipment often consists of a crude knife but where mats are woven on warp of *sann* hemp strings a very simple loom is made of bamboo poles, at a very low cost. The market is local. The prices are very low and the mat weavers were making about an anna per day in the pre-war days. In some places a royalty is paid to the Malguzars or Patwaris for obtaining grass which grows wild. Dues are paid to the Forest Department if the grass is cut from the forest. These dues are handicapping the industry. The product itself is very crude and devoid of art. Imported mats compete with the local products. If this industry is properly organised and the workers are given facilities for improving their designs the market may slightly increase. *Sann* hemp string may also be used like coir for door rugs and carpets. Apart from using the mats on the floor people use them for roofing and room partitioning and also for bullock cart tops.

13. *Rope making*.—Ropes are made from *sann* hemp, *moonj* grass, *sisal* fibre, etc. The equipment for rope making is simple and crude. Methods on the lines of coir rope making will improve this industry. The instruments for twisting ropes and some processes are similar to coir work. *Sann* hemp is cultivated but the dues paid to the Government are prohibitive. In some cases the charge is 35 per cent. of the nett yield from the article.

This aspect of the question has not drawn the attention of the Industries Department so far. The long fibres of *sisal* hemp make excellent ropes, carpets, door mats, etc. The short fibres can be made into paper and the residual pulp obtained while decorticating makes good substitute for cattle dung as manure. Imported ropes compete with this industry. The market is full of such articles. The production is not able to compete successfully with the imported articles though it is strong and durable. The cause for it is the crudeness of the product. This industry gives work to the whole family and needs very little capital. The worker earned about Rs. 1-8-0 per month in the pre-war days. The fibre of linseed stalk and aloe fibre and the creepers in the forests are not being utilised for rope-making. They afford good raw materials for the industry and so need exploitation.

14. *Tanning*.—Tanning is a widespread industry in the Province. The tanners are most backward. They are poor, illiterate and at the mercy of everybody in the village. So the Government should help them in every possible way. Every year raw hides are exported and finished products imported. This has to be controlled. The Province is also wasting many materials obtainable from horses, mules, goats, dogs and other animals. The Government has done nothing to conserve and husband the resources of the country. The value of the hides and skins is considerably lowered by dragging and mishandling the carcasses of the dead animals, since the skin is thus damaged. Proper methods of flaying and preserving the skin should be taught to the workers. By this improvement the return from the industry could be doubled. Another neglected process is the curing of the hides after flaying. Salting the hide prevents putrefaction and makes first-class leather. For salt-

ing, concessions from the Government for cheap supply of salt should be obtained. The Government concessions at present, do not seem to help the tanners. Persons requiring concessions are required by the rule to provide *pucca* godowns and to pay the Government Rs. 100 towards inspection charges. These rules are beyond the scope of the village tanners. So the Government should modify these rules so as to enable the poor tanners to benefit by them. Unfortunately about 80 per cent. of the hides available are those of cattle that die in villages. Unless salt is made available to the *chammar*s even at remote places free of duty these hides and skins would become a waste.

Next only to cotton industry, this industry forms a major industry in the Province. The industry requires the nurturing care of a paternal Government. In many cases the *Chammar*s know the processes of tanning and also know that no short cuts can be taken but due to financial weakness they are unable to put through the proper process of tanning with the result that the product is not good. For a properly tanned leather the process may extend to several months and in the case of very good leather well over a year but no *chammar* can afford to spend so much time, and invest the necessary capital which is large. It is here that the Government should come to the *chammar*s' rescue. The Government may collect the hides and skins at central depots and also help the *chammar* financially. At present tanned leather is coming from outside and finished products are finding a ready sale in remote villages. This has affected the position of the village tanner adversely.

As regards tanning materials there are considerable facilities in the Province. Myrobolan, *babul* bark and

other tanning materials are available in plenty. About 10 lakhs of maunds of Myrobolans were exported every year during pre-war days. Tannin may be extracted from this article and exported in that form. The export of these raw materials in a crude form deprives the people of employment. Besides bark tanning, chrome tanning is being tried at Nalvadi tanneries and results have been very encouraging.

15. *Disposal of Carcasses.*—The disposal of carcasses is in as bad a state as the tanning of hides and skins. The carcasses in most parts of the Province are wasted for want of immediate attention. The Go Seva Charmalaya at Nalvadi is carrying on experiments in the rational utilisation of carcasses. As soon as a carcass is brought to it it is flayed and sent to be tanned. The intestines are cleared of their contents for manurial purposes. The bone and flesh are boiled to extract the fat for the preparation of lubricants. The horns are used for making combs, boxes, spatulas, etc., and the tendons and intestines for gut making. The boiled bones and flesh are powdered and bone and meat-meal manure is produced; from the fleshings glue is made. This disposal of carcasses as a separate industry is not extensively pursued in the Province.

16. *Pisciculture.*—The Province has numerous springs and streams. During the rainy season they are full of fish. Fish is said to be necessary to balance deficient diet of the Indians. Therefore this industry has a definite place in the Province. Yet this source of food is not properly exploited. One of the handicaps to the industry is the heavy exactions of the malguzars who own tanks. In some cases, they auction the right to fish in their tanks. The poor fishermen are not able to bid high enough, and so

they suffer. Although they have other industries to supplement their income, yet they are ill fed and down trodden.

Their nets are made from mill yarn. It takes them 6 months to 1 year to make a good sized net. Net-making is a spare time occupation for them. Besides fishing, these fishermen occupy themselves generally in preparing puffed rice (*Muramura*) puffed gram, (*Phutana*) *Daliya*, pressed rice (*Poha*) and *Lahi*. They also gather *Singada* (water nuts) from the tanks and sell them. In spite of all this they hardly got 2 annas per day before the War. The Government itself has done nothing in the matter of breeding fish or improving it.

17. *Poultry Rearing*.—Nowhere is poultry keeping found as an industry. Villagers keep a few fowls and consume the eggs themselves. No research has been carried in poultry breeding. The dairy farm at Nagpur has a few birds of good breed. But the introduction of foreign birds into the Province can be said to be unsatisfactory in its results, because the exotic birds easily succumb to epidemics bringing loss to the villagers. Wherever the farmer embarks on this as an industry for commercial purposes he falls into the hands of the middleman on account of his ignorance and inability to find a market.

18. *Dairy Farming*.—This industry is generally carried on side by side with agriculture. Milk holds a very important place in any diet and a very essential one in a vegetarian diet. If the dairy industry is to be carried on in a climate such as this Province enjoys, extreme care is necessary. There is hardly any dairy worth speaking about in the villages. There are very few in towns and cities. The cattle are very poor milkers. Attempts at cross-breeding have proved useless in the third and fourth

generations. Therefore any improvement will have to be on the lines of carefully selected breedings amongst local live-stock. Very little has been done in this way, though here and there are very good stud bulls. As a rule hardly any village can be said to possess satisfactory breeding animals. The problem has not yet been tackled in all earnestness. A few dairy farms here and there carry out work relating to milk records and cattle breeding. But they are only spasmodic efforts. A well conducted far-flung organization for this work is essential.

The dairy farmer finds difficulty in grazing lands. There is hardly 3 quarters of an acre per head of cattle. The grazing fees of malguzars are very high and the fodder available is very defective. The animals do not have a properly balanced diet. Under these circumstances naturally their productivity is very low. Some efforts to organize cow-herds into a Co-operative body were made at Telamkheri Dairy Co-operative Society, Nagpur. Though the organization claimed prosperity even there improper feeding was noticeable. Not merely district towns and *tahsil* towns, but even remotest villages should have some such organization. Mill oil pressing and mill cotton ginning reduced the quantity and quality of oil cake and cotton seeds which are the most important food material of the cattle. There is hardly any effort made to-day to maintain the quality of milk and milk-products in towns and cities. Adulteration in *ghee*, milk and butter is a common feature. Dairies are not periodically inspected and licensed. The A.I.V.I.A. experimented in the distribution of the skimmed milk to the villagers. This novel idea was not favourably received by the villagers though the price of milk was low and the food value was maintained. The

problem of milk supply in the city is somewhat different from the problem of rural dairying. In the towns people keep animals as long as necessary and dispose of them. Many animals are imported from the Nizam's Dominions and Malwa. There was hardly any veterinary help available to villagers except in towns and cities.

19. *Toy making*.—Toy making requires a considerable amount of knowledge of child psychology. In the West the best brains are engaged in this work. But unfortunately, instead of developing the imagination of the child the toy makers have tried to reproduce more and more realistically the life of grown ups. In our own country, we see only the relics of toy making represented by crude figures made out of wood or clay. This industry can be pursued profitably by carpenters, potters, tailors, lac producers, bamboo cane workers, paper-pulp makers and glassware manufacturers. The Province had been importing large quantities of Japanese and German toys. It would now do well to kindle native genius and enable the Indian child to play with Indian toys. Toys enable the development of culture among children. So it is important to give a place to Indian toys which represent Indian culture. The culture of a country can be gauged from its toys. We should therefore guard this field and develop it.

20. *Goldsmithy*.—The export of large quantities of gold has made the goldsmith unemployed. A goldsmith in a country like ours is the indicator of the prosperity of the people because ornaments represent the investment and the wealth of the people. Fortunately every goldsmith has a piece of land the income from which seems to support him.

21. *Paper making*.—No definite efforts have been directed towards developing paper manufacture in the

Province. The Province has many raw materials which are ideal for making paper. This industry is pursued as an experiment only by the A.I.V.I.A. at Maganwadi. The materials used there are not fresh raw materials. There, attempt is made to utilise the village waste like rags, broken bamboo baskets, ropes and old gunny bags. Cotton, linseed stalk, straw and plantain fibre are used. The equipment is not expensive. A paper-making unit cost about Rs. 25 to Rs. 30 in equipment during pre-war days. At Anji in Wardha District an old student of Maganwadi was carrying on a small unit for making paper out of tailor cuttings. He employed nine labourers and sold rag paper at Rs. 6-8-0 per ream. The question of market need not arise. If the Government helped the paper-makers by supplying waste-paper as raw material and offered to purchase the product the industry could be developed in the Province.

22. *Transport.*—Motor transport is growing into greater and greater prominence at the present day. The advent of motor traffic has increased the competition with bullock cart traffic. Even the Government are encouraging motor traffic even where bullock cart traffic could very profitably be used. For instance in the transport of timber for seasoning purposes the Government employed motor lorries and transported the materials at a high cost. Seasoning is a slow process and if bullock carts were used for transporting such goods, it would be economical. The Government ought to consider the cost of transport relative to the productivity of the means of the transport.

23. *Lac Industry.*—The possibilities of the lac industry have not been adequately tackled in the Province. Industrially lac is becoming more and more important.

Formerly lac was used as filling for gold and silver ornaments but later there was a large export trade amounting to nearly three lakhs of maunds. Subsequently the export fell. Just before the War nothing important was done for lac production on a scientific basis. There was only a little collection from natural deposits here and there. Lac forms an important ingredient in polishes and varnishes. Lac culture can form a good occupation for people in forest areas. Lac insects themselves use as host trees *palas*, *ber*, and *Kusum*. These trees are not of much use in other ways. Very little skill is required in lac making. Village people can easily work the collected lac into shellac in their own cottages, as a home industry by means of locally made equipment. Lac can be used extensively in the electrical industry. Hence its possibilities are great. Unfortunately the forest dues and taxes amount to about 40 per cent. of the cost of production. Lac is not put to any industrial uses in the Province, though for instance lacquer work may be developed as an art industry. The lac gatherer earned about two annas a day before the War. A great deal of damage is done by the lac being collected before it reaches maturity, resulting in very low prices, because people have not the economic stability to wait till the lac matures. This handicap must be removed. A certain amount of crude lac is used in bangle making only. The industry offers a large scope for improvement with Government aid.

24. *Bamboo work*.—Bamboo provides raw material for a variety of manufactures requiring little capital. This material is heavily taxed at the very source. The railway rates of transport are as much as 150 per cent. of the cost of production and 25 per cent. of the profits of the villager. The equipment of the bamboo worker costs very

little. The labour even in some cases is highly skilled and yet the return is very low. The bamboo workers are not able to buy the stock from the forests. They are obliged to pay high prices to the stockists in the markets from whom they buy. The *Basods* are engaged in bamboo work. They are not organised. There is a great demand for baskets for the collieries. They pay about Rs. 10 per 100 baskets. Local manufactures could be made to replace them, if the industry is properly organized. Bamboo pulp is not used for paper making. The Province has a few varieties of reeds which can be used for making chairs, etc. It would be profitable if this industry was also developed.

25. *Match Manufacture*.—The Province has abundant raw materials like *Salai* and *Semul* trees for match making. It has large quantities of bone which can be used in the preparation of phosphorus; but bone is exported. Development of match making on cottage basis has not progressed. Unless special concessions are given by the Government there is no future for the industry. The C.P. Government requested the A.I.V.I.A. to train students in match making. But the Association was unable to take up the work on account of the excise policy of the Central Government.

26. *Beedi making*.—Beedi manufacture is a very lucrative but harmful industry in the Province. The Government auction the right to collect *Tendu* leaves. There are certain local taxes on these and the industry is organised by merchants who do a thriving trade. Labour is low paid considering the subsistence level of wages. A worker got 2½ annas to 3 annas a day during the pre-war days. Tobacco is grown in Berar but a good deal of the

raw material is imported from Gujerat and Nipani in Belgaum. Beedi smoking habit is rapidly spreading.

27. *Kumkum making*.—In a few villages *Kumkum* is made for export outside the Province particularly to Bombay and places on the West Coast. *Turmeric* and other local products are used in *Kumkum* making.

28. *Rusa Oil Perfumery*.—In *Ellichpur* and *Betul* and one or two other places *Rusa* oil was prepared from *Tikadi* grass by a very crude process. The distillation of the oil requires cheap fuel. The high prices of fuel have handicapped the industry.

29. *Joss Stick making*.—In the Pagara Jagir the bark of *Menda* trees is used as an ingredient in the making of *Oodubathis*. The industry has a good prospect in the forest areas.

3. INDUSTRIAL CO-OPERATION

The artisans' co-operative movement had until recent years been connected with the supply of credit to the artisans. Industrial co-operation made little progress. In 1939-40 there were only 8 Industrial Associations and 5 Dairy Societies. The former had a membership of 499 with a working capital of Rs. 83,913 and the latter a membership of 104 and a working capital of Rs. 23,225. Gradually as a result of war conditions industrial co-operation began to receive increased attention from 1942.

Weavers' co-operative movement is by far the largest artisan co-operative action in the Province. A Provincial Weavers' Co-operative Society was started at Nagpur as early as 1934 with the aid of the Government of India

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grant. It has been progressing in its work with the aid of the Central and Provincial Governments and under the advice of the Textile Expert with the Central Provinces Government and the supervision of the Director of Industries and the Registrar of Co-operative Societies. Until recently it was concerned with the issue of yarn to its members for *sari* production on piece work basis. But now it is a Central Weavers' Co-operative Society with 117 affiliated primary weavers' co-operatives having 19,924 members. During the quarter ending 30th June, 1946 it supplied yarn worth Rs. 33,551 to 304 individual members for *sari* production and paid Rs. 50,500 as wages. It also supplied during the same quarter yarn worth Rs. 23,50,329 to its primaries. About 45 per cent. of the looms in the Province have been brought into the co-operative fold; and a post war scheme for developing handloom industry in the Province is worked through this organisation since April 1946. The organisation is endeavouring to feed the looms regularly and adequately.

Co-operative activity to a lesser extent is seen among the other classes of artisans: There are 16 brass workers' societies in the Province with a membership of 1,268. The societies supply basic materials to their members for making brass ware and undertake to dispose of the goods to wholesalers.

Among other industries, there are co-operative societies here and there for rope making, *newar* making, *bidi* making, dairy farming and dyeing. Some fishermen's co-operatives also have now been started. The Jhallar Ghee Producers Union at Jhallar in Betul Dt. is a thriving concern, having a working capital of Rs. 19,391. It prepares ghee and butter from the milk supplied by its members by scientific

methods. In 1944-45 it purchased milk worth Rs. 27,312 and sold ghee and butter worth Rs. 36,350. Another important feature of the co-operative movement in the Province is the development of women's home industries. In 1944 the Vanita Sahakari Gramodyog Bhandar, Ltd., was started at Nagpur for promoting home industries among women. The institution helps women in making and selling home products like lemon juices, squashes, pickles, *papads*, jams, jellies, *chutneys*, and vinegar. As a part of post war development scheme, this institution is given a co-operative form. The object in view is to train women in sewing, knitting, embroidery, *hosiery*, *newar*, making, jam making, etc., and thus expand the scope of the work of women in home products.

The progress of industrial co-operation in Central Provinces and Berar at present is not quite satisfactory; but it is encouraging that the development is effected in accordance with some plan of work.

"The salvation of cottage industries not subsidiary to agriculture lies in co-operation."

BENGAL BANKING ENQUIRY COMMITTEE.

VI. MADRAS

1. GENERAL FEATURES

The Province of Madras occupies the whole southern portion of the peninsula, excluding Coorg and the Indian States. Under the Government of India Act 1935, the province became autonomous with a Governor, a bicameral legislature and a Cabinet of Ministers. The Congress Ministry came into power in 1937 and continued to the end of 1939. Thereafter the administration passed on to the Governor and his Advisers under Section 93 of the Act. Popular Government was revived in 1946 after the war. In the division of India Madras forms part of the Indian Union.

The province has an area of 1,24,363 sq. miles with a coast line of about 1,250 miles on the eastern side and about 450 miles on the western and southern sides. The coast line on the east and west is fringed by the *ghats*, which meet at the Nilgiris.

The annual average rainfall is about 40 inches. The climate is free from extremes.

The population of the province in 1941 was 4,93,40,000, out of which 88 per cent. were Hindus, 7 per cent. Muslims and 3.8 per cent. Christians.

There is on the whole 36,669 miles of road of which 19,309 miles of road is metalled.

Rice, *cholam*, *ragi* and *kambu* are the principal food crops and cotton, sugar-cane, tobacco and groundnut the principal cash crops. Tea and coffee grow on the Nilgiri

hill slopes. Over 80 per cent. of the people are in agriculture and less than 10 per cent. in industries. The province has many cotton, hosiery, jute, oil, sugar, and soap factories and mills scattered all over the province.

Madras is the capital and Madura, Coimbatore and Vizagapatam some of the important towns. Madras and Vizagapatam are important sea ports.

The revenue of the province and the expenditure in 1945-46 are Rs. 36 crores and Rs. 36 crores respectively.

Madras has made some progress in the development of cottage industries, many of which are of artistic value.

2. GENERAL CONDITION

The Madras Province is as important in respect of cottage industries as any other major province in India. There are numerous cottage industries some of which are art crafts are generally located in urban centres while the These industries are spread all over the Province. The art crafts are generally located in urban centres while the utilitarian industries are to be found both in urban and rural areas. A number of traditional cottage industries are still extant and some new cottage industries have come into existence during recent years. Some very important cottage industries, particularly those of artistic value are in a decaying condition. The following is a brief account of the cottage industries now found in the Province:

1. *Hand-spinning*.—Hand-spinning has been in existence in the Madras Province for several centuries. During the closing years of the last century it decayed considerably due to the advent of foreign yarn. The *Swadeshi* movement of the early years of this century gave it some

impetus. But the industry received the greatest impetus from the non-co-operation movement of 1921. Since then it has been progressing fairly well. The Congress Government has given its best attention to it with a view to popularise hand-spinning and place it in a stable position.

The industry is pursued in almost every district in the Province, particularly Vizagapatam, East and West Godavari, Krishna, Nellore, Guntur, Coimbatore, Tinnevely, Madura, Salem and Cudappah. The classes of people engaged in it are *Kapus, Harijans, Padmasalis, Velamas, Kammas, Telagas, Vellalas, Odayars, etc.* Hand-spinning is done chiefly by women who are unable to attend to household duties. Some able-bodied women and children also spin during their spare time.

Hand-spinning is largely a subsidiary occupation except where the spinners have no other source of income. For the men and women spinners of the middle and upper classes who do sacrificial spinning to clothe the poor or self-sufficiency spinning to clothe themselves, it is a hobby bordering on duty.

The raw material required is cotton. The spinners either grow their own cotton or buy it. Cotton is ginned on a country gin. It is then carded with a bow and slivered. These preliminary processes are usually done by the spinners themselves. A few spinners, however, purchase ready-made slivers.

Yarn is spun on a *charkha*. This wheel is still rather crude and primitive in many parts of the Province. Some spinners spin on a *takli* or *spindle*. With a view to improve and quicken the preliminary processes and spinning, the All India Spinners' Association have devised improved appli-

ances and processes. During the recent years these improved appliances have been adopted in many urban centres, though in the rural areas the position is as before.

The count of yarn spun in the Province ranges very widely between 6s. and 120s. Coarse yarn of 6s. to 18s. is spun at numerous centres; but medium and fine counts ranging between 20s. and 30s. are spun at a few centres. The finest yarn is produced at Ponduru, Chicacole, *etc.*, in the Vizagapatam district. This yarn is spun out of a local variety of cotton grown in the hill tracts. The spinners are all illiterate women. The preliminary processes of ginning, carding and slivering are all done very carefully by the spinners themselves. A fish jaw bone is used for carding. The wheel is of the primitive type. On account of the special processes, the spinners can spin the finest counts for which the Andhra is famous in India.

The spinners work usually eight or ten hours a day. In spite of their hard work the spinners are not able to get an adequate living. Formerly, a spinner's income ranged between one anna and three annas a day. Now due to changed conditions the average daily income is about 8 annas.

The Co-operative Movement has not made much headway in hand-spinning. There are a few spinners' and weavers' co-operatives in the Province.

The Government of Madras have launched a scheme for development of hand-spinning in the Province with a view to self-sufficiency in clothing. The scheme is under operation in eight *firkas* chosen for initial working. The object is to spread it over the whole Province in the near future.

2. *Handloom weaving*.—Next to agriculture handloom weaving is the most important occupation of the Province. Madras is the foremost handloom weaving Province in India. There were in 1941 about 3,40,450 handlooms in the Province. Their out-put was estimated at 44,63,00,000 yards valued at Rs. 14,11,07,000 annually. About 4,86,829 persons were said to have been employed in the industry in 1941. During the recent years as a result of mill cloth scarcity, the number of handlooms has risen to over five lakhs.

This industry is found in every district. The sub-castes engaged in it are the *Salis*, *Padmasalis*, *Devangas*, *Sourashtras*, and *Harijans* and some Muslims.

The range of counts woven in the Province is from 6s. to 120s. Before the war, imported yarn of 150s. to 200s. was in use. But since imports stopped and the indigenous mills spin only upto 80s. the weavers are obliged to limit their yarn requirements to 80s. and below in the case of mill yarn and to higher counts in the case of super fine hand-spun yarn. Most of the weaving centres confine themselves to 40s. and below. The higher counts are woven at a few centres of repute like Pōnduru, Uppada, Madhavaram, Pullampet, Rasipuram, Madura and Coimbatore.

The varieties that are woven are *sarees*, *dhotis*, *shirtings*, *gada*, *lungis* bed-sheets, towels, mosquito curtains, table cloths, *etc.*

Handloom weaving is mostly a home industry in several parts of the Province. The preliminary processes of winding, warping, *etc.*, are done by the women, children and some old members of the family. At certain centres peg-warping which is a tedious and laborious process has

given place to hand-driven mill warping. There are numerous warping mills in all districts. The sizing of the warp is done by the weavers by mutual co-operation. During the recent years professional sizers have come into existence at some centres. In the neighbourhood of textile mills, mill-sized condemned warps of short length are used by the weavers.

During the early years of the war, the weaver suffered much due to unsteady market conditions. Since 1944, due to scarcity of mill cloth, the demand for handloom cloth has increased. Wages and cloth price have also risen very high upto six times the pre-war level. The period has been somewhat favourable to the weavers. But the fullest advantage could not be taken by the weavers for two reasons. First, there was scarcity of yarn. The mills could not supply the required quantity of yarn for the handlooms. The hand-spun yarn produced to feed the under-employed looms was usually not of good quality. Secondly, the poor weavers could not get enough money to run their trade. The weavers, who were in the co-operative fold were fairly well off, because they received yarn through co-operative societies. The independent weavers, who were outside the co-operative fold were hard pressed for money and in consequence had to work under a master weaver or go to a merchant money-lender. Thus on the whole, while the master weavers and the merchant middle-men gained, the ordinary weavers were obliged to carry on a lingering existence as usual.

Handloom weaving is the most important cottage industry in the Province, which has lent itself for development on co-operative lines. Even in 1945 there were over 50,000 looms in the co-operative fold. There were about

300 weavers' co-operatives with an apex organisation known as The Madras Handloom Weavers' Provincial Co-operative Society, Limited, Madras. There are at present over 860 societies with over 1,10,000 looms affiliated to the Provincial Society. The Provincial Society arranges for the supply of yarn to the societies and sells a part of their production through its emporiums of which there are over 40 in different parts of the Province. Though the Provincial Society cannot be said to have served the cause of co-operation among weavers by effecting their mental and material progress as is expected of a Provincial Co-operative Organisation, it may be said that this body has helped some weavers in securing yarn and in selling a part of their production.

The market for handloom production is both internal and external. *Saris, dhotis, towels, bed-sheets* and other utility varieties have a fairly regular internal market. Varieties like *lungis* and Madras handkerchiefs have an external market. Before the war, the export trade in these varieties was about 26.6 million yards. Due to war the exports fell heavily. Of late, the export trade has tended to increase.

The influx of mill cloth into the Province during the recent months has begun to reduce the demand of handloom cloth in the Province. Prices and wages are on the decline though the cost of living is still very high. It is generally felt that unless the production of the weavers finds some market at home or abroad, the lot of the poor weavers will again be bad. Now that the controls and the rationing are slowly going out and the conditions are settling to the normal, it has to be seen how the handloom industry would fare in the coming years.

3. *Cotton dyeing and printing.*—The Province is noted for its cotton dyeing and printing. The most important centres for cotton dyeing and printing are Masulipatam, Palcole, Narsapur, Tuni, Madura, Melapalayam, Salem, etc.

Cotton dyeing of yarn and cloth is done at numerous centres in all districts. A sub-caste known as *Rangrizes* is engaged in dyeing industry in Andhra districts. Formerly, work was done with indigenous materials like chay-root and indigo. The advent of chemical dyestuffs during the recent decades has killed the indigenous system. But of late, efforts are being made by certain enterprising dyers for the revival of the ancient system. A number of shades are obtained by the use of chemical dyestuff. There are numerous dye-factories all over the Province for dyeing cloth and yarn. It is very interesting to note that at Chirala in the Guntur district, yarn is tied up into hanks and dyed in such a way that when it is woven a particular design and colour effect are obtained even in the process of weaving.

But by far the pride of the Province is in its cloth printing. Cloth printing is generally of two kinds: block-printing and hand painting or pen work traditionally known as *kalamkari* work. Block printing is done by printing on cloth a design by means of a mordant. Some of the designs used are very intricate requiring many blocks for a complete design. The worker either buys cloth himself or gets it from middle-men and prints the design. Women also do the work in some families. The margin of profit for the worker is very low since the price of cloth forms a large part of the cost of production. During the recent years mill printed cloth has come into

market. Therefore, block printing has suffered to some extent.

Kalamkari work is the most important part of the printing industry of the Province. Masulipatam is the chief centre for this art craft. The *kalamkari* products of Masulipatam are world famous from time immemorial. *Kalamkari* work consists in bringing of a variety of colours on a piece of cloth by the use of liquid wax and brush-like pen. This art craft was on the decline for some decades past. But now a change in public taste is helping the industry to rise again.

The dyeing and printing industries suffered much during the war due to scarcity of dyestuffs and fluctuating prices. The Government placed the materials under control to ensure proper distribution. Thanks to the Madras Handloom Weavers' Provincial Co-operative, a crisis was averted in respect of the supply of dye materials, by the opening of dye factories and by regulating the distribution of dyestuffs at control rates.

Of late, a new type of cloth printing has come into existence—screen printing in which printing of the cloth is done by placing on it a screen on which a design is cut and by printing the design by means of rollers smeared with colour. Some screen printing factories have been started of which the factory of the Provincial Co-operative is the largest with a daily out-put of about 500 yards.

4. *Sericulture and silk weaving*.—Silk weaving is done at a few centres in the Godavari district as a cottage industry. Since there is no sericulture in the Andhra, the raw material is obtained from the South—Mysore and Kollegal. *Tassar* silk weaving is seen in parts of the

Vizagapatam district. There is no sericulture in the Andhra though there are vast castor plantations.

The southern part of the Province is very important for the silk industry. Sericulture is peculiar to Coimbatore and Salem districts. The Kollegal taluq in Coimbatore district and the Hosur taluq in the Salem district have large areas under mulberry. Silk worm rearing is the main subsidiary occupation of the agricultural classes such as *Siva bhaktas*, *Gangadhikars*, *Gowdas* and *Uppaligars*. The number of rearings in a year varies from 6 to 8 and the rearing is done as part time work of the family. The Department of Industries and Commerce is taking keen interest in sericulture. It has four silk farms at Coonoor, Hosur, Palmanar and Thadaguni. It has also stationed five sericultural demonstrators at important district centres.

Silk rearers do not generally reel silk. Reeling is done in a central village by some reelers on a crude type of *charka*. The Industries Department has introduced improved reeling appliances. The Department is carrying on work in the field of sericulture also.

The products of Kollegal and Salem in the south are very popular. Silk is produced in the Rayalaseema at Dharmavaram and other centres. But it is inferior to the product of the South.

5. *Woollen industry*.—The woollen industry of the Province consists of two sections namely *Cumbli* and drugget weaving and pile carpet weaving.

The chief districts for the *cumbli* industry are Bellary, Kurnool, Krishna, West Godavari, Chittoor, Trichinopoly, Madura and Coimbatore districts. A shepherd caste known as *Kuruba* or *Kurumba* is engaged in the industry. Wool of sheep and occasionally of goats is used.

WOOD CARVING IN THE ROUND



DEVI

IVORY CARVING IN THE ROUND



KRISHNA

There are a few *cumbli* weavers' co-operative societies. Raw material is purchased by the weavers from shepherds in the rural areas. The sheep are neglected and so the wool is of poor quality. The average yield of a sheep is eight to twelve ounces of wool, and the total yield in its lifetime is 4 to 6 lbs. The wool is not properly graded according to colour and quality.

The cleaning, carding and spinning of the wool is done in the primitive way. *Taklis* or spindles are generally used for spinning. Very few *charkas* are in use. Spinning is done by women as a part time occupation. The warp is prepared by peg warping and sized with the starch of tamarind seed or wild onions.

Pit-looms are used by weavers and the weaving is done by the throw shuttle method. *Cumbli*s of various sizes are manufactured. During the recent years, felting process is adopted by some weavers for giving a better finish to the product. Rugs, mufflers, etc., are also manufactured at some centres. The Industries Department is doing its best to improve the quality and quantity of production.

There are a few *cumbli* weavers' co-operative societies in districts like Bellary, West Godavari and Krishna. They are trying to expand the market for the woollen products. During the war numerous military contracts and plantation contracts were undertaken by the *cumbli* weavers for the supply of rugs and blankets. The industry had a boom during 1944-45, due to absence of competition. It is now again trying to hold its own during the present slump.

Pile carpet weaving is an art craft. This industry is seen in West Godavari, Krishna and North Arcot dis-

trict, its chief centres being Ellore and Masulipatam. The industry was introduced some centuries ago by the Muslims.

Muslims are engaged in pile carpet weaving. The weavers purchase yarn from the local spinners. The wool that is used is both of the local variety and the imported variety. Imported wool of Cawnpore or Ambur (Tinnevely District) is of good quality. Some of the wool used for carpets is obtained from the tanneries. *Kuruba* women spin the wool into yarn and supply it to the carpet weavers.

The pile carpet loom is of vertical type. The weavers get yarn dyed and also prepare the design on a squared paper. They work out the design by tying knots of wool on vertical warp threads in accordance with the design. The quality of the carpets varies with the number of threads per inch. From four threads per inch, to about twenty threads per inch may be used. Carpets of nine threads and above are made to order and inferior carpets are made for the market.

The market for the carpets is abroad—Australia and America. During the war period there was a demand from the soldiers in India. There is a weavers' co-operative society at Ellore. It is booking orders from abroad and from Madras firms and is supplying goods.

The designs have a large variety. They range from Mogul and Persian traditional design to the designs required for furnishing a house in Western style. There is a bright future for the industry if only the raw material is improved in quality.

The *cumbli* and pile carpet weavers also are poor and dependent on merchant middle men.

6. *Lace making and embroidery*.—Lace industry in the Madras Province is as important as *chikan* work in Northern India. Lace making and embroidery were introduced by some missionaries from the west. They opened industrial institutions for the poor at several centres and taught them lace making and embroidery so that they might sell the products in the western market and maintain them. These industries spread in other localities. West Godavari, Krishna and Tinnevely districts are the most important for the lace making. The lace of Narsapur and Palacole in West Godavari is world famous.

Several thousands of women and girls of all castes mostly Christians, *Pallis* (fishermen), *Telagas* and *Kapus* are engaged in this work. The thread used is 'diamond' thread. This is knit into lace of several designs by means of a knitting needle with a hook. Work is done during leisure. The products prepared consist of doyleys, table centres, tea cloth borders, table runners, window curtains, *etc.*

Another variety of work is drawn thread work of Dummagudem in East Godavari, where wedding veils are made by working designs on fine cotton net cloth. These wedding veils are world famous.

There are many middle men in this business. They advance money to the poor workers and clear huge profits. The actual workers now get about four annas a day. Recently, a co-operative society has been started for the benefit of the lace workers. The market for the lace products was in America, Great Britain, Australia, *etc.*, before the war. Exports stopped during the war and there was a demand from the soldiers who were in the country.

Technical Institute, Madras is helping to find a large The internal market is now expanding. The Victorial market for the lace products in the country itself. There is, however, a large need for organisation of the industry.

Embroidery is chiefly a hobby of some women of the higher classes. Work is not done on a commercial scale.

6-A. *Fibre industry*.—The fibre industry of the Madras Province is of three kinds.

(a) Coir or cocoanut fibre industry.

(b) Palmyra fibre industry.

(c) Jute and other fibre industry.

(a) *Coir or cocoanut fibre industry*.—The coir industry of South India is as old as 15th century. The chief districts for the industry are Malabar, East Godavari, Vizagapatam, Tanjore, Salem and Coimbatore. Over a lakh and a half of people are engaged in it; of them about 90 per cent. are women.

There are vast cocoanut plantations in the Province which can give about 1,80,000 tons of coir per annum. But only about 25,000 tons of coir is produced and the rest is wasted.

Coir is obtained from the green husks of cocoanut which is not fully ripe. These husks are soaked in water. In Malabar they are soaked in pits in backwaters for eight to ten months. In the Godavari, Tanjore and Ramnad districts dry husks are soaked for a few hours or are boiled. They are then beaten on a block of wood with a mallet to separate pith from the fibre.

Ropes are made out of this fibre by women. Inferior ropes are made by twisting the fibre between both palms of the hands. Superior ropes are made by the use of machines

of a simple type. Coir is used for door mats and floor matting also. The wages for rope making are about four annas for a man and two annas for a woman for a day of eight hours.

There is a very large internal market for the coir products of the Province. The foreign market extending over England, France and U.S.A. declined due to the war conditions.

The coir industry is not well organised in spite of the efforts of the Industries and Co-operative Departments.

(b) *Palmyra fibre*.—This industry is seen in West Godavari, Vizagapatam and Tinnevely districts, where there are vast palmyra tracts. A number of *Kapus*, *Pallis*, *Harijans* and *Nadars* are engaged in this work as a subsidiary occupation. Fibre is extracted by beating the sheaths with a stone or hammer. This raw fibre is collected by several merchants and exported. Grading of the fibre is not generally done except in towns like Cocanada and Anakapalle.

The workers cannot make any products out of the fibre. They supply the fibre to middle men who make a profit on it. That worker gets about six annas a day. At some centres like Tuticorin and Madras this fibre is used in making crude brushes and brooms. The Co-operative Movement has not yet touched the industry.

(c) *Jute and other fibre manufacture*.—Jute, sunn hemp, aloe, screw pine, and other fibres are used in some district or other for industrial purposes. The fibre is extracted by men and women by soaking the stalks in water for a long time and beating them against a slab to remove pith. The fibre is then spun into yarn on a spindle or between the palms. Strong ropes are made either by means

of the hands or by a twisting machine. Some yarn is turned into cloth by peg-warping and weaving with a throw shuttle on a small primitive loom. The process is very slow, since the appliances are too crude.

Since these fibrous plants grow on wild tracts or in the workers' fields, the cost of raw material is nil. This industry is only a subsidiary occupation followed by a worker's family only during spare time.

7. *Brass, bell-metal and copper work.*—This is a very important branch of the cottage industries of the Madras Province. This metal work is done at numerous centres in almost every district. The chief centres are Vizianagaram, Pittapuram, Ajjaram, Ramanakkapet, Kasaragod, Dindigul, Madras, Tinnevely, Kumbakonam, Kalahasti, Tirupathi and Palghat. The subcastes known as *Viswakarmas*, *Kammas*, *Kancharies* and some Muslims and *Woddars* and Goanese Christians engaged in the work.

The raw materials are imported largely from abroad. Due to war conditions the imports have fallen heavily. So, many workers are either using scrap metal or simply doing some repair work. New metal sheets are obtained by workers either from dealers in towns or from middlemen engaged by the merchants. Some street pedlars purchase old vessels and supply them to the workers. The workers convert them into vessels and sell them direct to consumers if they are independent workers or supply them to the middlemen.

The work is of two kinds: In the case of bell metal and old brass the metal is melted and cast in moulds. The moulded vessels are given a finish by turning and polishing. Some workers convert brass and copper sheets into vessels by beating them into shape with a hammer.

Numerous varieties of articles both of utilitarian and artistic types are made. Of the utility articles large and small vessels, tumblers, plates, dishes, tiffin carriers, coffee filters, ladles, bells and beads are some important varieties. Among the artistic varieties may be mentioned flower vases, cups finger bowls, lamp stands, *hooka* stands, *etc.* The beautiful images cast in bell metal or brass are some of the special artistic varieties of the Province. The problem of marketing is some what keen for the independent workers since they have to sell their products only locally. Big merchants and master workers who hire labour send their goods to large cities and important places of pilgrimage where their goods can find a ready sale. Some sell their wares by street hawking. The demand for these products is very large during the marriage season and festivals like *Pongal*, *Deepavali* and *Dasara*, not to mention the local festivals.

As a result of war conditions the workers are unable to get enough raw material at moderate prices. In consequence, the need for organising the poor workers into co-operative societies has been felt. There are now a few metal workers' co-operative societies at Rajahmundry, Ajjaram, Ramanakkapeta, Vemur, Satravada, Vonipenta, Quilandy and Nachiyarkoil. These societies help the members in the supply of the raw materials, financing of the production and the sale of the finished goods.

The Department of Industries and Commerce also is doing its best in the matter of instruction in improved methods of manufacture and in improved designs. Students are taught at the Government School of Technology, Madras methods of metal casting and manufacture of new types of articles. The use of electric motors, polishing lathes and

soldering apparatus is also taught. An extension of these educational facilities to the innumerable workers in the districts will certainly help to re-organise the industry.

8. *Iron smithy*.—There are innumerable black-smiths in every village and town in the Province. Iron used to be smelted and forged into articles of daily use in former times. But during the recent decades the import of iron and steel sheets and plates has caused the iron smelting industry to decline. Now the iron workers use cast iron sheets for their work. A very large number of varieties consisting of agricultural implements, artisans' tools, house building materials, boxes and locks could be made by the skilled workers. Superior cutlery could also be made out of fine tempered steel. The advent of foreign hardware hit the industry very hard. The result has been that the black-smiths have become merely producers of crude utility goods or repairers of old articles.

The superior workmanship is not totally absent in the Province. At a few centres like Penugonda and Negapatam steel trunks are made. Iron safes and locks are made at many centres like Ellore, Rajahmundry and Vellore. Superior cutlery is made in Malabar, Guntur, *etc.* Several workers make some crude implements out of scrap iron such as old railway metal sleepers.

The industry is not at all organised. The workers are largely indebted to middlemen, and merchants. It would be helpful if the workers of important localities are organised into co-operative societies.

9. *Aluminium and lead work*.—The aluminium industry is of recent origin. A number of *Kapus*, *Telagas*, and others are engaged in this industry. Rajahmundry, Vizagapatam and Madras are very important for aluminium work.

Aluminium sheet is imported. Street pedlars purchase old broken vessels and supply them to the workers. The metal is melted and cast in moulds and finished by turning and polishing.

The goods turned out of this metal consist of utensils and household furniture like *hookas*, and stands. Aluminium work is taught at a number of schools. The cheapness of this ware has made it very popular to the detriment of brass and bell metal ware. Many poor people use these cheap vessels. Since the use of these vessels in the kitchen is said to be injurious to health, it has become necessary to find other uses for the metal.

There are very few independent aluminium workers. Most of the workers work in *karkhanas*, where goods are made on a large scale. The industry is in the hands of big merchants.

Lead vessel making, on the other hand is entirely in the hands of small workers. The chief centres are Vizagapatam and Palacole. Vessels are made by melting lead or tin and casting it in moulds or by casting the metal into a plate and then hammering it into shape. These vessels are very popular among the well-to-do and the *Brahmans* since they are acid proof. Brass utensils also are rendered acid proof by tinning the inside of the vessels with tin or lead. This work is done by a class of workers who are mostly Muslims. This work is very popular since it requires very little capital for the worker and yet gives him an average wage of about Rs. 2 a day.

10. *Cabinet and furniture making*.—Cabinet and furniture making is a very important branch of the wood work in the Province. There are many cabinet and furniture makers in almost every town and city in every district.

Madras, Malabar, South Kanara, and Krishna districts are the most important for this industry. Carpenters known as *Asaris* and *Viswakarmas* are engaged in the work. The raw material used is rose wood, teak wood and other varieties like mango and *sal*. Some teak wood is imported from Rangoon. The wood is obtained from the forest tracts, where trees are cut down and the wood is seasoned to some extent. This material is transported to the various manufacturing centres by water or road transport. Varieties of furniture were not many in former days. But during the recent years, due to western influence there has been a change in public taste. In consequence thereof, there is now a very large demand for the numerous types of furniture like cots, tables, tea-poys, lamp-stands, coat and hat stands, chairs and sofas. The ordinary workmen manufacture simple types of furniture for local sales. But skilled workers and master workers manufacture either on their account or in *karkhanas* artistic patterns for export to other markets. Of various types of furniture, the camp furniture of Narasaraopet (Guntur District) deserves special mention. This furniture made of white cedar wood of Malabar and teak wood of Bezwada is of quality and utility. It consists of camp cots, folding chairs, folding tables, cradles and numerous other easily portable pieces of furniture. The workers earn from Rs. 2 to Rs. 2-8-0 a day. There is a market for this furniture in Madras, Mysore, Rayalaseema, Hyderabad and parts of Northern India. During the war, this camp furniture industry suffered from scarcity of raw materials, though the demand for furniture was very large.

The plight of the cabinet and furniture workers deplorable, since the trade is largely in the hands of firms.

Organisation of co-operative societies among these artisans for supply of raw materials, financial assistance and sale of goods would help them a good deal. It is also essential that new designs and patterns in furniture should be introduced. Progress in this direction is in evidence; for instance Sri V. R. Chitra, has designed new and artistic types of furniture by a judicious adaptation of Japanese design to popular Indian pieces of furniture. Such designs would certainly educate public taste and help to place the worker in a novel field.

11. *Cart making, etc.*—By far, the commonest form of the carpenter's work consists in cart building, agricultural implement making and house construction work. These lines of the carpenter's job are seen both in urban and rural areas. The carts made are ordinary bullock carts, bullock spring carts, hackney horse carts and coaches, Dharapuram and Vellore are very important for carts of strength and quality. It takes about ten days for a master workman and four assistants to make a bullock cart or a horse carriage. The varieties of wood used are *irumbagam*, *tadasha* and *purusa*. Teak wood is also used for spokes of the wheels. These carriages are made to order or for sale in the local markets. The advent of the motor transport both in rural and urban areas has hit this industry, to some extent. Work is done in small *karkhanas* where master workmen usually work with some five or six assistants. Though there are regular co-operative societies for cart builders, the master workers get financial accommodation from some co-operative credit societies or from local sowcars.

The agricultural implement industry which was in a thriving condition in former years is now on the decline.

There is the competition of imported or Indian factory made tools and implements which are gaining more and more popularity due to the efforts of the manufacturers and the Agricultural Department. Even in respect of house construction the carpenter is affected by the use of substitutes for wood work required for the houses. It may be said that the carpenter is now largely a repairer and producer of cheap and crude products. The scarcity of all varieties of wood has affected the workers considerably.

12. *Boat building*.—Boat building is done at numerous centres in the Province both on the river side and the sea side. There was formerly a large ship building industry at Tallarevu near Cocanada. But now, this industry has declined. The boats now built consist of small passenger and goods transporters, and fishing boats. The tonnage varies from 60 to 100 tons for a boat. The coming of steam transport on rivers, canals and the coast line and the opening of railway line even in the interior part of the Province have caused boat building to decline to some extent. The industry will again flourish, if the Government take greater interest in water transport.

Boat building is done generally on a contract basis. The master workman engages some ten assistants until the piece of work is finished. Though the master workman gains by the contract, the assistants get only poor wages. The skilled workman gets about Rs. 2 and unskilled one about 12 annas a day. Work is done almost through out the year. Wood is obtained from the forest near by. The cost of building a boat of 36 tons is about Rs. 5,000. A co-operative society for boat builders is East Godavari district is under contemplation.

13. *Cane and rattan work.*—This industry is pursued in Madras, East Godavari, Vizagapatam, Guntur, Nellore and Tanjore districts. The raw material is grown chiefly locally. The cost of cane is about Re. 1 per maund at the plantations. The cane is not as smooth and glossy as the imported cane of Malacca.

Cane work is done as a part time and also as a whole time occupation. At most centres big baskets are made of whole cane, but at some important centres cane split into ribbons is used. The varieties produced are chairs, baskets, cradles, camp boxes, *etc.* The industry is in the hands of merchants and the actual workers get 8 annas to Re. 1 for ordinary work and Rs. 2 to Rs. 4 for skilled work. The products are sold locally and at exhibitions. Cane work is taught at numerous schools for boys and girls. It is remarkable that there are some blind men who are experts in splitting and weaving cane. The Co-operative Movement has not so far touched this industry.

14. *Basket making.*—Basket making is one of the commonest occupations of the artisans in the Province. It is carried on at numerous towns and villages in every district the chief districts being Madras, South Arcot, Bellary, Madura, Trichy, Malabar, Chittoor and East Godavari. Some sub-castes known as *Medaras*, *Koravas*, and *Naickers* and some Muslims and *Harijans* are engaged in this work.

The raw materials used are bamboo, date palm and palmyra leaves and some thin rods and creepers found in jungles. Products are made by splitting bamboos, *etc.*, into ribbons or by using thin creepers completely. The implements used are crude knives. The raw materials are

purchased from some local dealers or are obtained direct from neighbouring forests and jungles. The products manufactured consist of baskets of all sizes, winnows, sieves, screens and *thatties*, boxes, *etc.* The products are chiefly of the utilitarian type needed for the house hold or agricultural work. At certain centres artistic products of fancy patterns are made out of bamboo and palmyra leaves. Lacquer coating is given to bamboo baskets and fancy colouring to palmyra leaf ropes. The lacquer baskets are generally purchased by Muslims. The fancy leaf boxes are largely produced in Madras, Rameswaram, Tenkasi and other centres. Some of the fancy boxes have a market in Northern India and Ceylon.

The industry is not organised. The workers are generally independent, since the capital required is small. A few of them are however indebted to the merchants. There are some two co-operative societies for basket makers in Chittoor and Kurnool districts. The workers earn about 8 annas a day. The industry can be improved by introducing new designs and better organisation, for production and sale.

15. *Mat weaving*.—Mat weaving is done in a few districts like North Arcot, Tinnevely, Trichinopoly, Tanjore, Guntur, Nellore and Cuddapah. A number of Hindus and Muslims are engaged in this work. The raw material is *korai* grass, palmyra and date leaves and screw pine leaves. Korai grass is obtained from river bunds and tank bunds, hill slopes and wet lands. Palmyra and other leaves are obtained from the vast wild tracts where they grow. At some centres the raw material is purchased by the workers and at others it is obtained from the sources. Many workers are handicapped by the pre-

sence of merchants dealing in *korai* grass and other materials.

Out of one bundle of *korai* some 20 to 70 mats can be made. There are three types of mats of *korai*, namely the plain coarse variety, the fine striped variety and the superfine variety. The first two varieties are made at several centres, but the superfine variety is produced at Pattamadai and Viravanallur in Tinnevely district. The counts of common varieties range from 18s. to 24s. while those of superfine types range from 50s. to 140s. The dyes used are generally synthetic dyes except for the Pattamadai mats for which indigeneous vegetable dyes are used.

The mat loom is simple, consisting of two stout bamboos placed at a distance equivalent to the length of the mat and kept in position between two pegs driven in the ground. This loom costs about Rs. 5. The capital required is not much. Yet, some mat weavers are indebted to merchants.

Two coarse mats can be woven in a day of ten hours. But for a superfine mat of 140s. the preparation of warp and weft takes about 25 days and the actual weaving about 40 days. There is now a large demand for mats since the Japanese competition is absent. The coarse varieties are sold locally, while the fine and superfine mats are exported to Bombay and Mysore. There are five mat weavers' co-operatives in Tinnevely, South Arcot and Tanjore. Further development in this line is needed.

Palmyra and date leaf mats are manufactured in several districts. Screwpine mats are made in Malabar, South Kanara, Chingleput and Tanjore districts. The market for these varieties is largely local.

16. *Slate making*.—Slate making is an important industry in the Kurnool district, the chief centres being Markapur and Cumbum. It is pursued in small factories some of which are mechanised. It is also found as a cottage industry. A number of men, women and children are engaged in quarrying, preparing and polishing slate slabs. These slabs are either sold to merchants for fixing the frames or are fixed in the frames by cottage workers themselves and sold to consumers. The nails, polishing material, and tools are locally available with some dealers. A worker earns about Rs. 2 to Rs. 3 per day.

Slate pencils are also manufactured out of the same material. Nine persons can make about 5,000 slate pencils in a day. A worker earns about Rs. 1-8-0 per day.

The industry is not well organised, though the demand for Indian slates and slate pencils increased due to war. Organisation on co-operative lines may benefit the industry much.

17. *Lapidary work*.—Lapidary work is pursued as an occupation at a few places like Masulipatam. The workers work at their own homes for some dealer or in small *karkhanas* owned by a master worker. A horizontal wooden lathe for crude-polishing of the *vaikrantam* stones and a treadle-like lathe for finishing the stones are used by the workers. A corundum disc is used for cutting the faces of the precious stones and polishing them. The workers are paid on piece work or contract basis. The raw material is imported and the lathes are locally made. It is very interesting to note that the relations between the employer and the workers are very cordial. During the war period the absence of imports of chemical diamonds, *etc.*, from Burma and elsewhere caused an increase in the demand for

these *vaikrantam* stones. At Masulipatam, a number of youngmen whose hereditary occupation was *kalamkari* work took to lapidary work since it fetched them a higher wage than the *kalamkari* work. The import of Rangoon diamonds etc., at the present day has affected the industry slightly.

18. *Leather tanning*.—Leather tanning as a cottage industry was very important in the Province during former years. The industry suffered for some decades past due to the starting of large-scale tanneries at several places in the Province such as Ellore, Bezwada, Madras, Bellary, Madura, Trichinopoly and Tinnevely. But as a result of popular efforts and Government initiative, cottage tanning has been revived. There are cottage tanneries at numerous centres all over the Province in West Godavari, Krishna, Bellary, Anantapur, Trichinopoly, Madura, South Kanara, North Arcot, Tanjore and Tinnevely districts.

Tanning is chiefly done by a sub-caste of *Harijans* known as *Godaris* and some Muslims. The raw material—hides and skins—is obtained from slaughter houses and from jungle and other tracts. For instance, in West Godavari district, there are persons in the *Kolleru* lake tract and Kamavarapukota upland region who collect carcasses of animals and supply them to the tanners. This raw material is generally of inferior quality. The tanners used to tan them at their own small tanneries. Some tanners employ the traditional processes of tanning. Their product looks crude but is of good quality where the raw material is good. Other tanners employ factory methods; but they shorten the period of soaking in lime and tanning bark solution.

The Government are taking keen interest in the development of the industry. The Leather Trades Institute, Madras, trains young men in modern methods of pickling

hides and skins, manufacture of improved leather, and the use of synthetic and indigenous tanning materials. Research also is carried on and bulletins embodying the results thereof are published by the Department of Industries and Commerce. Since 1942-43 peripatetic demonstration parties are sent out to show improved methods of flaying, preserving and curing and modern methods of tanning on cottage scale. There are some other institutions where tanning is taught.

A large part of the tanned leather is consumed locally by leather workers. Only superior varieties are exported to Madras and elsewhere.

19. *Leather goods manufacture.*—This is a common cottage industry in the Province. There is a large demand for leather goods both from urban and rural people. A sub-caste of *Moochis* and some Muslims are engaged in this work. The most important centres for leather goods are Bellary, Bezwada, Vellore, Trichinopoly, Madura, Ellore and Kumbakonam. The goods produced are boots, shoes and sandals, bedstraps, bags, money-purses, water buckets, suit cases, etc. The workers work in small workshops or on the roadside. There are a few *karkhanas* owned by master workers or merchants in some urban centres. The average daily income of an ordinary chuckler is Re. 1 to Rs. 2 and that of a skilled worker is about Rs. 3. There are a few co-operative societies for leather workers at places like Ellore, Kumbakonam, Madras, Madura, Lepakshi and Alur. During 1944-45 goods to the value of Rs. 82,206 were sold by these co-operatives. The Madras Provincial Co-operative Bank has given a grant for the development of cottage industries. Out of this a leather instructor has been appointed to train societies in improved methods. There is a very vast scope for the development of leather goods

manufacture all over the Province. Tanned hides and skins are largely exported outside the Province. The development of leather work will enable the Province to consume all the materials locally.

20. *Match Industry*.—Match making as a cottage industry is seen in Ramnad and Tinnevely districts. At places like Koilpatti, Sivakasi and Sattur it provides work for men, women and children in their homes. Work is done mostly without the aid of machinery. The raw materials required, *viz.*, veneers and splints and chemicals are imported from Malabar, Madras and Bombay. Work is done during the spare time. The investment of each producer ranges from Rs. 500 to Rs. 3,000. The finished products are marketed through middlemen and agents. The War has shot up the price of raw materials and has handicapped the industry to some extent. There is scope for the co-operative movement in this industry. There are possibilities for developing this industry in the Northern Circars and in the North Arcot. The products are sold in Madras, Mysore, Hyderabad, Bombay and in the Central Provinces.

21. *Cigar manufacture*.—Cigar manufacture is an important cottage industry in districts like Madura, Trichy and East Godavari. A number of Hindus of numerous sub-castes and a few Muslims are engaged in this work which gives both part time and whole time employment throughout the year. The raw material is obtained from Guntur, East Godavari, Madura, Trichy, Salem and Coimbatore districts. The average income of a worker per day is Rs. 1-8-0 to Rs. 2. The cigars of Woriyur, Dindigul, Guntur and Cocanada are of superior quality and have an external market also. There are co-operative societies for cigar manufacture in Madura and East Godavari districts.

22. *Beedi manufacture*.—This industry is pursued in every district particularly in North Arcot, Chingleput, Trichy, Madras, Malabar, South Kanara and Godavari. It is both part time and whole time occupation. A number of Hindus and Muslims are engaged in it. Work is done by men and women at home and in small *karkhanas* owned by big and small dealers. The raw material which consists in tobacco powder and *beedi* leaves is obtained from outside the Province. Wages are paid on piece work basis at Re. 1 to Rs. 1-8-0 for 1,000 *beedis*. The South Indian *Beedi Workers' Association*, Madras; is helping the workers against exploitation by the middle men and the agents appointed by big capitalists. There is scope for co-operative movement in the *beedi* industry. The products are consumed mostly in the Province itself.

23. *Eucalyptus Oil extraction*.—This industry is pursued on the Nilgiris in Ootacamund and Coonoor taluqs. The distilleries are moved from place to place according to the availability of the leaves. About 3 or 4 persons work together at each distillery. The process of extracting oil is very simple. Since the actual workers have very little capital of their own they depend on the advances received from wholesale merchants of Ootacamund, Coonoor and Kotagiri and are obliged to them. The workers get about Rs. 2 a day each. Since there is a large demand for this oil the industry may be organised better particularly on co-operative lines.

24. *Oils and paints industry*.—This industry has come into importance as a cottage industry during the recent years. The chief centres are Guntur, Krishna, West Godavari, Coimbatore, Madura and Tinnevely districts.

The raw materials required are red, yellow, ochres, *etc.*, and turpentine and other chemicals. The ochres are obtained locally or from Madras; and the chemicals are obtained from dealers in Madras and Bombay. Work is done on a small scale at a few centres. The producers keep the technique a secret and clear large profits due to the non-availability of imported goods. Tenali in the Guntur district is the chief centre. The *olu* paints produced there by the *Sodhan* Paints Association are very popular. The association is contemplating the decentralisation of the paint industry throughout the Province with a view to meet the requirements of the whole Province. There is a bright future for this industry.

25. *Ordinary Pottery*.—Ordinary pottery industry is seen in almost every village throughout the Province. A sub-caste known as *Kummaras* and *Kusavans* is engaged in this work.

The principal raw material used is black clay and red clay which are available at water side at numerous places. The primitive wheel is still used by the potters. This wheel costs now Rs. 5. The pots are made by the primitive process and when they are half dried, they are baked in a kiln with cheap fuel.

The products usually consist in house-hold utensils. A few potters make crude cups, saucers, *hooka* tubes, *etc.* The demand for the products is only local. The average daily income of an ordinary potter is about Rs. 2. There are a few potters' co-operatives in some places like Madras and Vellore.

Tiles and bricks are made in several rural areas as seasonal work. The market for these goods is local.

26. *Glazed Pottery, Crucibles, etc.*—During the recent years, the manufacture of glazed and other superior kinds of pottery has come into existence on an increasing scale. North Arcot, South Kanara, Madras and Ramnad districts are noted for this work. The raw material required is white clay, gypsum, *etc.* These materials are either locally obtained or imported. The products made consist in tea pots, cups, saucers, jugs, vases, and other artistic articles of both eastern and western style. The pottery of Karigiri in North Arcot district was exhibited at several international exhibitions. The goods are sold both locally and in other districts. The average income of a worker is about Rs. 2 a day.

There are large possibilities for expanding ornamental potteries of improved design, and glaze. Minerals like white clay, felspar and gypsum are available in several districts in the Province. The Government also are taking keen interest in the ceramic industry. The School of Arts and Crafts, Madras, has a course in ceramics. The Department of Industries and Commerce has a Ceramic Expert. Schemes of development of pottery in Rayalaseema and Godavari district are in operation. Demonstrations in improved processes are conducted at selected centres. The Government are opening ceramic factories at some important centres.

In the East Godavari district crucibles are made by the potters for smelting metals. The raw materials required are graphite, china clay and borax crystals, which are locally available. The tools and appliances namely moulds of brass and wood, sieves of brass and mortars of stone are all locally available.

The workers usually work under capitalists or master workers. The wage earner gets about annas 10 to Re. 1 for a day of eight hours. There are a number of middle men in the business. The annual output is about Rs. 5 lakhs. The cost of production is about annas 4 per crucible and the retail rate is about annas 7. The middle men clear a large profit of about 25 to 30 per cent.

The market for the products is local and in the Punjab, *etc.* The lack of imported crucibles has helped the industry much. Though these crucibles are inferior to imported ones, there is much scope for improvement. The possibilities for co-operative organisation in this field are very large.

27. *Hand-made paper industry.*—Though hand-made paper industry existed in Anantapur district in former years, the industry declined. During the recent decades this industry was to be seen at institutions like National College, Masulipatam, and All India Village Industries Association, Wardha. During the recent years the Government have taken a keen interest in this industry. The scarcity of paper during the war period helped it to expand. The Department of Industries, Madras, have appointed a Paper Expert and have opened hand-made paper factories at Bezwada (Krishna district), Gazulapalle (Kurnool district) and Bugga (Cuddapah district). These units did good work. Demonstration parties are also sent round to show improved processes to paper makers. A number of institutions and individuals took to paper making. The raw materials consisted of waste paper, rag, straw, bamboo pulp, *etc.* The beating, lifting and glazing processes are all done by hand.

There has been a large market for hand-made paper due to general paper scarcity. Paper sold on an average at annas 12 *per* pound. The product though crude at

several centres was fairly useful for writing and printing. There are many paper making co-operatives in Vizagapatam, Krishna, Guntur, Cuddapah and other districts. The Government have recently wound up the paper making units and abolished the post of Paper Expert. Now that mill-made paper of India and elsewhere is coming into the market, it is to be seen whether hand-made paper industry will have a future as a supplier of the requirements of the average consumer.

28. *Soap making*.—Soap making as a cottage industry is pursued on a very small scale at a few centres, particularly Madras. The raw materials are purchased from local dealers. The soap maker works in his home or a small *karkhana* with his assistants. The product is chiefly washing soap and in a few cases toilet soap. The quality, particularly that of toilet varieties, is very poor and even harmful. The All India Village Industries Association, Wardha, is trying to popularise soap making out of indigenous materials. There are some institutions training youngmen in soap making. The industry has to go a long way to gain popularity before it could be organised. A beginning has, however, been made; for, a number of youngmen trained at the Soap Factory, Calicut and at the Benares Hindu University are active in the field.

29. *Toy and doll making*.—This is one of the most important industries of the Madras Province. Toys and dolls are made at numerous centres in several districts. A number of carpenters, potters and metal workers are engaged in this work. The products have a wide range in quality and variety. Some are crude while the others are polished. Some are useful for children to play with

while the others serve only as exhibits at household doll-and-toy shows during certain festivals like *Dasara* and *Sankaranthi* (*Pongal*). The products consist of traditional patterns and designs like human and animal figures and ordinary playthings. But the war has introduced many new patterns like aero-planes, tanks, guns and steamers. The lack of imports from abroad has helped the industry to develop in volume and variety. The toys and dolls made in the Province are generally of four varieties:—(i) wooden toys; (ii) clay or *terra-cotta* figures; (iii) metal toys; and (iv) cloth dolls.

(i) *Wooden toys*.—These toys are made at many centres which are either cities or places of pilgrimage. The most important centres are Kondapalle, Etikoppaka, Sringavarapukota, Tiruchanur, Iravadanallur, Palakode, Ambasamudram, Settigunta and Coonoor. Some carpenters and other Hindu sub-castes like *Baliya Chettis*, *Pullavars*, *Arya Kshatriyas* and some Muslims are engaged in this work. The wood that is used is a variety of light wood, white and coloured, peculiar to each locality. For instance, *raktachandana* and *palakarra* woods are used in Tiruchanur, *tellapoliki* in Kondapalle, *ankudu* in Etikoppaka, *ponnai* and *ilupai* in Palakode, *palakotai* in Iravadanallur and *silver oak* in Coonoor. The tools used are the ordinary ones used in carpentry for ordinary and skilled work. After manufacture, the articles are either lacquered on a wooden lathe or simply painted with colours. The lacquer is prepared by the workers by mixing lac with some pigments.

The products generally have a market during the festival season. They are sold at *depots* in cities and towns and fairs and temple squares. Some superior varieties like

Kondapalle toys which represent scenes from rural and urban life have a market extending over the other Provinces of India.

The worker earns about Re. 1 to Rs. 1-8-0 per day. The industry is not organised except at a few centres. There are a few co-operatives at Kondapalle, Etikoppaka and Tirupati.

The workers in general are much handicapped by the non-availability or slow transport of raw materials. This matter merits immediate attention of the Government. The lack of finance which causes the workers to depend on middlemen and merchants is another serious handicap.

The Government are taking some interest in this industry by organizing co-operatives and offering other facilities. The School of Arts and Crafts, Madras, gives training to certain toy makers in improved patterns and processes. The industry has a very bright future if it is properly organized.

(ii) *Clay and terra cotta work.*—There are numerous centres all over the Province where clay *terra cotta* work is done. The important districts are Pondicherry, East and West Godavari, Madura, Salem and Cuddappah. A number of potters are engaged in this work. The products consist of crude clay figures of men, animals, *etc.*, and also superior figures showing mythological *motifs* and day to day life. The moulds are cast in cement and then the figures are made. They are baked and painted in *kacha* or *pucca* colours. There is a large market for these products, particularly during the festivals. Before the war the Japanese competition was severe and the glazed Japanese figures were popular. Now, the absence of these products increased the demand for the local ones. There

is, however, a desire for glazed figures among the general consumers. It is desirable that the process of glazing is taught to the workers.

The industry is not organised. The demand for the products being seasonal, the workers are obliged to depend on middlemen and merchants.

(iii) *Metal toys*.—These toys are made at several places by metal workers like braziers and tinkers. The products consist of toy-utensils, and a few types of vehicles, etc. The tin products, are crude while the brass ones are a little polished. The market for these toys is chiefly at local fairs and festivals.

(iv) *Cloth dolls*.—Cloth dolls are usually made by women at home to amuse their children. But as a commercial proposition this is of recent origin beginning with the stopping of imports during war. Dolls of children, men and women beautifully dressed or of animals well shaped are made at a few centres by women. This is taught at a few institutions also. These dolls cost about Rs. 2 to Rs. 5 each. The market for them is, therefore, confined only to the well to do. There is a large scope for popularising this industry.

Toys and dolls in general, have an increasing popularity. They are sold at numerous *depôts* and emporiums in towns and cities and at exhibitions. It is essential that this industry should be organised and improved since, these art products have a marked influence on the minds of children as educators of the mind and preservers of the healthy traditions of the Nation.

30. *Ivory, Horn, Sandalwood, Palmyrah wood and conch-shell work*.—This group consists of art crafts in

which the production is limited only to a few centres and workers and the market too is rather confined to the well-to-do and art loving consumers.

(i) *Ivory, horn and sandalwood work.*—This work is done at Vizagapatam by a few families of *Viswa Brahmans* who have small workshops and paid workers. The raw materials, *viz.*, ivory, horn, sandalwood, and porcupine quills are either locally bought or imported by them from Orissa, Travancore and Mysore. The workers are paid on an average Rs. 1-8-0 to Rs. 2 a day. Several articles of high artistic value like caskets, images, combs, photo-frames, birds and animals, trays and paper weights are made by means of fine indigenous tools as a handicraft. The goods are sold in Madras, Bombay, etc., on commission basis. The demand for them was high during the war period, but has of late fallen considerably. The increase in production of articles like buttons, brooches, bangles, combs and chains for the middle-class consumers will probably help the industry to hold its own.

(ii) *Palmyrah wood work.*—During recent years a new art craft, *viz.*, palmyrah wood work has come into the field. At Pulla in the West Godavari handsticks, lathis and flexible snakes and other models are made out of polished palmyrah wood. There is a very large demand for these products which are strong and beautiful. The Police Department has placed large orders with the producers for lathis and canes. The industry is paying.

(iii) *Conch Shell Work.*—This is done at seaside centres like Rameswaram. The products consisting of bangles, rings, beads and chains are fine. So they have a demand from numerous pilgrims visiting the shrines of the South. The industry is pursued on a very small scale.

31. *Gur making*.—The chief centres for this industry are in East and West Godavari, Coimbatore, Malabar and Tinnevely districts. Gur is manufactured from sugar cane juice and palmyrah and coconut sweet toddy. In East Godavari the agriculturists extract juice from sugar cane and make *gur*. In the other districts sub-castes, such as *Kalalis*, *Nadars*, *Sanars*, *Tiyyas*, and *Izhuvras* are engaged in the extraction of sweet toddy and *gur* manufacture from palmyrah. Coconut *gur* is made in Malabar. These juices are extracted from the trees during certain seasons. *Gur* is made by boiling the juice in open earthen pots or iron pans. The workers being poor, they are in the hands of middle men and capitalists. The co-operative movement has not yet touched the industry.

The product is consumed partly as *gur* and partly as basic material for sugar refineries.

32. *Poultry keeping*.—Poultry keeping is done throughout the Province as a home industry in towns and villages. It is a subsidiary occupation of the women. The industry is not very expensive. The eggs are consumed by the members of the family generally, or are sold to other consumers occasionally. Poultry keeping on a commercial scale is seen at a very few centres. Eggs, *etc.*, are marketed on a large scale at these centres. There are egg co-operatives at Katpadi and Tangutur. These co-operatives handle large quantities every year.

The Government are taking interest in this industry by organising poultry farms and research stations and introducing new breeds like White Leghorns, Black Minorcas, *etc.* A number of Missionary Institutions are also doing some useful work in the field. Since the industry is of importance as a large source of food, it requires organisation

on a much larger scale than at present throughout the Province.

33. *Bee-keeping*.—This is a subsidiary occupation of some agriculturists and horticulturists throughout the Province, particularly the Godavari, Madras, North Arcot, Nellore, Tinnevely, Coimbatore, Nilgiris and South Kanara districts. Bee-hives which are locally made at a cost of about Rs. 5 each are kept at places in the field or garden convenient for the bees to swarm. The bees collect honey from the surrounding pasturage and deposit it in them. There is generally no dearth of pasturage in most districts.

The honey is extracted by means of an extractor which causes no wastage. The average yield of a hive is about 10 lbs. Wax is got as a by-product. The industry is in progress. From 1936 to 1943, there has been an increase of private hives from 1,008 to 10,267 in the Province.

Honey has a large demand. Only the industry should be properly organised. The Government are taking interest in this direction. There are ten bee-keepers' co-operatives at Pithapuram, Chengam, Puthur and other places with a membership of 588 in 1944-45. The Agricultural Department have sanctioned bee-keeping schemes, some demonstrators and other staff. The industry has a great prospect.

34. *Dairying*.—Dairying is a home industry in all rural areas and several urban centres. This is pursued by sub-castes such as *Gollas*, *Gowlis* and *Yadavas*. The milk of cows and buffaloes is sold by them locally. Butter and ghee, produced out of surplus milk are sold locally to a large extent. But in places like Tenali, Coimbatore, and Mayavaram, these products are manufactured on a commercial scale and exported to cities like Madras through

some local dealers. The margin of profit cleared by the city dealers is very large.

There has been dearth of butter and *ghee* in the Province due to War. . The price of butter and *ghee* has risen from Rs. 1-6-0 and Rs. 2 in 1939-40; to Rs. 7-8-0 and Rs. 9 respectively in 1946-47.

The industry is not yet well organised. There are a few dairying and milk supply co-operatives in some important towns and cities catering to the local needs. The Madras Milk Supply Union is the largest co-operative in the Province. The Agricultural Department also is doing useful work in improving the breed and milking qualities of live stock. The importance of milk and milk products is now recognised by all. Proper development of dairying will ensure a regulated supply of dairy products to all consumers.

35. *Oil pressing*.—This was one of the most important industries in olden days. But as a cottage industry it suffered much during the decades past due to mill competition. It is still pursued to some extent in many districts like Godavari, Tanjore, Coimbatore and Malabar. The sub-castes engaged in it are *Telis, Vanigars, etc.* The raw materials used are gingelly, ground-nut, coconut, mustard, castor seeds, *etc.*, which are all available in the Province itself.

The wooden *chakku* or *ganuga* (*ghani*) is used. The *ghani* costs Rs. 150 to Rs. 200 and the bullocks cost about Rs. 300 to Rs. 400. This oil is used chiefly for edible purposes and to some extent for industrial purposes like soap and lubricant manufacture and lighting. The oil and oilcake are generally locally sold, except in the case of

Samalkota and Mayavaram gingelly oils which are sent to Madras also.

During recent years, mill competition has been severe. The superiority of *ghani* oil to mill oil on nutritive ground is now recognised. Hence popular favour towards *ghani* oil is revived.

The industry needs organisation. There are a few co-operatives in Madura district, *etc.* The All India Village Industries Association is doing useful work in this line.

36. *Fishing and fish curing.*—Fishing is one of the most important food industries of the Province. This is pursued in very many sea-side villages all along the east and west coast of the Province. It is also pursued though on a smaller scale in various river and canal areas and lake regions like the *Kolleru* lake region in the West Godavari. Sub-castes known as *Pallis* and *Sembadavans* are engaged in this work. Fishing on the west coast (Malabar) may be said to be more intensive and extensive than on the east coast. There is a very large variety of fish available in the inland and coastal water regions.

The fishermen make their own nets of various sizes and shapes for fishing. They go in batches or single for fishing and return home by sunset with their catches. The women sell the fish fresh at the landing spot or at the local market. The price of fish varies with the season and the supply. It ranges from six pies to eight annas *per* pound. The price is lower at the landing ground. A number of merchants and middlemen purchase fish from the fishermen and export it in ice to other centres by rail, *etc.*, and clear large profits thus.

The industry is not well organised. There are very few fishermen's co-operatives and even they are not very

satisfactorily working due to lack of knowledge and education among the members.

The Government are taking interest in this industry. The Fisheries Department has opened fish ponds, *etc.*, to improve and increase the supply of stock in the fishing regions.

About 40 per cent. of the catches only is consumed in a fresh state. Since all the fish cannot be consumed in a fresh state immediately, the need for curing fish for preservation has always been felt. Fish curing on a cottage industry scale has been in existence in the Province from a very long time. It is pursued even now at a number of large fishing centres all along the coast line. Curing is done by cutting the fish and salting it. The process adopted in general is crude. The Government are promoting proper development of curing by providing fish curing yards and also salt at cheap rates. There are now 65 yards in which 1319 curers work on a cottage industry basis. In 1945-46 some 21,26,560 maunds of fish was cured with 3,35,644 maunds of salt in the 65 curing yards. Scientific curing preserves the taste of the fish and facilitates export to large markets.

There is a very large scope for organising and developing the industry on co-operative lines on the production and distribution sides. It is also essential to give better transport facilities to the commodity for long distance movements. Organisation on these lines will bring the producers and the consumers into direct contact with each other and avert food deficiency in the land.

37. *Paddy husking.*—Paddy husking is one of the most important food industries in the Province. About half a century ago, hand pounding of rice was in vogue. The advent of rice mills during recent decades has affected the home

industry. The use of mill polished rice rapidly became the fashion among the rich and the poor in towns and villages. There are at present 3,529 rice mills—small and large—in the Province. 70 per cent. of the population use milled rice and only 30 per cent. hand-pounded rice. Public health suffered much due to the absence of vitamin B in the milled rice.

Nutrition research conducted in South India during recent years pointed out the need for a change in the habit. The Rural Reconstruction Movement also favoured hand pounding of rice for social and economic reasons. In consequence, paddy husking by hand pounding or by the use of the wooden *chakki* has received some impetus. At numerous centres this cottage industry is seen now. The All India Village Industries Association is doing much for popularising this industry in rural and urban areas. There are nine co-operatives in the Province for hand pounding of rice. There is a large scope for organising this industry on co-operative lines. Due to the controls and rice rationing, this cottage industry received some set back during the past two or three years. The raising of these controls and rationing will certainly give an impetus to the industry.

38. *Miscellaneous industries.*—There are numerous other cottage industries of varying importance like gold and silver smithy, perfumery, mica-splitting, pith hat and garland making, flower and vegetable gardening, *Kumkum* making, tooth powder making, bangle making, cotton ginning and pressing, soap, stone work. These industries employ a fairly large number of people. Some of them are pursued on co-operative lines but most of them are carried on on capitalistic lines, the workers working under a master workman or a merchant. There is a vast scope for organising these industries on proper lines.

3. INDUSTRIAL CO-OPERATION¹

There are three kinds of industries:—(i) Large scale industries, (ii) Small scale industries, and (iii) Cottage industries. Large scale industries require extensive lands, huge buildings, large capital and many labourers, Instances of this kind of industries are the spinning mills, the industrial workshops, the cement factories, etc. Small scale industries are those which involve less capital and employ fewer labourers. Yet, they too undertake productive enterprises in a factory, where labourers work together. Instances of small scale industries are cigar factories, workshops manufacturing household metal ware, leather works manufacturing boots and shoes, etc. Cottage industries on the other hand are small scale industries conducted in the homes of the producers. In this variety of industries, labourers do not congregate in one common building; nor do they work at fixed hours under the orders of a foreman. Here, the father, the mother and even the children participate in the production of goods at hours most convenient to them and without the fear of the foreman's rod. I am not going to deal now with large scale industries, although some of them have been undertaken on co-operative lines, like the manufacture of sugar by the Co-operative Sugar Factory at Podanur. I shall confine my attention to cottage industries and small scale industries which lend themselves more easily to co-operative effort than large scale industries in which the motive for profit is a potent force for securing efficiency.

Handloom weaving.—The most striking example of cottage industries in India is handloom weaving, which is

1. By kind permission of Rao Bahadur J. C. Ryan, Registrar of Co-operative Societies, Madras.

done in thousands of houses situated in towns as well as villages. Although production in the home is most congenial to family life, experience has shown that for development and progress each family of producers cannot afford to be independent of its neighbours. Yarn has to be obtained, finished goods have to be marketed and more capital than a family can afford has to be secured. Consequently, families of handloom workers, group themselves under co-operative societies, usually at the rate of one per village or town. With the help of this organisation, they obtain more capital on easy terms, and larger supplies of yarn at whole sale rates. This organisation also enables them to dispose of the finished goods in the most paying markets at the most advantageous rates. There are now (1946) in Madras over 300 co-operative handloom weavers' societies, where about 30,000 handlooms are at work. Realising that if union at the bottom in the village or the town, provides strength, union at the top in the metropolis, should furnish greater strength, all these handloom weavers' societies have federated together in the Provincial Co-operative Handloom Weavers' Society at Madras. This central organisation provides yarn to the local units and takes over the finished products for sale through the emporiums of which there is at least one in every district. This elaborate organisation of the handloom industry on a co-operative basis now produces and markets about 2 crores of rupees worth of handloom products in a year.

The largest weavers' co-operative society in the province is the one situated at Yemmiganur in Bellary District. It commands about 1,000 handlooms and produces about 3 lakhs of rupees worth of goods per annum. The articles

II] MADRAS: INDUSTRIAL CO-OPERATION

manufactured by it are of innumerable varieties like towels, sheets, *sarees*, shirting-cloth, suiting-materials, table-linen, furniture covers, etc. It has its own dye-house for dyeing yarn, its own designers for inventing and introducing new patterns, its own carpenters for manufacturing pit looms as well as frame looms. Its products obtain a ready sale not only at the emporiums of the Provincial Handloom Weavers' Society, but also at the hands of private traders.

Emboldened by the strong reserves which it had built up during the last 3 years, it has recently launched an ambitious enterprise. Dissatisfied with the conditions of housing in the village, it has planned to acquire about 70 acres of land on the outskirts of the village in a compact block. This area is to be provided with roads, common wells, public latrines and a park. One hundred houses are to be constructed costing about Rs. 2,500 each. The society is to have its own building on the new site with a yarn-room, a finished goods store, a show-room, a library and a recreation room. This building will also have two halls one of which is to be used for sizing operations and another for trying out new patterns on 40 frame looms. Government have been pleased to supplement the resources of the society with a loan of one lakh of rupees for the construction of the dwelling houses which will be allotted to 100 members of the society. When the loans are paid off by the members in a period of 20 years out of their wages, they will become the owners of these houses. In place of rented dwellings situated amidst filthy surroundings, they will have houses of their own built on modern lines with proper drainage and other facilities. The houses will accommodate four looms

each and handloom weaving will continue to be carried on, on the existing basis of a cottage industry at which the members of the family work according to their own convenience.

Leather goods manufacture.—While the Yemmiganur Weavers' Co-operative Society provides a glorious illustration of a co-operative society which promotes a cottage industry retaining its cottage character, the Kumbakonam Leather Workers' Co-operative Society is an example of a Co-operative Society which promotes leather goods manufacture on a small scale in a factory. The members of this society work together during fixed hours in a common workshop under the supervision of the president of the society. Machinery, tools and implements are provided by the society. Raw materials are distributed to the members according to the type of leather goods which they have to make. Wages are fixed at so much per article. When the members have manufactured the goods, the society takes charge of them and arranges for their sale either at the premises of the society or through the Provincial Co-operative Marketing Society situated at Madras. A qualified leather instructor is provided for the society by the Provincial Co-operative Bank for introducing improvements in the manufacture of leather goods.

The number of workers in the society is gradually increasing; for they realise that the work provided is steady and the wages paid are liberal. The bonus given at the end of the year on wages earned is an additional attraction which can never be had from either a consumer who employs them casually or from a trader who employs them for a longer period. Consumers who wish to have specified patterns of goods and traders who require numerous articles of the

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same variety now book their orders with the society and the latter supplies them their requirements within the appointed time. When sufficient orders are not booked in this manner in advance, the society manufactures goods on its own account for the open market.

Women's Co-operatives.—While the Handloom Weavers' Co-operative Society and the Leather Workers' Co-operative Society provide its members with full-time work on small scale industry, the women's co-operative societies in Madras provide their members with part-time work on such industries. Usually, women cannot undertake full-time work, for they have to attend to their family duties and look after their children. Yet they need some occupation during their leisure hours to enable them to supplement their husbands' income or to earn a little pocket money. They have therefore grouped themselves under seven women's co-operative societies in the city, each member subscribing at least a share capital of Rs. 5. With the funds so gathered, and with the addition of borrowed funds from the Central Co-operative Bank, the members of these societies do tailoring work on cloth purchased and distributed by the society. Twice in a week, the members meet in the society's premises and take from the society's tailoring instructor their quotas of cloth for being worked into pillow cases, or handkerchiefs, or blouses or shirts. They do their work in their own homes during their off-hours and bring the goods to the society for sale either at its premises or through the Provincial Co-operative Marketing Society. There are some members who have earned Rs. 20 to Rs. 30 a month in this way. Some of them have invested their earnings on new sarees or jewels and go about with the additional joy of having acquired them out of their own earnings. The example of the

women's societies in Madras has been taken up by Trichinopoly, Madura and Vellore; and, with their increase in numbers, many a home in the country will become happy.

Government five-year plan.—Towards this end of introducing increased happiness in every home, Government have under consideration a five year plan for the organisation of women's co-operative societies in the Province on a large scale. They have also another scheme under their consideration for the improvement of cottage industries among men on a five year plan. When both these schemes are finally approved and initiated with financial and other help from Government, the future of the progress of the cottage industries in this province on a co-operative basis will indeed be bright. What is needed is only a will to work on the part of the members like comrades in a common cause.

“Attempts to re-organise village industries on a more profitable basis should not be undertaken sporadically or fortuitously. To avoid mistakes which may well plunge small craftsmen into still deeper difficulties than now, it is very necessary that a systematic inquiry should be made into the economic conditions of any industry that may be taken up.”

REPORT OF THE MACLAGAN COMMITTEE
ON CO-OPERATION IN INDIA, 1915.

VII. NORTH WESTERN FRONTIER PROVINCE

1. GENERAL FEATURES

The North-Western Frontier Province lies in the extreme north-western part of the country. It became a Governor's province in 1922. Under the Government of India Act, 1935, it became an autonomous province with a Governor a unicameral legislature and a Cabinet of Ministers. The Congress Ministry was formed in 1937 and continued till 1939, when under Section 93 of the Act the administration passed into the hands of the Governor and his Advisers. Popular ministry was revived in 1946 after the war. In the division of India the Province forms part of Pakistan.

The Province is 36,356 square miles in area with a population of 30,38,000 in 1941. The majority are *Pathans*, and the chief language is *Pushtu*.

The province is rugged and mountainous with an extreme variation in climate conditions. It has two seasons of rainfall, both of which are precarious, the annual average being 45 inches, in Hazara district and about 13 inches in rest of the province.

The Province is mainly agricultural. There are practically few important manufactures in it. Its commercial importance lies in its position as a trade route from Central Asia to India. The cultivated area is only 25 per cent. of the total area. Wheat, barley, maize and *bajra* are the chief food crops while pomegranates, grapes and apples also grow abundantly.

Though the Province has a railway line of 375 miles, pack horses, camels and motor lorries are the principal conveyances in the Province.

Peshawar is the capital.

The revenue and the expenditure of the Province in 1945-46 were Rs. 2·7 crores and Rs. 2·8 crores respectively.

There are a few cottage industries in the Province which are mostly utilitarian.

2. GENERAL CONDITION

The Province is not much advanced industrially. There are not many large scale industries; very few of them are of private enterprise. There are some cottage industries in the Province which though suffering from several handicaps and lack of enough state aid are, however, pulling on to some extent. The following is an account of the present position of some important cottage industries in the Province.

Cotton Spinning and Weaving.—Cotton spinning and weaving was at one time a wide spread industry in the southern parts of the Province. Cotton was widely grown and the women ginned, carded and spun yarn. About 1925 some 40,000 acres was under cotton cultivation. Long staple cotton used to be grown in Swat. But by 1940 the area had dwindled to half of it. Efforts have to be made to extend cotton cultivation again. The skill in weaving is still in existence although the earlier processes have now practically disappeared. The weavers are using mostly mill yarn, imported from other parts of India and abroad. About 1940 some 24,000 Mds. of cotton twist and yarn and 48,000 Mds. of piece-goods were imported into the Province. From the change over of the hand spun yarn

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to mill yarn the Province has definitely lost much employment. There is a Government Hand-loom Weaving Institute where weaving is taught to students by improved processes. Efforts are being made to work out a cotton spinning centre exclusively in the Province.

2. *Woollen Industry*.—Manufacture of woollen goods is one of the most important industries of the Province. Wool is produced all over the Province particularly in the hill tracts. It is imported from the Frontier Tribal Areas and States also. The average annual production of wool is estimated at 40,000 Mds. Out of this only 5,000 Mds. is used in the Province and the balance is exported. 8,000 Mds. of goat hair is also available, out of which one-third used to be exported to U.S.A. for making beltings, etc., and the balance was used in the Province for rope making, etc. The quality of wool is not high. Spasmodic attempts at improving the quality by introducing Angora goats and cross breed Merino with the local sheep have been made. Regular attempts to produce better quality are yet to be made. Grading of wool and improved process of weaving will help the industry much.

The workers are very skilful. They only require guidance and direction. The *Gujjars* of Kaghan and the workers of Swat produce very fine blankets, but the designs are very crude. The making of *Nakhai*, pile-carpets, etc., is a highly skilled occupation in which large numbers of people are engaged. People make their own garments in villages from their own wool. The advent of cheap jersies, socks, collars, etc., from Japan and Germany caused this garment industry to decline. Khagan, Bhogarmang, Siran Valleys in Kohat, Hazara, Peshawar, and Dera Ismail Khan districts are important centres for this woollen industry.

The industry has a bright prospect if the Government goes to its aid.

3. *Tanning*.—The Province imports 1,00,000 heads of cattle annually for slaughter or agricultural purposes. The hides and skins of these slaughtered animals as well as those brought in from the Tribal territories are to a large extent exported to Amritsar, Wazirabad, Sialkot, Jullandar, Cawnpore and other places. About 40,000 Mds. of buffalo hides and 30,000 Mds. of cow hides are available annually. But only 10,000 Mds. is used locally. 45,000 Mds. of goat and sheep skins is available while only 2,000 Mds. is used locally. In spite of this large availability of hides and skins 40,000 Mds. of half-tanned and full-tanned leather and 3,000 Mds. of half-tanned skins are imported into the Province. This shows that there is much scope for improvement of tanning industry in the Province. Tanning materials like lime, and bark are available in the Province. Large quantities of babul bark and pine bark are imported from the adjoining Provinces and Tribal areas. The local materials could very well be used in their place. Muslim Chammarangs are engaged in the tanning industry. Their processes are primitive and uneconomical. Hence their products are somewhat inferior. Government aid by way of teaching improved processes and financial accommodation would help the tanners a lot. The tanning industry is scattered, but Peshawar, Haripur, Bannu and Dera Ismail Khan are important tanning centres.

4. *Oil Pressing*.—Oil seeds are not cultivated widely in the Province. Rape seed and *til* seed are the two varieties available in the Province. Oil pressing is done by bullock driven *ghanis* in numerous villages but the conditions of the industry are very deplorable, since work is done under

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unhygienic conditions. The chief impediment to the industry is the obtaining of seeds in the villages. Merchants purchase the entire stock at harvest time and sell it at high prices in towns. The poor village oil-presser is obliged to get his raw material from the towns. This industry can be improved if along with the demand for the oil, other side industries like manufacture of lamp oils, paints, varnishes, soaps, etc., could be developed. There is a wide scope for the use of oil cake as excellent fodder and valuable manure. Dera Ismail Khan, Mardan, Haripur and Kohat are very important areas of the oil industry.

5. *Gur making and Sugar Manufacture.*—*Gur* making was an important industry in the Province. In Peshawar valley about 40,000 acres and in Mardan district about 23,000 acres are under sugar cane. Sugar cane juice is extracted, converted into *gur* by the indigenous processes. In Mardan and Char Sadda alone over 10 lakhs of Mds. of *gur* is produced annually. The product is very crude and requires much improvement by introduction of better processes of extraction and boiling. Sugar making has not been till recently a very important industry in the Province. Of late the demand for sugar has increased on account of the habit of taking tea. The Province imports 6,70,000 Mds. of sugar annually. There is a sugar factory in the Province. This has narrowed down the scope of *gur* making and sugar manufacture out of sugar cane in the Province. It is desirable that the cottage industry in respect of sugar supply should be encouraged. *Gur* is made from date palm also, in the southern districts especially in Dera Ismail Khan and Bannu where there are many wild date palms. This palm sugar manufacture is not done on a wide scale

in spite of its nutritive and medicinal qualities. There is a wide scope for the development of this industry.

6. *Bee-keeping*.—There is a large scope for honey making in Hazara, Swat and other hilly parts of the province. At present honey is collected particularly from the jungles and also by constructing hives in the walls of houses. Extraction of honey is done in a very crude, wasteful, and unhygienic method. If proper training is given by the Government bee-keeping as a cottage industry can be developed on a very extensive scale.

7. *Dairying*.—Milk and *ghee* making are very important industries in the Province. In Kaghan valley shepherds keep large flocks. They produce *ghee* and sell it in the neighbouring districts. Over 50,000 Mds. of *ghee* is brought into places like Mardan, Peshawar and Dera Ismail Khan from Tribal areas. The product is usually a mixture of buffalo's, cow's and goat's *ghee*. *Ghee* is packed in goat skins. This system of packing calls for improvement on hygienic grounds. Fodder supply is a very keen problem in the Province, since generally speaking grazing land on the hills is both scanty and scarce. Improvement in this direction by the Government is essential. The Province produced very large quantities of milk in 1937. The military alone were supplied about 7½ lakhs lbs. of cream and 15 lakhs lbs. of milk. Milk drinking is being gradually replaced by the tea habit. The Government are taking some steps to wean the people from this tea habit.

8. *Paddy Husking*.—Rice is grown in about 40,000 acres—chiefly in the Hazara and Peshawar districts and Kurran agency and in the river valleys in small quantities in most of the districts. Dehusking is generally done by

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Dhenkis (*Pecos*) worked by water mills. Several thousands of these water mills scattered all over the Province especially in the Hazara, Peshawar and Mardan districts afford cheap form of mechanical aid to the villager. Therefore dehusking with the aid of water mills ought to be encouraged in the Province. Unfortunately the Government rules appear to discourage their use. It would be a great benefit to the artisans in the Province if these restrictions now placed on the water mills are removed. Urgent action in this direction is needed in view of the tendency for the rise of large scale power mills which are sure to replace these small units if the latter are not protected.

9. *Flour Milling*.—Like paddy husking, flour milling also is done with the aid of the small water mills. Power driven flour mills are threatening these small units and the Government restriction on water mills is handicapping flour milling also. Protection required for paddy husking may also be given to flour milling.

10. *Poultry rearing*.—About 40 million eggs are consumed in the Province annually, and 10 millions are exported. Eggs form a very important item in the dietary of the villagers. The local birds are not equal to the cultured breeds in laying power. At the same time it has not been possible to acclimatise imported varieties like Leghorns and Minorcas in the Province. There are a few co-operative organisations marketing the eggs. The Co-operative Egg Grading Society is reported to have dealt with 43 lakhs of eggs in 1937. Marketing of eggs is largely in the hands of women who supplement their income by selling eggs. The export of eggs through co-operative enterprise has resulted in decreasing the food supply of the people in the Province. It is advisable that the co-

operative movement should help the Province to organise the supply of eggs for feeding the entire Province and not to drain away the food to other parts of the country.

11. *Pottery*.—Most villagers have their supply of pots made locally. Good clay is available in many places particularly at river beds. Varieties of clay and stone useful for glazing pottery, making water-pipes, etc., are available locally. At present there are only a few potters who make glazed ware of a crude type. The workers are highly skilled but they are handicapped for the lack of information regarding glazing materials and processes and also lack of training in the production of new types of pottery. Lack of systematic analysis of the clays, in the Province is another important handicap. Cheap machine-made metal vessels—for instance, aluminium, brass and enamelled ware—are keenly competing with the indigenous pottery. If the industry is organised, the indigenous varieties can be popularised and produced on a commercial basis.

12. *Soap-making*.—Soap-making on a small scale exists in the Province. The Province produces very large quantities of *Sajjika*, especially in Dera Ismail Khan from lime stone and oil from oil seeds. Caustic soda itself may be easily produced at the Salt Ranges. Indigenous soap industry has to meet very keen competition from imported soaps. It is essential that soap-making from the indigenous materials should be popularised.

13. *Wood work*.—Wood work is an important industry in the Province. Valuable wood such as *shisham*, walnut, olive ghaz and mulberry is available either in the Province or from the tribal area. From these all kinds of furniture and other useful articles are made. *Tonga*

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building is the most important wood industry in Peshawar. These *Tongas* which are well-designed have a good market in Hazara and other parts of India. The advent of automobiles has caused this industry to decline to some extent.

At Dera Ismail Khan and at Peshawar beautiful lacquer work is done. The lac itself is imported from Amritsar. The possibilities of lac culture in the Province have to be investigated.

3. INDUSTRIAL CO-OPERATION

In N.W.F. Province, the following industries are being worked on a co-operative basis, giving employment for about 600 people:—

| Name. | No. | Membership. | Working Cap. |
|------------------------------------|-----|--------------------|-------------------------|
| 1. Weavers' Co-op. Societies. | 13 | } 259 ¹ | Rs. 12,739 ² |
| 2. Carpenters' Societies. | 2 | | |
| 3. Mochies' (Shoemaker) Societies. | 2 | | |

The yarn for weavers' societies is supplied on a quota system previously sanctioned by Government.

These societies get their financial aid from Frontier Co-operative Bank, Ltd., Peshawar, and they sell their products in exchange for yarn. There is under contemplation, the formation of a number of societies, such as black-smiths', pot-makers' societies and spinners' association, etc. The other two types of societies (carpenters' and shoe-makers' societies) buy their materials themselves, and dispose of their finished articles in open market.

1. 239 last year.
2. Rs. 9,306 last year.

Working of Industrial Societies:

“A sum of Rs. 12,365 was advanced as loan to 76 members as compared with Rs. 11,706 to 158 members last year. The amount of loan at the beginning of the year was Rs. 8,449 as compared with Rs. 11,075 at the end of the year. This loan is due by 111 members. Out of Rs. 20,814 in principal, Rs. 9,739 was recovered. It forms a percentage of 46.8. Amount of overdues is Rs. 3,100 in principal and Rs. 906 in interest. Only one society has shown loss of Rs. 302 on account of suspense interest. Lending rate is 12½ per cent. per annum. The amount of deposit is Rs. 273 as compared with Rs. 146 last year. No interest is paid on deposits. The amount of share money is Rs. 1,066.

Three societies were cancelled during the year, as they ceased making the supplies of *chaplis* to Defence Department for which purpose they were started.”

Co-operation touches no man's fortune; seeks no plunder; enters into no secret associations; it contemplates no violence; needs no trades union to protect its interests; it subverts no order, envies no dignity; it accepts no gift; nor asks any favour; it keeps no terms with the idle and it will break no faith with the industrious. It is neither mendicant, servile nor offensive; it has its hands in no man's pocket and does not mean that any other hands shall help, self-dependence and such share of the common com- help, self dependence and such share of the common com- petence as labour shall earn or thought can win.

—HOLYOAKE’

VIII. ORISSA

1. GENERAL FEATURES

Orissa formerly formed part of the Province of Bihar and Orissa. In 1936, it was constituted a separate province, with a uni-cameral legislature, a Governor and a Council of Ministers. Popular Government came into effect with the formation of the Congress Ministry in 1937. In 1939, this Ministry went out of office and the Advisers' rule under section 93 of the Government of India Act came into being. In 1941, the Parlakimedi Ministry came in. This yielded place to the Governor's administration in 1944. Popular Government again came into existence in 1946. In the present division of India Orissa forms part of the Indian Union.

The Province has an area of 32,400 sq. miles and population of about 81,74,000 in 1941, of which the majority are Hindus. Due to its situation on the east coast, the Province is not subject to extremes of cold and heat. The average rainfall is about 57.5" per annum.

The chief languages are Oriya and Telugu.

Agriculture is the principal occupation engaging about 70 per cent. of the population. The principal crops are rice, jute, pulses, sugar-cane and turmeric.

There are few large industries in the Province other than mining. Iron ore, lime stone, manganese and mica are mined in large quantities. Fishing and fish curing are done on a very large scale along the coast.

The Province has about 1,453 miles of road and 500 miles of railway line. Cuttack is the capital of the Province.

Orissa is noted for numerous cottage industries, some of which are noted for the skill and craftsmanship of the artisans. The total receipts and the expenditure of the Province in 1945-46 were Rs. 2,94,33,000 and Rs. 3,03,01,000 respectively.

2. GENERAL CONDITION

Handloom industry is the prince of all the cottage industries in Orissa. About 2 per cent. of the total population of the Province belong to weavers class. The weavers of Orissa have a reputation for weaving art textiles and fabrics of finer counts but their present deplorable condition is due to the fact that facilities are not available to them for supply of yarn of required qualities at fair prices and to train them to use appliances of improved types to improve their economic condition. With a view to develop the hand-loom industry of the Province, the following organisations have been started by the Government.

Textile Marketing Organisation.—This organisation has its central office at Cuttack and branches in the districts of Ganjam, Puri and Sambalpur in charge of a Business Manager. It provides employment throughout the year to a selected number of about 1,000 weavers through master weavers and co-operative societies in different weaving centres of the Province. It distributes yarn of different shades and counts to weavers according to standard specifications for weaving fabrics of improved types and collects the fabrics by paying standard wages and manufacturing commission and after finishing and labelling sells the same at fixed prices through selling agents and sales depots in and outside the Province. This organisation was started in the year 1941 with a working

capital of Rs. 39,000 which rose to 3½ lakhs of rupees in the year 1945-46. Similarly the annual sale of fabrics of improved pattern which was Rs. 18,000 bp 1942-43 rose to 4 lakhs of rupees in 1945-46. This organisation is expected to be self-supporting in the near future and to attract the business men in hand-loom industry to follow this model trade organisation and to conduct their business through controlled channel for the improvement and benefit of both the weavers and themselves.

2. *Weaving Demonstration Parties.*—There are four Weaving Demonstration Parties in the Province, each consists of a Weaving Supervisor and 5 Weaving Mistries. Each Mistry is posted to a weaving centre. There are about 50,000 hand-loom in the Province and most of them are of the crude types handed over to the weavers by their fore-fathers. A fly shuttle loom can produce over 50 per cent. more cloth than the primitive one and it can also weave wider cloth and better designs which cannot be done in a throw shuttle loom. The main duty of the Demonstration Party is therefore to train the weavers in the use of improved looms and appliances and in the weaving of fabrics of improved types.

3. *Weaving Schools.*—There are also two or three weaving schools in the Province to impart training to the sons of weavers according to prescribed syllabus in practice and theory for 2 years so as to enable them to pass out as Instructors and Supervisors and thereby to remove the acute shortage of skilled workers for the improvement of the hand-loom industry. Stipends are also given by the Industries Department to candidates for higher training in India and abroad for the Diploma courses in textiles.

The hand-loom industry of Orissa has a bright prospect if developed on right lines. At present it is a deficit province. As regards the production of cloth in the near future when the yarn supply position will improve and the weavers will adopt the use of improved looms and appliances there is every possibility for this province to be a superfluous one for the production of cloth and then this province will be in a position to export art textiles to other Provinces and abroad and thereby will fetch for the skilled weavers higher wages; and thus the earning capacity of the weavers will increase considerably together with their reputation for weaving artistic fabrics which are the specialities for Orissa having no competition either by mills or hand-loom of other Provinces of India.

3. INDUSTRIAL CO-OPERATION

Industrial co-operation was not new to the Province though it was a rarely pursued activity. The Bhogamadhab Weavers' Co-operative Society was started in the Jaipur area as early as 1914 with a view to help the weavers in obtaining raw materials, producing cloth and marketing the finished product. No successful additions were made until 1936-37 when, under the Government of India Subvention Scheme for handloom weaving, three weavers' societies were started in Cuttack and Khurda sub-division. They received credit accommodation from the central banks. Two weaving supervisors for maintaining yarn accounts and helping the weavers in producing and selling the cloth were appointed. A weaver organiser also was appointed to carry on propaganda. There was an appreciable increase in the number of Weavers' Societies particularly in cotton weaving. There were only two

II] ORISSA: INDUSTRIAL CO-OPERATION

Devanga Weavers' Societies at Berhampore and Olsing which did silk weaving.

In 1940 there were in North Orissa and South Orissa respectively 43 and 3 societies with a membership of 726 and 177 and a working capital of Rs. 40,797 and Rs. 5,016. Their profit was Rs. 874 and Rs. 163 and their loss Rs. 1,914 and Rs. 5 respectively. They were in a moribund state due to over financing in the past.

The War has, however, given them a fillip. There has been an increase in the number of Weavers' Societies to 78. They supplied war requisites to the Military departments in keen competition with middlemen contractors. It was to their credit that they produced two-thirds of the war textiles as against one-third of the contractors, securing for the Province the third rank in Indian provincial war textile production.

During recent years numerous other varieties of industrial co-operatives also have come into existence as follows:—

| Variety of societies. | No. |
|-----------------------------------|---------|
| Fishery Co-op. society | .. 12 |
| Oil Pressing society | .. 7 |
| Artisan society | .. 5 |
| Shoe-makers' and tanners' society | .. 4 |
| Salt manufacturing society | .. 2 |
| Bell metal society | .. 1 |
| Paper making society | .. 1 |
| Home Industries society | .. 1 |
| Press society | 1 |
| Horn workers' society | .. 1 |

COTTAGE INDUSTRIES OF INDIA

[SEC.

| | | |
|---------------------------|----|---|
| Filigree workers' society | .. | 1 |
| Electric workers' society | .. | 1 |
| Tailors' society | .. | 1 |
| Confectioners' society | .. | 1 |
| Bee keepers' society | .. | 1 |
| Co-op-Hat Factory | .. | 1 |

Some of these societies are engaged in production side of goods, while the others are engaged in co-operative purchase and distribution of raw materials. It has been found from experience that supply of credit has not been to the real benefit of the artisans since they wasted the money on vices. Hence the policy of supplying raw materials and tools to the artisans has been adopted. In certain industrial co-operatives like the Hat Factory, Salt Society, oil pressing and textile weaving societies wages also are advanced to some extent. Some of the very recent societies have not yet begun to function properly for want of finance and materials. The Provincial Government again came into existence in 1946. In the present to help the societies in the initial stages.

The scope and structure of the Co-operative Movement depend on the social and economic requirements of each nation. State action and individual enthusiasm doubtless make their contributions.

—C. F. STRICKLAND.

IX. THE PUNJAB

1. GENERAL FEATURES

The Punjab, the Land of the Five Rivers, occupies the north-western part of India. It became a Governor's Province under the Government of India Act 1935 with a bicameral legislature, a Governor, and a Cabinet of Ministers. Popular Government has been in existence in the Province ever since. In the present division of India, the Province is divided into two parts—the East Punjab joining the Indian Union and the West Punjab forming part of the Pakistan.

The Province was 99,200 sq. miles in area before the division, with a population of 2,77,70,000 in 1941; of which Muslims constitute about 50 per cent. and Sikhs and Hindus the rest. Punjabi is the chief spoken language of the Province.

The tract though partly mountainous has some fertile parts with a copious rainfall. The climate is dry with extremes of heat and cold and scanty rainfall in certain tracts.

Agriculture is the chief occupation for about 65.5 per cent. of the population. Wheat and gram are the important crops, the other crops being barley, millets, oilseeds, cotton and sugar cane. The Province is also rich in live stock.

The large scale industries of the Province are textile spinning and weaving, manufacture of cement, paper, sugar, carpets and vegetable oil.

The Province has 26,000 miles of road including 5,000 miles of metal road, and 7,000 miles of railway and 150 miles of navigable canal. Lahore is the capital and Amritsar and Simla the other important towns of the Punjab.

The revenue and expenditure of the Punjab in 1945-46 were Rs. 21.2 crores and 19.3 crores respectively.

The Province has numerous cottage industries, many of which are of artistic value.

2. GENERAL CONDITION

The Punjab, the Land of the Five Rivers, is noted for its cottage industries. These industries which are pursued both in rural and urban areas consist of numerous art crafts like ivory carving, wood carving and metal inlay work, and utilitarian industries like cloth weaving, utensil making and basket weaving. The following is a brief account of the cottage industries in the Province:

1. *Khaddar spinning and weaving.*—The *khaddar* industry is probably more important in the Punjab, than in any other province. The climate of the Punjab being somewhat cold, the people require coarse clothing. *Khaddar* is well suited to the needs of the people. Therefore the *khaddar* industry is pursued in the Province very largely as a home industry. The count woven is very coarse, not exceeding 10s. The raw material is obtained locally. It is estimated that out of about 60 million lbs. of yarn consumed in the Punjab, over 35 million lbs. is hand-spun yarn. Most of the cloth produced is for self use as in Assam.

2. *Mill yarn hand-loom weaving.*—The use of mill yarn for handloom weaving is seen at numerous centres in

the Province. Weaving is done mostly as full time occupation. There were about 3,55,000 weavers in the Province about 1941. There were about 2,84,205 handlooms in 1940 out of which about 2,45,000 were cotton looms. About 2,71,000 looms were throw shuttle looms, which fact shows that weaving is very slow in the Province. Hoshiarpur, Jullundur, Ludhiana, Amritsar, Gurdaspur and Sialkot districts are the most important districts. The chief centres are Amritsar, Multan, Hoshiarpur, Panipat and Ambala. A number of *Momins* or *Jolahas* as engaged in the industry. The weaver works with his family for about ten hours a day. The total production of cotton handloom cloth amounts to about 228 million yards. The varieties of cloth consist of *dhoties*, *sarees*, *chaddars*, coatings, shirtings, towels, *lungies*, shawls and carpets. The products are of both coarse and fine counts with floral borders and ground designs worked in silk and lace. The cotton coatings and shirtings of Amritsar and the *lungies* of Hoshiarpur are famous in Northern India. During recent years, a change of fashion is causing a decline in the use of the traditional varieties of cloth. Of the weavers in the Province, about 60 per cent. are independent and the rest employed under *Mahajans* or in *Karkhanas*. About one per cent are taken into the co-operative fold. The industry requires much organisation particularly on co-operative lines.

The weaving of cotton carpets is an important branch of the cotton textile industry in the Punjab.

3. *Woollen industry*.—This is a very important industry in the Punjab. Though there are numerous woollen mills in the Province, woollen weaving as a cottage industry is pursued in numerous centres. Ludhiana, Dera Ghazi

Khan, Bhera, Amritsar, Panipat and Dhariwal are famous woollen weaving centres. Most of the wool is produced locally, the finest material coming from Hissar. Large quantities used to be imported from Australia and elsewhere in former years. The absence of foreign imports due to war has increased the supply from the surrounding provinces and states like Kashmir. It has been estimated that about 1941-42, there were about 28,000 workers engaged in woollen industry. There were about 18,500 woollen looms and the production of woollen cloth was about 6,540 million yards. There are about 300 small power looms employed in wool weaving. There is a good variety of woollen products, such as, rugs, shawls, *nandas* (coloured felts), hosiery goods, serges and pile carpets. The pile carpets of Amritsar and Multan are famous. The wool used is a variety known as *pashm*, the fine hair of the Tibetan goat.

Some of the woollen goods are embroidered with silk, gold and silver lace, etc. The products of the Punjab are famous. The recent war helped the industry to improve considerably. The Government also are taking a keen interest in the development of the industry.

4. *Silk industry*.—Silk weaving is another important industry in the Punjab. There are over five thousand silk looms engaging a few thousands of weavers. The total production is estimated to be about 7 million yards. The chief centres of the industry are Amritsar, Lahore, Multan and Jullundur. The raw material used to be imported from China in former years. It is now obtained in part locally and in part from other provinces and states. The important varieties produced are turbans, waist bands, *sarees*, fringes, tassels and *pyjama* strings.

One important branch of the silk industry is embroidery. *Phulkari* work (flower work) is done as a domestic industry in most districts. Embroidery is done on cotton, wool and silk. The articles embroidered are usually table covers, hangings, caps, belts, turbans, *sarees*, etc. Goods are produced both for home use and for the market.

5. *Brass and bell-metal work*.—This work is done in the Province both as a utilitarian industry and an art craft. Some decades ago copper and zinc ores also used to be mined in the *Kulu* hills and other parts of the Himalayas. With the advent of imported metals which were very cheap these sources were given up. Bell metal is prepared in the Province itself. A serious handicap has been felt by the workers due to scarcity of imported metal sheet during the war time. The use of old and broken vessels as basic material relieved this situation to some extent.

The manufactures consist mainly of domestic utensils and other utility articles such as big and small kitchen vessels, tumblers, water pots, lamp stands and plates. These articles are either plain or roughly ornamented. Work is done either by casting molten metal in moulds and then polishing them on a lathe or by hammering out metal sheets into form. The chief centres of the work are Jagadhri, Panipat, Gujranwala, Amritsar, Pind Dadan Khan and Sialkot. The Government of the Punjab are taking interest in the development of metal work. Instruction in metal work is given at the Government Metal Work Institute, Ambala City. A scheme for development of metal work has also been prepared where by instruction in improved processes and new types of work is given to the workers at their homes, and facilities for the disposal of their productions are offered.

Metal work as an art craft is seen in the inlay work done at Lahore and Amritsar city. Inlaying is done on copper and brass in floral and other designs. The products which comprise trays, vases, *hooka* stands, ash trays, tumblers, etc., have a wide popularity and a large demand even outside the Province. This industry flourished well during the war period due to demand from the foreign military personnel.

6. *Iron work*.—The iron industry was fairly important in the Province. Iron are used to be smelted in Kangra district in small quantities. The import of iron and steel metal sheets from abroad hit this melting industry. The black-smiths of the Punjab manufacture a large variety of iron articles ranging from utility goods to art products. Agricultural implements and ordinary articles like nails, hinges, and iron pans are made by the village black-smiths at numerous places. Cutlery consisting of knives and razors, etc., are made of good steel at Gujranwala and Bhera. Weapons such as swords and the others used to be made at Lahore. This industry has now declined. Demascening or inlaying small articles of iron with gold wire or silver is carried on in Sialkot district. The products are very popular among foreign travellers and visitors.

During the recent years imports of machine made hardware have affected the cottage iron industry. The Government are trying to revive this industry. There is a school for the manufacture of small machinery at Ludhiana where the manufacture of small tools and machinery is taught.

7. *Gold and silver smithy*.—As in other provinces jewellery is very popular among the Punjabi women. The

women of higher classes wear ornaments of gold and precious stones while the poor class women wear silver ones. There is a large variety in ornaments worn in the Punjab; for instance chains, rings, bangles, bracelets, anklets. Amritsar and Lahore are noted for superior work in precious metals. During recent years silver ware other than jewellery has become popular. The high price of gold and silver has caused the people to remelt old wares and get new patterns made out of the metal.

Enamelling is very popular in the Province. The products consist of rings, bracelets, vases, etc., enamelled with silver leaves, flowers, etc., on the surface. Multan and Kangra are very famous for enamelling.

8. *Pottery*.—Pottery is seen both as utilitarian industry and an art craft in the Province. Every village has its potter who produces rough unglazed pottery for the use of the villagers in general. The raw material is obtained locally or from the neighbouring river or canal side. The products are ordinary except at Jhajjar where even the unglazed pottery is of a superior kind.

Glazed pottery is seen at a few important places like Multan. The products comprise flower pots, plaques, vases, etc., in a number of colours like blue, brown and green. The designs are some times painted nicely. The glazed tiles, cups and basins are very popular.

Porcelain work has now become fairly popular in the Province. China clay is available in the Himalayas. A number of porcelain articles like cups and saucers have come into the market and are very popular.

9. *Wood work*.—The carpenter or joiner is a common sight in every village and every town. He manufactures all the articles of wood required for house construction or

agriculture. In former years the village carpenter used to get a share of the produce. But now the wage is paid usually in money.

Punjab is very famous for wood work as an art craft. Wood carving is done as a handicraft at Amritsar city, Bhera, Lahore, etc. The wood that is generally used is *shisham* wood. The products of wood carving consist not merely in chairs, tables and bedsteads but in pieces such as screens, lattice work, watch cases, flower stands, etc.

Inlaid work on wood is another branch of wood work of importance. Hoshiarpur is an important centre for the work. *Shisham* wood articles such as walking sticks, mirror cases, tea poy and pen cases are inlaid with ivory and brass. This work which is supposed to have been introduced from Arabia is very popular in the Province.

Cabinet and furniture making of plain design but superior finish is seen in numerous towns and cities of the Punjab. There is a large local demand for such articles, which are largely modelled in western style.

10. *Turned and lacquered ware making*.—This industry is pursued at a few centres like Pakpattan, Dera Ismail Khan, Amritsar and Lahore. This work consists in making small fancy articles and coating them with lacquer. The wooden lathe and other implements are simple and the process is the traditional method. Mineral colours, lac and bees wax are used as colouring and polishing matter. The products generally are wood boxes, cups and toys, cigar boxes, vases and trays, etc. Some of the turned wood articles are ornamented with mercury lines or carved ivory work.

11. *Ivory carving*.—The ivory carving of the Punjab is famous. Amritsar and Patiala, Ambala, Ludhiana and



Multan

Glazed Pottery



Lacquer Work on Hand Lathe

Punjab

Lahore are famous for this work. The raw material is purchased locally or is imported. Work is done by means of simple tools such as chisels and knives. The products consist of combs which are essential for the Sikhs, photo frames, caskets, trays, paper cutters, dagger or knife handles, bangles, chains, buttons, etc. The products have a good workmanship and design and are very popular among travellers and visitors.

12. *Leather tanning and leather goods manufacture.*—Leather tanning is an important cottage industry of the Province. Hides and skins of dead or slaughtered animals are tanned in small cottage tanneries at a few urban and rural centres by the indigenous processes. A portion of the tanned leather is used for the manufacture of shoes, belts, sandals, water-buckets, water-bottles, bellows, suit cases, etc. The products have a local sale for the most part. The Government Tanning Institute gives instruction to students in improved methods of tanning. Some of the trainees have opened their own tanneries or leather goods manufactories on a small scale. There are a few co-operatives of leather workers. Superior varieties of manufactures are sold at Government Sales Depots at Lahore and elsewhere.

13. *Fruit farming.*—This is one of the chief food industries pursued by the farmer on a small scale. The Punjab is rich in fruit gardens containing a large variety of fruit. Fruit are consumed fresh locally. Some varieties are exported to distances either whole or in a preserved form. This work is done at home by the whole family. Various kinds of fruit drinks, such as tomato juice, lemon or mango squash are manufactured, bottled and preserved for the market at a fairly low cost by the farmer. This

requires very little capital outlay. The only exception is the process of canning for which a machine can be purchased for about Rs. 100. The Lyallpur Agricultural College gives training in fruit growing and fruit preservation. The attention of the Government in this matter has improved fruit farming considerably.

14. *Other industries.*—There are numerous other cottage industries in the Province such as paddy husking, flour milling, dairying, poultry keeping, bee-keeping and other food industries; boat building, hand made paper making and other utility industries; musical instrument making and other art crafts. These industries, pursued in rural or urban centres have very much importance.

The Government are taking much interest in the development of cottage industries. Some 32 Industrial Schools are maintained and about 34 Demonstration Parties are sent round at an annual cost of about Rs. 15 lakhs to train the workers in all industries in improved methods. A Marketing Organization is also maintained at a cost of about Rs. 1.75 lakhs for marketing the art and utility manufactures of the Province.

3. INDUSTRIAL CO-OPERATION

The Industrial Societies, generally speaking, had not been working on true co-operative lines in the Punjab. In most cases they have no permanent arrangements for collective purchase of raw materials and collective sale of finished goods. The members carried on their work independently so that the record of the society does not show what actual work has been done by the Society, in its corporate capacity.

In 1943-44 the Industrial Societies in the Province failed to take advantage of the favourable conditions created

II] PUNJAB: INDUSTRIAL CO-OPERATION

by the War. So in 1944-45 consolidation and rehabilitation had been greater than expansion and weeding out of undesirable societies was also done.

Though the war has given them a good opportunity to expand their activities and flourish on the whole the societies have not benefited by the military orders because it has been impossible to get the products through the inspecting agencies.

Weavers' societies were hit hard for want of adequate supply of yarn though the co-operative departmental staff helped them to a certain extent.

The number of primaries fell from 373 in 1942-43 to 370 in 1944-45, their membership and working capital also falling from 5,917 and Rs. 14,44,503 respectively to 5,704 and Rs. 9,36,073 respectively. This fall was due to excess of cancellation over registrations. There are some districts where nothing has been done to introduce an industrial co-operative. Attempts are now being made to start work in Attock, Rawalpindi, Hissar and Kulu sub-division of the Kangra district. Out of the total number of 370 societies 210 are of textile workers, 64 of shoe makers, 29 of carpenters, 28 of smiths, 2 of oil men and 37 others. Membership conditions have not changed since 1942-43. Efforts are being made to increase the number of wool workers in the Kulu sub-division. The number of members who borrowed from the primaries in 1944-45 was 155 as against 235 in 1943-44. This is a very small portion of the total number of members and this indicates still that most of the members are not in need of money and consequently that they have ceased to take interest in the societies. The amount due on 31-7-45 on account of principal was Rs. 3,02,034 and on account of interest Rs. 2,68,973. Out

of the interest due Rs. 2,65,540 has been credited to suspense interest account. The total amount of loan at the end of 1944-45 was Rs. 3,09,428 interest on loans is between $9\frac{3}{8}$ per cent. and $12\frac{1}{2}$ per cent.

Industrial societies are financed by Central Industrial Bank, Amritsar and by Unions at Kalabagh, Hoshiarpur, Behran and Ludhiana at interest ranging from $3\frac{1}{2}$ per cent. to 6 per cent. per annum. The Industrial Bank borrows from the Provincial Bank. The fluid resources of these institutions are ample, those of the Central Industrial Bank being Rs. 3,00,029 as against Rs. 1,69,961 required. Of the affiliated societies 264 are in debt to the extent of Rs. 7,20,243, most of them being societies which are unsound or under liquidation. This renders the bank weak. The unions also are weak for the same reasons.

Sales.—Finished goods are sold by the Societies independently through the sales depots at Delhi, Simla and Lahore and shows held in the districts. The depots take $6\frac{1}{4}$ per cent. commission on sales except in the case of Simla Depot which takes $9\frac{3}{8}$ per cent. The show rooms which were doing little business became defunct. The complaint of the depots is that they are not supplied with enough stocks regularly.

The sales were as follows:—

| Years | | 1942-43 | 1943-44 | 1944-45 |
|-----------------|--|-----------------|---------------|---------------|
| | | Rs. | Rs. | Rs. |
| Depots .. | | 52,900 | 26,441 | 25,570 |
| Shows .. | | 7,081 | 8,541 | 22,854 |
| Others .. | | 67,536 | 36,699 | 41,609 |
| Direct Sales .. | | 39,525 | 5,368 | 7,337 |
| Total .. | | <u>1,67,042</u> | <u>77,049</u> | <u>97,370</u> |

II] PUNJAB: INDUSTRIAL CO-OPERATION

The business done during 1944-45 was better than in 1943-44 though not so good as in 1942-43. Collective purchase of yarn (cotton and wool), dyes, leather, wood, methylated spirit, iron, steel, etc., amounted to Rs. 58,981. Collective sale of finished goods such as dusters, Mazri cloth, *chaguls*, *chappals*, etc., to Defence Departments amounted to Rs. 2,13,028 and sales at depots, etc., Rs. 97,370.

The department has both administrative and technical staff. It is safe to presume that the technical bias given to the movement is full of possibilities. Technical improvement in the manufacture of goods by industrial societies is absolutely essential for them to compete successfully in the open market. Inspection of these societies has been much below the standard elsewhere and arrears of audit are noticeable.

Mere members are not a measure of success in co-operation. Quality is the test, and quality is to be measured as much by the extent to which membership improves the general outlook of the individual member, as by any betterment that it may effect in his economic condition.

—THE MARQUESS OF LINLITHGOW

X. SIND

1. GENERAL FEATURES

Till 1936 Sind was a part of the Bombay Province. It was constituted a separate province with Provincial autonomy in 1936, under the Government of India Act 1935, by which it should have a Governor, a unicameral legislature, and a Council of Ministers. Provincial Autonomy came into operation in 1937. Due to the almost equal strength of the Congress and the Muslim League in the Province, party Government was not possible in it. In the division of India the Province forms part of Pakistan.

Sind has an area of 48,136 sq. miles and a population of 45,35,000 in 1941. The chief language is Urdu. The province has a large Hindu minority.

The climate is dry and the rain fall very little.

About 60 percent of the people are engaged in agricultural and 10 percent in manufacturing industries, which are very few. Cotton, wheat and barley are the chief agricultural products.

The barrage system has converted the Province into a garden, in some parts.

The Province has important railways and water ways.

Karachi is the capital not only of Sind but of Pakistan. It is also a very important sea and air port.

The Province has some cottage industries most of which are of utilitarian value.

2. GENERAL CONDITION

There are not many urban or rural cottage industries in the Province of Sind. Agriculture occupies most of the time of the rural folk.

The chief cottage industry of the Province is hand loom weaving. Hyderabad, Tatta, Shikarpur, *etc.*, are important weaving centres. There were about 4,000 handlooms in the Province about 1940 and about 4,500 weavers. 85 per cent. of the looms were cotton looms and the rest silk looms. About 70 per cent. were fly-shuttle and 30 per cent. throw-shuttle looms. The total annual production of cotton cloth is too small for the requirements of the Province. The varieties produced comprise *lungis*, coarse cloth, cotton carpets, and blankets.

The other important non-food industries are metal work, enamelling gold and silver, embroidery, lacquer work and leather work for which Hyderabad and Shikarpur are noted; and rough pottery and tile making for which Hala is famous. Among food industries may be mentioned paddy husking, flour milling, *gur* making, *ghee* making, and dairying.

There are few co-operatives for cottage industries. Nothing has been done by the Government for the past quarter century to develop cottage industries in urban or rural areas. The lack of development is mainly due to the absence of an Industries Department which alone can popularise cottage industries among the people by giving demonstrations and offering facilities.

XI. UNITED PROVINCES

1. GENERAL FEATURES

This Province lies in the centre of Upper India. It received provincial autonomy under the Government of India Act 1935, with a Governor, a bicameral legislature and a Council of Ministers. Provincial Autonomy came into force in 1937 with the Congress Ministry. This Ministry went out of office in 1939 when Section 93 of the Government of India Act brought in the Advisers' regime. Popular Government again came in 1946. In the division of India the Province forms part of the Indian Union.

The climate is dry and cold in various parts. The Gangetic plain which covers the Province is very fertile.

The area of the Province is 1,06,248 sq. miles and the population 5,63,46,456 in 1941. The chief language is Hindi. The people are mostly Hindus.

About 70 percent of the people are engaged in agriculture and over ten percent in industries. The Province is rich in minerals like lime stone in the hill tracts. It has a long railway line and a net work of canals which are useful for passenger and goods transport. It has also 31,000 miles of road of which about 8,000 miles is metalled. The chief agricultural produce is millets, sugar-cane, wheat, barley and pulses. The chief large scale industries are sugar, cotton and wool.

Lucknow is the capital of the Province and Benares, Allahabad, Cawnpore and Aligarh some other important towns.

The revenue and expenditure of the Province in 1945-46 were Rs. 27.5 crores and Rs. 29.6 crores respectively.

There are numerous cottage industries in the Province many of which are art crafts.

2. GENERAL CONDITION

The province occupies a position of special importance in India as regards cottage industries. Its handicrafts have been known for centuries. The crafts both artistic and non-artistic are remnants of those developed for ages under the influence of Hindu and Muslim rulers and the landed aristocracy. Though vicissitudes of taste and lack of direct support from the State during the last century have been greatly responsible for the decay of most of them, yet some of them are steadily improving.

Cottage workers who number about 2¾ millions produce a very large variety of goods both of necessity and luxury. The principal cottage industries are:—

1. Cotton wool and silk-handloom weaving of all kinds and the connected industries of dyeing, printing, spinning, etc.
2. Vegetable oil pressing.
3. Leather industries including both leather working and leather making.
4. Metal working, principally brass, copper and bell-metal wares and locks.
5. Wood working of various descriptions.
6. Pottery.
7. Ghee making.
8. Gur making.
9. Glass bangles and other fancy articles.

10. Rope and ban making.
11. Basket making. .
12. Moondha making.
13. Tat pattis.

The chief characteristics of all these industries are that:—

(1) the work is done in the homes of the artisans with the aid of hand-tools and appliances;

(2) all the members of the family including women and children take part in the process of manufacture at different stages;

(3) there is practically no organisation for purchase of materials and sale of finished goods. The head worker has to do this work himself;

(4) the finance is provided by a mahajan or money-lender who is also usually the middleman dealer in finished goods;

(5) the artisans are generally poor and barely get a coolie's wage as their earning, and

(6) in a number of cases the cottage workers are primarily agriculturists.

The introduction of money economy and machine made goods and the consequent decline of cottage industries was slow and gradual in the beginning but was rapid later. Many an artisan family abandoned the occupation which formed its principal livelihood and took to other work. Others adhered to the work only half-heartedly little knowing the deficit in their state of affairs and consciously by going into debts.

Textiles.—The handloom weaving industry is spread all over the province with its chief centres at Benares, Mau,

Mubarakpur (Azamgarh), Tanda (Fyzabad), Gorakhpur, Maghar (Basti), Mau Atma (Allahabad), Bara Banki, Sandila (Hardoi), Etawah, Amroha (Moradabad), Sikan-drabad (Bulandshar), Meerut, Deoband (Saharanpur), Dhampur (Bijnor), etc.

Benares, Mau and Mubarakpur in the district of Azamgarh are famous for silk and fine cotton fabrics. Tanda is noted for the manufacture of sarees, shirting, etc. Other places produce coarser type of shirting, coatings and sarees.

The total number of actual workers is over 2.5 lakhs. The number of persons connected with the handloom industry directly or indirectly is near about 8 lakhs including women, children and helpers to the actual weavers.

According to the detailed survey of the industry before the war, the number of looms was 2,44,000. Of these about 1,98,000 were throw-shuttles and 46,000 fly-shuttles. It was estimated that the number of cotton looms was over 117 thousands, of silk and art silk looms over 50 thousands, of blanket and carpets over 30 thousands.

The total yarn consumed by handloom weavers before the war was near about 67,971 thousands lbs.

The chief cotton fabrics made are garha, gazi, lahnga, pagree, shirting and sarees. Their production in 1935 was 25 crore yards. The production of Benares brocades and other silk fabrics was a little over 1.6 crore yards. The output of art-silk about 4.3 crore yards and of blankets and carpets a little over 4 crore yards. Thus the production of handloom goods was 29.3 crore yards of all types.

The decline in the import of textiles from England and a total stoppage from Japan created a cloth famine in the market. The whole of Indian demand had to be met from the stocks available in the market from the mills and cottage workers. The former being busy with military demands, the latter had an excellent opening for producing cloth for civil consumption. But the difficulties with which the weavers were faced during the war and even in the post-war period are that they do not get yarn in sufficient quantities. Yarn of higher counts is not available and prices have gone up. The supply position of shuttles and reeds has not been eased as yet. Fine yarn and chemicals are short in supply. The quality of cloth has therefore greatly deteriorated.

Vegetable Oil pressing.—The Oil Industry in rural areas is confined to the pressing of mustard and sesamum seeds and a little of castor seed. The old wooden ghani driven by a bullock is the common and the only equipment of a teli. Hand-screw presses are to some extent used in the cities of Agra and Cawnpore. The total number of persons employed in the industry is about 3,00,100.

The quantities of oil seeds consumed by ghani are as below:—

| | | |
|-------------------------------|----|-------------------------|
| 1. Mustard seed and rape seed | .. | 2,626,000 Mds. in 1944. |
| 2. Linseed | .. | 1,300,000 " " |
| 3. Sesamum | .. | 2,400,000 " " |
| 4. Castor | .. | 200,000 " " |

Practically all the oil crushed by cottage Telis is consumed in the province. The exports to other provinces, *i.e.*, Bengal and the Punjab are negligible. It

is the mill-made oil which is exported. The province is self-sufficient in respect of its supply of vegetable oil.

The cottage oil industry is scattered all over the province and there are practically no important centres of production. The Telis however predominate in the districts of Lucknow, Cawnpore, Azamgarh, Jaunpur, Benares, Mirzapur, Ghazipur, Allahabad, Bareilly, Hardoi, Moradabad, Meerut and Etawah.

Since the development of large-scale oil mills in the United Provinces, the production of the cottage Teli has gone from bad to worse. He is perhaps the most affected of all cottage workers. Others artisans can find a place as workers in the mills in their own line, but the Teli has no advantage over a coolie in an oil mill. The percentage extraction in a mill using either an iron ghanni or an expeller is much more than that obtainable from an indigenous ghanni. The mill oil is therefore cheaper and the Teli is unable to compete with it in the market. His produce finds a sale in his own village.

Leather Industry.—This is a very important and widely scattered industry of the province giving employment to about 1,25,000 persons of whom 50,000 are leather workers and the rest tanners. This industry is practically unorganised and in the hands of the poor classes.

The leather industry is divided into two main branches, *viz.* (1) Leather tanning, and (2) Leather working. The processes of tanning, curing, dyeing and pressing of hides and skins comes under leather making. The use of this leather in manufacture of articles like boots and shoes, sandals, chappis, suit-cases, hand-bags, etc., comes under leather working.

Cottage tanning is done on the old and crude system of pits with the use of lime and babool bark. The principal articles made by cottage tanners in towns are safeda sheep skin for harness and sheep skin non-coloured and coloured for lining of shoes. The tanning ingredients used are either bark or chrome allum and oil. The village tanners produce only bark-tanned leather, *i.e.*, *desi* buffalo hides for shoes, cow hides for charges and upper leather for *desi* shoes.

There is no competition with large-scale industries as the produce of cottage workers does not come in the same line and is meant for definite purpose. There is however, much room for improvement in the quality of leather and adjusting the product to the market demand. All the produce is consumed locally in the village markets. Sharanpur sole leather which is much better in quality than that made in the rest of the province has a market even in other districts of the province.

Shoe making has progressed considerably and is done both on the wooden-last and the iron-last systems. Improved tools and small machines for pressing of soles, making of heels, sewing of the uppers and other processes are commonly used by the Agra cottage workers.

The articles produced by the small factories and cottage workers in towns are the following:—

1. Boots and shoes of various kinds and classes.
2. Slippers and chappalis.
3. Suit-cases, attache-cases, dressing cases and hand-bags of various styles and designs, cabin trunks, hold-alls, bed straps, hat boxes, satchels, etc., etc.

4. Fancy articles of toilet use such as ladies bags and purses, toilet and shaving cases, cigarettes-cigar and card cases, portfolios, writing pads, belts and garters.

5. Saddlery.

The village workers make *desi* shoes, chapplis charsas, bellows, whips, etc., etc.

The hand-made shoes of Agra and Cawnpore are very stylish and compare favourably with imported ones. Agra is called the Northampton of India for its boots and shoes industry, and Cawnpore has the largest number of tanneries, a large-scale boot and shoe factory with power machinery and the only important leather working factory of the Army Department.

The following table gives the comparative value of leather goods.

| Name of articles. | 1939. | 1944. |
|--------------------------------|----------------------|------------------------|
| 1. Footwear in small factories | Rs. 14,38 000 | Rs. 8,00,00,000 |
| 2. Footwear by cottage workers | „ 55,66,000 | „ 1,00,00,000 |
| 3. Footwear by village workers | „ 18 47,000 | „ 40,00,000 |
| | Rs. <u>88,51,000</u> | Rs. <u>9,40,00,000</u> |

Metal working.—The metal industry has the following main branches:—

1. Brass and Copper wares including artistic wares.
2. Iron wares. ..
3. Miscellaneous.

(i) *Domestic utensils.*—Domestic utensils are made out of scrap brass or brass sheets. The industry is carried on at Moradabad, Shamli and Miranpur (Muzaffarnagar), Oel (Kheri), Mirzapur, Farrukhabad, Benares, Baharaich,

Lucknow, Cawnpore, Hardoi, Shahjahanpur, Bindki (Fatehpur), Almora, Baraut (Meerut) and Hathras (Aligarh).

(ii) *Artistic brass and copper wares.*—These are made at Moradabad and Benares and iron wares are manufactured at Aligarh, Agra and Cawnpore. Trunks and boxes are made at Allahabad, Aligarh, Lucknow and Gorakhpur.

(iii) *Locks* are made at Aligarh, Meerut, Farrukhabad and Hardoi.

(iv) *Cutlery* is manufactured at Aligarh, Meerut, Allahabad, Hardoi, Qaimganj (Farrukhabad) and Shahjahanpur.

(v) *Tin canisters* are made at Hathras, Agra, Khurja, Etawah, Shikohabad, Cawnpore, Meerut and Ghaziabad.

(vi) *Iron cast weights and agricultural implements* are made at Agra, Bareilly, Hardoi, Ghaziabad, Dankaur in Bulandshahr district and a number of other places.

The total number of persons employed in all the metal working industries is 2 lakhs.

The total outturn in value of important articles before the war was as under:—

| | Rs. |
|---|-------------|
| 1. Brass and Copper utensils .. | 3,00,00,000 |
| 2. Artistic Brassware .. | 10,00,000 |
| 3. Locks and Building fittings .. | 2,50,000 |
| 4. Scissors .. | 1,26,000 |
| 5. Knives, Sarotas and Spoons .. | 1,25,000 |
| 6. Iron castings, <i>i.e.</i> , weights, cane crushers and other materials .. | 2,50,000 |
| Total .. | 3,17,51,000 |

The present estimated output of brass and copper utensils is as below:—

| | Rs. |
|-----------------------|-------------|
| 1. At Farrukhabad .. | 45,00,000 |
| 2. At Moradbad .. | 1,50,00,000 |
| 3. At Mirzapur .. | 50,00,000 |
| 4. At other places .. | 55,00,000 |
| Total .. | 3,00,00,000 |

This industry suffered considerably during the war, due to several difficulties such as non-availability of brass and copper sheets, brass scrap and zinc which were needed by Ordnance Factories and for other purposes. Even now, these raw materials are not available in sufficient quantities.

Transport difficulty is still affecting the industry adversely.

Wood working.—This industry includes the following:—

1. Manufacture of agricultural implements which is purely of village type and is scattered all over the province. The chief centres are Agra, Amroha, Meerut and Bareilly.

2. Furniture for which Bareilly and Dehra Dun are very well known. This industry has greatly progressed and most modern furniture is prepared there.

3. Artistic wood carving is done only in Saharanpur.

4. Brass-work on ebony confined to Nagina (Bijnor).

The total number of persons engaged in all types of wood working industries is about 2,50,000. Of these about 200 are in wood carving at Saharanpur, 50 in ebony

work at Nagina, 1,000 in furniture at Bareilly and the rest is non-artistic wood-work.

It is not possible to estimate the output of the industry, but during the war Bareilly supplied furniture worth Rs. 20,00,000 as against 3½ lakhs before the war. Dehra Dun firms supplied furniture and other articles worth more than Rs. 40 lakhs.

Huge orders which the Defence Department placed with firms have now ceased. The industry has now come under the cycle of depression. Many firms of mushroom growth have vanished while the rest are working with the reduced strength. The war has however added an important link to this industry by stopping the Japanese toys and giving an opportunity to Indian Firms to grow up and supply India's needs. Indigenous wooden toys are manufactured at Bareilly, Dehra Dun, Meerut, Lucknow and Cawnpore.

Pottery and Ceramics.—Pottery is one of the oldest industries in the Province. A large variety of products is produced but the main divisions are:—

1. Earthen-ware and domestic utensils of common use, *e.g.*, gharas, Sorahis, handis, chiluns, plates, etc.
2. Glazed and artistic pottery, *e.g.*, flower vases, tea sets, etc.
3. Clay modelling, *i.e.*, animal figures, toys, etc.

About 2,50,000 persons are engaged in this industry.

The centres for glazed pottery are at Khurja and Chunar. Black or ornamental pottery is confined to Nizamabad, Lucknow and Amroha are noted for clay modelling.

During the war the Industries Department made an attempt to organise the potters of Khurja for the production of utility articles. Government furnaces were put up in 1943 and about 200 persons were trained. Improved types of furnaces have been set up and firing temperature has been raised to 1200°C and high lead glazes have been replaced by lead-free glazes.

Fabricated raw materials are distributed to potters for manufacturing glazed articles.

Chunar pottery is of ordinary clay pottery, glazed with glass powder, borax and hematite. Tea sets, cups saucers, etc., are manufactured and sold at the railway stations of Chunar, Moghalsarai, Benares and Allahabad.

Nizamabad black pottery, tea sets, vases and numerous decorated articles are made of pond clay. The articles are only for show as they are fragile.

Ghee.—This is an agricultural industry carried on on a considerable scale throughout the province. In remote villages milk is turned into ghee.

Centres for ghee are Etawah, Mainpuri, Shikohabad, Bulandshahr, Khurja and Agra.

The present production is estimated at about 20,00,000 maunds.

Exports of ghee during the pre-war days used to be on an average 1,50,000 mds., but during the year 1944-45 the export was only about 60,000 mds.

The vegetable ghee has nearly replaced the pure ghee in the market.

Gur making.—Next to ghee, *gur* industry occupies an important place and is practised from the ancient times. It is carried out in villages by the cane growers themselves

as a subsidiary industry to agriculture. Of the total production of sugar-cane in the province about 65 per cent. is converted into *gur*. The pre-war production was estimated to be 20,00,000 tons.

Gur produced in the province was exported to all parts of the country but at present restrictions on the movement exist. Meerut, Muzaffarnagar, Sitapur and Bareilly are the principal *gur* markets.

Glass Bangles and other Fancy Articles.—(i) *Bangle making.*—This is predominantly done on cottage scale. It is concentrated at Firozabad, where a population of about 21,000 out of the total population of over 40,000 is engaged in this industry.

There are 83 roller bangle factories, 125 furnaces for making twisted bangles, 100 bangle-cutting workshops, 500 muffled furnaces for enamelling and decoration of bangles, 2,400 bangle joining cottages and 1,500 dealers. The estimated annual production is about 1,00,00,000 gross pairs.

The industry did wonderfully well in copying the designs of foreign make and discovering their own expensive methods of manufacture.

During the war the industry suffered, as very little heed was paid to it considering it as an article of luxury.

(ii) *Glass Bead.*—This is a new industry introduced by the United Provinces Government. The services of two Czechoslovakian experts have been secured for training of students, but since they left some of their trained men are doing the industry. About 50 persons are now engaged in the manufacture of beads.

Rope and Ban making.—This is purely village industry scattered all over the province. The principal centres are where raw materials, e.g., moonj, bhaber or sunn hemp grow. These are Meerut, Saharanpur, Muzaffarnager, Bijnor, Budaun, Sultanpur, Jaunpur and Benares.

This industry employs about 40,000 persons. It is difficult to arrive at production figures for ban and rope industry, yet on a rough estimate the production is about 1,50,000 mds. valued at Rs. 12,50,000.

Sunn hemp fibre is sold and exported and a large quantity of it is used in making strings, ropes and tat pattis.

Basket making.—Baskets are made all over the province, but the important centres are Dehra Dun, Pilibhit, Baharaich, Kheri, Gorakhpur, Gonda, Allahabad, Meerut, Farrukhabad, Firozabad, Saharanpur, Jwalapur, Benares, Najibabad, Fyzabad, Moradabad, Bareilly, Agra, Cawnpore, Lucknow, Jhansi, Banda, Basti Nainital and Haldwani. Ornamental wheat straw baskets specially for tiffin and what-nots are manufactured at Phulpur in Allahabad district.

Cane, bamboo, arhar, sticks, Jhao, mulberry sticks, Khajoor sticks, rangal sticks and twigs of certain trees are the principal raw materials. The following table gives the figures of production of raw materials:—

| <i>Raw Materials.</i> | <i>Quantity.</i> |
|-----------------------|------------------|
| Bamboo | .. 5,45,000 |
| Arhar Sticks | .. 11,10,000 |
| Jhao | .. 11,10,000 |
| Mulberry Sticks | .. 11,10,000 |
| Khajoor Sticks | .. 5,20,00 |
| Ringal Sticks | .. 11,11,000 |

About 40,000 persons are employed in this industry.

Annual outturn of baskets is worth Rs. 6,71,000.

Moondha making.—(Straw seats) are made mainly in Meerut, Moradabad, Agra, Aligarh, Bulandshahr, Bareilly, Etah and Cawnpore.

The number of families engaged prior to war was about 400 consisting of some 2,000 persons.

The annual outturn per family was 340. The total outturn is about 78,000 worth Rs. 3,90,000.

Moondhas find only local sale as their transport occupies more space and makes the freight expensive. It seems desirable that better designs and colour display may be introduced.

Tat Pattis.—The *patti* making is carried on in the Eastern districts of the province, *i.e.*, Jaunpur, Partabgarh, Sultanpur, Rae Bareli and to some extent in Etah and Mainpuri.

The number of persons employed in these districts is about 8,150. The raw material is sunn-hemp which is grown over about 2 lakhs of acres and average yield is about 5 mds. an acre.

The outturn of *tat pattis* in important centres is about 2,000 mds. valued at Rs. 20,000.

These are consumed locally and exported to other provinces.

3. INDUSTRIAL CO-OPERATION

Industrial co-operation, though it was not unknown to the United Provinces before the recent War, was, how-

ever, not well developed in the Province. A fairly rapid growth of industrial co-operatives might be said to have begun with the outbreak of the War. The position in the Province in 1939-40 was as follows:—

| Kind of society. | No. of societies. | No. of active societies. | value of sales. Rs. | Profits. Rs. | Working capital. Rs. |
|--|-------------------|--------------------------|---------------------|--------------|-----------------------|
| Weavers' societies | 37 | .. | .. | .. | } one lakh of rupees. |
| Woollen societies | 16 | 13 | 20,101 | 5,694 | |
| Fruit preservation societies | 1 | .. | .. | .. | |
| <i>Khova</i> societies | 18 | 18 | .. | 384 | |
| <i>Gur</i> societies | 11 | 3 | .. | .. | |
| <i>Ghee</i> societies (12,500 members) | 607 | 607 | 2,15,387 | 50,261 | |
| Dairy societies | 23 | 16 | .. | .. | |
| Poultry societies | 22 | .. | .. | .. | |

The war requirements of the Supply and Defence Departments and the Indian Stores Department gave an incentive to the development of cottage industries, while the lesson of the Chinese Industrial Co-operatives brought in the co-operative society strength of organisation. Numerous cottage industrial organisations particularly co-operatives came into existence during the War period. They comprised textile co-operatives, dairy co-operatives, poultry co-operatives, *gur* co-operatives and *ghee* co-operatives and so on. During the War they supplied many lakhs of rupees worth of goods including hemp goods like *tat-patti* and nets, cotton and woollen goods like *nivwar*, gauze cloth, hospital bandage, water bottle carriers and blankets and also hats, and canvas goods. It might be said that to some extent the U.P. Government gave help to the workers in obtaining some raw materials.

In 1945 when the War ended, the position of the industrial co-operatives was not discouraging. There were 12

central textile stores, 107 textile societies, 870 *ghee* societies and two dozen other industrial societies besides numerous *gur*, dairy and poultry societies. Their working capital amounted to Rs. 16 lakhs and their production rose to Rs. 33 lakhs in 1944-45. For instance the *ghee* societies alone which were 870 in 1944-45 had a membership of 20,000 as against 12,500 in 1939-40. The *ghee* handled by them decreased from 5,383 maunds to 4,899 maunds. The profit for 1942-43 was Rs. 33,000; for 1943-44 Rs. 29,270; and for 1944-45 only Rs. 5,000.

Attempts at improvement of co-operative organisations have continued throughout the War period. In 1941 the U.P. Co-operative Industrial Federation was started. Its objects are the development of cottage industries on co-operative lines, increase in production, introduction of better designs and quality, and providing facilities for finance and marketing. The Federation helped all cottage industries in general and handloom weaving in particular. Much of the progress of cottage industrial organisations was due to the interest taken by the U.P. Government by providing additional staff for the work and by raising (though slowly) the interest-free grant from Rs. 5 lakhs to 24 lakhs. The establishment of the Provincial Co-operative Bank in 1944 was probably a helpful factor.

Yet the general outlook on the industrial co-operatives is not felt to be very encouraging. It is said that societies relating to spinning and weaving, oil pressing, tanning, work, metal work, glass work, paper making, toy making, and dairy farming alone are referred to under Industrial Co-operatives by the U.P. Co-operative Department and that co-operatives relating to sericulture, poultry farming,

fruit and vegetable preservation, flour grinding, paddy husking, *ghee* making and *gur* making are not given as much importance as they deserve. Secondly it is felt that several co-operatives such as cotton ginning, *durrie-making*, brass ware, tannery, bangle making and pottery societies are in the same condition as in 1936. For instance there are in the Province about $7\frac{1}{2}$ lakhs of weavers and 2 lakhs of looms consuming about 70 million pounds of cotton, silk and woollen yarn, and yet only a few thousand weavers are co-operatively organised. There are a lakh of workers in the tanning industry and many hundred in brassware, shoe making, etc. Very few of them are in the co-operative fold. Private merchants clear huge profits while the artisans look on hungrily. Even in respect of artistic wares like artistic brass-ware, *bingees*, *sarees* and prints, the industrial co-operatives have not progressed. Though in 1936 some artisans made successful experiments in co-operative production and sale, at the present day the artisans seem to lack that initiative and incentive for self-elevation. It is to be feared that unless the artisans are alive to their responsibilities, the withdrawal of Government concessions and the fall in the War time demands and the keen competition of mill made goods will hit them very hard. They must fortify their position by co-operative action without any more delay.

It is quite necessary to know the exact position of the industries at present. For the purpose a detailed survey and enquiry is quite essential. There is a large need for research also. In regard to marketing of a few commodities some research has been done by the Provincial Development and Marketing Federation. If survey and research

had been taken up by the Government much useful work could be done.

In regard to training and propaganda very little work seems to have been done. A few students nominated by the I.N.A. Enquiry and Relief Committee have been trained in organising work at the All India Industrial Co-operative Association. Many more students have to be trained as organisers. The Province has a Provincial Industrial Association, but its work will not be very progressive unless many trained organisers are available in the Province.

Our Grand National Plan must embody schemes of utility-cum-culture progress. Utility shall be the primary concern, but in a form modified by cultural needs. In the fabric of national life, utility is the warp and culture the weft. Obviously the warp cannot constitute the whole fabric, though it is the primary thing. Likewise, the weft, though it provides the means of effecting decorative improvements in the fabric, cannot exist independent of the warp. Both of them have to be interwoven into one perfect piece. Such should be the role of the twin sources of national uplift in the plan to be.

—VISWANATHAN TEKUMALLA.

II. GENERAL CONDITION IN STATES

I. BARODA

1. GENERAL FEATURES

The State of Baroda situated partly in Gujarat and partly in Kathaiwar comprises four districts. The total area is about 8,164 sq. miles with a population of 28,55,000 in 1941. About 89 per cent. of the people are Hindus.

The administration of the State is carried on by a Maharaja (Gaekwar) and his Dewan and other Ministers and a Legislative Council.

The rain fall in the State is not uniform.

About 63 per cent. of the people are engaged in agriculture. The chief crops are rice, wheat, gram, cotton, tobacco and sugar-cane. There are a few large scale industries in Baroda.

The State has about 795 miles of railway and 1,000 miles of road of which about 600 miles is metalled road.

Baroda is the capital. The revenue and the expenditure of the State in 1943-44 were Rs. 3,81,53,000 and Rs. 3,33,70,333 respectively.

There are many cottage industries of artistic and utilitarian value in the State.

2. GENERAL CONDITION

Development of Cottage Industries forms a special feature of the industrial programme of the State. The work of the development can be grouped under four heads: (1) Research and experiment, (2) Teaching and demonstration, (3) Finance, and (4) Marketing facilities. The

Diamond Jubilee Cottage Industries Institute which has been established in the year 1938 at Baroda, the capital of the State, serves as a nucleus for all activities and programmes for the development of cottage industries.

(1) *Research and experiment*.—The Institute takes up from time to time small industries which can be usefully introduced in the State and carries out investigations for simplifying processes, introduction of electrical power for the more mechanical processes, etc., so that they may be able to stand competition. When experiments have shown that new industries or improved processes in old industries are feasible, these are taught to students at the Institute and in villages through demonstration parties.

(2) *Teaching and demonstration*.—Teaching and demonstration are carried out through the following agencies:—

(i) Through the Diamond Jubilee Cottage Industries Institute at Baroda which has at present the following classes with courses of 2 years' duration:

- (i) Dyeing and Calico Printing.
- (ii) Block engraving for Calico Printing work.
- (iii) Wood carving and fixing of brass german silver and silver metal sheets on the carved articles.
- (iv) Lacquered wooden toys and lacquered furniture.
- (v) Making of leather goods.
- (vi) Preparation of useful domestic articles by casting copper and brass metal.
- (vii) Tailoring and Cutting.

(ii) Through travelling demonstration classes in the following trades:—

- (i) Carding, Spinning and Handloom Weaving.
- (ii) Dyeing and Printing.
- (iii) Tanning.
- (iv) Making of leather goods.
- (v) Rearing of eri-silk worms and Spinning of the silk from cocoons reared.

3. *Finance*.—Interest free loans to the extent of Rs. 50,000 are given away every year to trained students and the artisans of the State.

4. *Marketing facilities*.—"The Baroda Arts and Crafts Emporium" which has been established last year on the auspicious occasion of the Birthday Celebrations of His Highness The Maharaja Saheb offers marketing facilities to cottage workers who can exhibit and sell their products through this Sales Depot.

Over and above the above programme, the following facilities have also been provided by the department for the benefit of the cottage workers:—

- (i) Publication of cheap literature on cottage industries in Gujarati.
- (ii) Giving of implements in carding and spinning at half cost to spinners and weavers.
- (iii) Free technical advice.
- (iv) Grants to *Khadi* Centres and institutions doing village uplift work, and industrial classes and homes.
- (v) Students are deputed to learn important cottage industries or handicrafts in other institutions.

The Cottage Industries Section is in charge of a special officer known as the Cottage Industries Officer who works under the direct control and supervision of the Director of Industries. The Honourable the Development Member is in charge of the Industries portfolio.

3. INDUSTRIAL CO-OPERATION

Industrial Co-operation has made rather slow progress in the Baroda State. In 1941-42 there were 56 weavers' societies, 28 leather workers' societies in the State. There has been some increase in the membership, working capital and business of these societies. This is due to the increasing interest taken by the State in developing cottage industries by offering financial help and also by organising peripatetic demonstration parties for giving instruction to the artisans in improved processes. There is of late a desire on the part of the people to develop industrial co-operatives with State aid.

Industrial co-operatives constitute a movement of far greater social significance than their economic implications. While credit societies are a means of alleviating temporary difficulties and consumers' co-operatives are a palliative within the status quo of a competitive society, industrial co-operatives are an altogether new form of organizing and regulating society. Thus they have meaning for the future as well as for the present.

—RUTH WEISS, PH.D.

II. COCHIN

1. GENERAL FEATURES

Cochin State is situated on the south-west coast of India. It is governed by the Maharajah and his Dewan and other Ministers and a Legislative Council under the Government of Cochin Act.

The State has an area of 1,480 square miles, with a population of 12,05,016 in 1941, out of which about 65 per cent. are Hindus and the rest Christians, Muslims, etc. The average density of population is 814 per square mile. The principal language is Malayalam. The percentage of literacy is very high in the State.

A third of the State is covered by forest tracts and lagoons or back waters. The forests of Cochin form one of its most valuable assets. They abound in teak, ebony, black wood, etc. The chief produce is rice and coconut.

The State has good railway and road communications. Cochin is a very important port with a good harbour. The capital is Ernakulam.

The revenue of the State is about Rs. 2,18,69,000.

The State has numerous cottage industries, many of which are organised on co-operative lines.

2. GENERAL CONDITION

Among the cottage industries in the Cochin State, the majority are utilitarian crafts. The art crafts like lace and embroidery, ivory carving screwpine weaving are very few.

1. *Coir work*.—Coir work is the most important cottage industry of the back water region in the State. The raw material is locally obtained because the State has vast coconut plantations. Coir is obtained from coconuts in the usual way, by soaking coconut husks in water and retting them. This coir is good in quality and is used in making ropes, door mats, floor mats, brushes, *etc.* Work is done at home or in small open air *karkhanas*. Cochin is a very important centre for the industry.

2. *Handloom weaving*.—This is only next in importance to coir work. The Talapilly, Chittur and Cranganur taluqs are important. The chief centres are Nemmara, Chennamangalam, Desamangalam, and Kumbalam. The sub-castes engaged in the work are *Chetties*, *Kaikolans*, *Chedans* and *Calians*. The yarn used is of coarse and fine counts. *Mundus* are woven out of coarse yarn and fine *sarees*, *angavastrams*, *etc.*, are woven out of fine yarn. The products have a local market.

3. *Mat making*.—Chittur, Talapilly and Trichur Taluqs are important for mat making, the chief centre being Chittur which is noted for superfine grass mats. The raw materials used are screwpine, bamboo and grass.

Screwpine mats are made generally by carpenter women as spare time work. The raw material is obtained from the fields. The products are rather crude. Mats and other products of fancy patterns like bags and purses are made at some missionary and other institutions where the inmates are taught screwpine work.

Bamboo mats, *etc.*, are made by *Pulayas* and *Cherumas* in Chalakudy and forest tracts. The raw material is obtained from the local forest. A large variety of baskets,

bags, mats, etc., is made of split bamboo. The articles being crude, the market for them is only local.

Grass mat making is the hereditary occupation of *Kakalans* and *Nanjanad Koravans* in Chittur, Talapilly and Trichur Taluqs. The coarse mats have a local sale; but the superfine mats of Chittur have an outside market also. Co-operative enterprise is seen in the mat industry.

4. *Soap and candle making*.—There are a few indigenous soap makers scattered in the State at Cochin, Ernakulam, Cranganur, and Irinjalakkuda. The products are chiefly washing soaps and in some cases toilet soaps. Candles are made to a small extent at Ernakulam. These candles are used by Christians at Churches.

5. *Bell Metal work*.—Bell metal ware is produced at Chennamangalam, Cranganur and Irinjalakkuda. The industry is organised on co-operative lines at Chittur. The goods consisting of household utensils of all shapes and sizes are of good quality.

6. *Cabinet and furniture making*.—The forests of Cochin are rich in good wood. Furniture and vehicles of several types are made at centres like Cochin, Ernakulam and Trichur. Work is done on co-operative lines at Trichur and Ernakulam. Chevoor near Trichur is famous for cheap furniture.

Rattan work consisting of furniture for domestic and office use is done out of local raw material at Trichur.

7. *Leather work*.—This work is done chiefly at Ernakulam and Trichur. The raw material used is either imported leather or locally tanned leather. Several Muslims and Hindus are engaged in this work. The pro-

ducts have a large variety ranging from sandals to suit-cases. There is a very large local demand for the products.

8. *Bee-keeping*.—Apiculture as a cottage industry is seen at numerous centres in the State. The State is taking much interest in this industry by appointing a Bee-Expert who gives training and advice to the agriculturists and private individuals who follow this industry as part time occupation. The honey extracted is of high quality and has an external market also.

9. *Fish curing*.—The back waters and ponds of Cochin abound in fish varieties. Fishing and fish curing are the full time occupation of numerous fishermen in the State. Good varieties of cured fish are sent outside the State for sale. The State is taking much interest in the development of this rich source of food.

10. *Lace and crochet work and embroidery*.—This work is taught at numerous missionary institutions at Ernakulam and other places. A large part of the production is meant for the market. The goods are sold in Madras and other cities.

11. *Other industries*.—There are various other cottage industries of importance in the State. Some of them are art crafts like ivory carving, musical instrument making, fire works and clay modelling; others are food industries like dairying, poultry farming, cashew nut roasting, bakery and confectionery and condiment making; and yet others are utility industries like lime-burning, *beed* manufacture, sericulture, umbrella making, and tailoring. Some of the industries are organised on co-operatives lines. The State is evincing a good deal of interest in its cottage industries particularly by encouraging co-operative enterprise.

3. INDUSTRIAL CO-OPERATION.

The co-operative movement was introduced in the State thirty three years ago as a proto type of the British Indian movement. As in other parts of India in the early years efforts were concentrated only on the organization and development of Credit Societies. In later years more and more attention was bestowed on the non-credit side of the movement and many rural societies and special types of societies have come into existence. The number of societies at the end of the administration year 1945-46 stood at 326 consisting of:—

1 Institute for education and propaganda, 1 central bank, 1 land mortgage bank which advanced loans at 5 per cent. interest, 1 cottage industries marketing society, 1 central coir society, 1 wholesale society, 12 supervising unions, 98 societies for rural credit, 52 urban societies, 32 rural development societies, 7 model panchayat societies, 19 consumers societies for purchase and sale, 28 societies for depressed classes, 9 agricultural non-credit societies, 12 weavers' societies, 21 artisans' societies, 7 students' stationery societies, 1 poultry society, 13 fishermen's societies, 4 Insurance (Benefit Fund) societies, 3 co-operative restaurants, 1 Ayurvedic society and 1 bee-keepers' society.

Excluding the 431 members of the Central societies the number of members in the Primary societies is 45,174, of whom 5,885 are women. The working capital amounts to Rs. 69.64 lakhs giving an average of Rs. 152 per member and Rs. 23,060 per society. The total transactions of all societies have gone up to Rs. 4.81 crores and the total reserve fund is Rs. 6,64,349. At first the activities of these societies were confined to agricultural credit. But it was soon realised that a proper course is to take into account

all aspects of the agriculturist's life as a whole. So rural societies were encouraged to undertake all these activities which affect the daily life and business of the agriculturist and the artisans. Many societies are continuing this side of their activities such as manufacture of coir and weaving.

Purchase and Sale Societies.—Consumers' co-operation was sought to be introduced in the State from the very start of the movement; but as in other places the earlier attempts proved to be a failure. There were 19 societies of this type at the end of year with a membership of 2,455, working capital of Rs. 1.29 lakhs and a turn over of Rs. 32.83 lakhs. After a long period of comparative stagnation the situation created by the War with the advent of controls and the check against profiteering has given a new impetus to the consumers' movement. One important step now taken is the federation of all the societies into a central wholesale society. It is hoped that this society recently started will give the right lead to the future development of the consumers' movement.

Production and Sale Societies.

(a) *Weavers.*—There were 10 societies working at the end of the year. These had a membership of 747, a working capital of Rs. 50,641 and a turnover of Rs. 10.27 lakhs. All except one worked at profit. One of these societies is a purely *Khadi* spinning and weaving society affiliated to the All India Spinners' Association. As a post war measure attempts are being made to bring more weavers into the co-operative fold.

(b) *Industrial Societies.*—There were 21 societies working at the end of the year. They had an aggregate membership of 2,061 and working capital of Rs. 69,309

and a turnover of Rs. 6.45 lakhs. All except 4 worked at profit. Among the industrial co-operatives, the Carpenters' Society and the Leather Workers' Society at Cherpu and the Home Industrial Society at Kunnankulam have attained a great measure of success. The organisation of the several village industries on co-operative lines is taken up jointly by the Industries and Co-operative departments. Manufacture of coir yarn, etc., is one of the main cottage industries in the several areas of the State. Though no separate coir society is functioning at present some of the village societies have taken up the industry as a side activity. A central society has been organised for the marketing of coir and coir products and it is hoped that this will foster the growth of the primary societies to be engaged in this important industry.

(c) *The Cochin Cottage Industries Marketing Society*.—This society was started to form a federation of all classes of Industrial Societies. Its main object is to organise rural production and the marketing thereof. The constitution is not of the purely federal type and the membership is drawn from societies as well as individuals and other institutions. It had a membership of 133, a working capital of Rs. 1.99 lakhs and a business turnover of Rs. 20.08 lakhs. The society is entrusted with the distribution of yarn and it is also nominated as the purchasing agent in the centralised purchase and distribution of handloom cloth in some of the Taluks of the State.

(d) *Special types of societies*.—Cochin has made some appreciable progress in developing certain special types of non-credit societies. The following table shows the particulars regarding the working of some of the societies :—

| Type of societies. | No. of societies. | No. of Members. | Work- ing Capital. | Total trans- actions. | Net profit Rs. |
|------------------------------|-------------------|-----------------|--------------------------|-----------------------------|-------------------|
| Rural Development societies. | 31 | 2,582 | 56,901 | 8,04,001 | 9,000 |
| Poultry society. | 1 | 58 | 1,113 | 3,428 | 484 |
| Ayurvedic society. | 1 | 25 | 342 | 2,093 | 111 |
| Bee-keepers' society | 1 | 165 | 5,582 | 77,977 | 512 |

The Cochin Central Co-operative Institute.—The Institute is the non-official federal body and is the chief exponent of co-operative public opinion in the State. It controls the working of the Unions and generally promotes the common interests of the movement. The most important activities of the Institute are the publication of the monthly journal on Co-operation, maintaining a central library and reading room and arranging co-operative conferences and lectures. As in the case of the Unions, the Institute is proposed to be reorganised on a more efficient footing with liberal subsidies from Government. The scheme is now under the consideration of the Government.

Social activities, etc., of Societies.—Many societies are engaged in social and other activities helpful to the community in general. One society has transferred its building to a lower secondary school. Many societies conduct reading rooms and libraries. A few societies are managing Industrial Schools. Some societies conducting ration shops are giving rations of a day or two *gratis* to all the card holders. Some students' stationery societies give advances to its student members for payment of fees and scholarships for deserving students. Some societies donate amounts from their common good and charity funds for public objects and also make free distribution of slates, books, etc., to poor and deserving students.

III. HYDERABAD

1. GENERAL FEATURES

Hyderabad, situated in the heart of the Deccan plateau, is the largest of the Indian States. It is ruled by the Nizam, assisted by a Council of Ministers.

The State is 82,698 square miles in area with a population of 1,61,84,000 in 1941 of which about 90 per cent. are Hindus and the rest Muslims, *etc.* The principal languages are Telugu and Urdu.

The climate is dry with extremes of heat and cold. The rainfall is very scanty. The State has vast jungles.

About 57 per cent. of the population are engaged in agriculture. The principal crops are cotton, millets, and rice. The State has a large forest wealth and rich coal mines. The chief industries are coal, sugar and cotton industries. The State has about 1,400 miles of railway and a large mileage of road.

Hyderabad is the capital of the State and Secunderabad the other important city.

The revenue and expenditure in 1944-45 were Rs. 16.64 crores and Rs. 13.55 crores respectively.

The State has numerous cottage industries.

2. GENERAL CONDITION

Next to agriculture handloom industry is by far the most important occupation of the rural population of the State. Four types of weaving are seen in the State: (A) cotton weaving (B) woollen *cumbly* and woollen carpet weaving (C) *Paithani* weaving.

A. Cotton weaving.—Cotton weaving gives employment to about 4,50,000 persons including men, women and children and clothes about 30 per cent. of the population of the State. Though the industry has some inherent strength the chief obstacle to progress is the weaver's high cost of production and the low sale value of the products. His appliances and processes also are partly responsible for his unenviable position.

The State Industries Department in devoting considerable attention to the needs of the weavers. Even before the War it organized District Demonstration Parties for the purpose of popularising fly-shuttle looms, doobby and jacquards and improved methods of dyeing and bleaching. As a result of the propaganda 50 per cent. of the looms in the State are of the fly-shuttle type.

During the War the Government invested Rs. 5.15 lakhs and organized production centres to provide work for the famine-stricken areas and to the weavers in general. Seventeen centres were set up at the following places:—Gulburga, Sholapur, Shahpur, Gurmatkal, Chitpur, Narayanpet, Makhtul, Macherla, Tavergera, Maski, Devarkonda, Manwath, Paithan, Pattancheru, Chowtupal, Yadgiri and Raichur.

Of these the first fifteen were production centres and the last two yarn and cloth depots. Yarn was supplied from the mills to the production centres through the depots. The centres distributed yarn among the weavers and received cloth from them according to certain specifications on piece-wage system. The cloth was then sent to the depots for inspection and distribution. 2,800 looms and 10,000 persons were engaged in this relief work. Produc-

tion consisted of war fabrics like mazri, dusters, bunting cloth, China grey sheeting and civilian clothes like *dhoties*, *sarees*, coatings and shirtings. Cloth to the value of Rs. 7,07,420 was supplied towards war effort and Rs. 4 lakhs, *i.e.*, 8 lakhs of yards, towards local requirements up to 30-9-1944.

After the war these centres were continued on a re-organized basis to relieve cloth shortage among the people. About 38 different types of fabrics have been introduced. Specialisation of quality with new artistic designs at each centre is now the key note of the State policy. 3,80,160 yards of cloth of improved designs valued at Rs. 4,83,231-15-5 has been produced and sold to the public at the Government centres in Fasli 1354 (1945 A.D.). The Government have taken care to sell the cloth direct to the consumers, particularly to the low-paid Government servants thus avoiding the black market.

Development of women cottage industry is the new field of activity started by the Government by making a successful venture. The Department distributed a large stock of fents (cut pieces) of bleached bunting cloth among a number of poor women of Baharam and Mushirabad localities. The women converted them into table mats, tray covers, pillow cases and other articles of house-hold utility and received wages for their work. The department realised from their sale much more than what they would have got if the fents were simply auctioned.

B. Woollen Industry.—(i) *Woollen cumbly (blanket) weaving*:—

Mahaboobnagar, Warangal and Yadgiri are the most important centres for the blanket industry. The industry

is suffering from the same handicaps as cotton weaving: So the Government have been rendering useful aid to the industry as a part of war effort. The Government have sanctioned Rs. 98,202 for the purpose. Two spinning and weaving centres in the districts and one milling centre at the Village Industries Training Centre, Hyderabad, were established. The activities have covered over 40 villages in Mahaboobnagar district where 400 improved wool spinning *charkas* have replaced the old type spindles. The production of yarn has been doubled. Larger bows which double the production of wool have been introduced among the *Dhangars* who produce wool. Power-driven wool openers have been introduced at Warangal and Yadgiri. The other advantages enjoyed by the local blanket industry include direct purchase of wool from *Dhangars*, the introduction of improved types of hand looms, better quality and fineness of yarn, introduction of twill and fancy colours and check designs and the introduction of 100" wide throw-and fly-shuttle looms. Over 2 lakhs of pounds of wool valued at over Rs. 80,000 was consumed during the four years ending Fasli 1354 (1945 A.D.) by Government centres and contractors. The production was 30,952 blankets valued at Rs. 2,30,246-7-8. The sales amounted to B.G. Rs. 1,52,492 or O.S. Rs. 1,77,907-5-4, yielding a profit of about Rs. 11,000 on the whole.

(ii) *Carpet Industry*.—Warangal is the most important centre in the carpet industry which was once flourishing. When it began to decline by 1930 the Government went to its rescue by starting a ten-year scheme through the Industrial Trust Fund at a cost of Rs. 62,328. The scheme was to produce high class carpets against the Delhi Palace orders and also to find fresh markets for

ordinary rugs and carpets at home and abroad. This gave the industry some vitality and carpets costing Rs. 70,000 were produced for the Delhi Palace and Rs. 1,35,000 for the open market in Fasli 1351 (1942 A.D.). Another 10-year scheme was inaugurated at a cost of Rs. 63,836-10-8. The Government manufactory which has at present 15 looms has already trained 200 workers in high class carpet weaving. There are now 50 boys receiving training. The looms increased from 70 to 400 in a decade in the locality.

The industry suffered badly during the War for want of foreign export outlet. Sales were effected at home only 16,638 carpets costing Rs. 91,000 having been sold during the War period.

Satranji weaving has been started to keep the weavers employed in the absence of foreign export of carpets. Carpets worth Rs. 57,367 and 2,139 *Satranjis* costing Rs. 12,440 were made and sold at the Factory in Fasli 1354 (1945 A.D.):

C. Paithani Industry.—Paithani weaving, *i.e.*, weaving of gold embroidered *sarees* and *pugrees* of beauty and excellence was once famous but is now decaying. In Fasli 1339 (1930 A.D.) the Government started a weaving institute at Paithan to revive the industry by training the weavers in fly-shuttle and dobby weaving and by providing raw materials on credit and by marketing the finished goods. The manufacture of ordinary fabrics such as shirtings, coatings, *dhoties* was also taken up by some of the weavers to engage themselves in continuous work. A special line of employment is the special type of turban-making for the police department. Manufacture of embroidered *saree* borders was done by 15 short-width looms

but later on discontinued due to the high price of gold and silver thread and lack of silk. Other fabrics to the extent of 4,370 yards and 2,220 turbans were made in Fasli 1353 (1944 A.D.). Three apprentices were trained at the centre but the response from the weaving community was not satisfactory. A scheme for improving the institute and the industry is under contemplation by the Government.

Tanning Industry.—Tanning is an important industry in Jalna, Mahaboobnagar, Hingoli, Yellareddi, Jiyaguda, Bolarum and other places. The work is done mostly by *Harijans* and in some places by the Muslims. The tanning business is in the hands of Muslim hide and skin merchants. Flaying, *i.e.*, removing the hide or skin from the body of dead or slaughtered animals, and curing, *i.e.*, temporary preservation are very defective in the State. The Government introduced a scheme for the improvement of the tanning industry. A flaying unit was started in Fasli 1350 (1941 A.D.) and an expert flayer was appointed. He was sent round to several slaughter houses in places like Hyderabad, Mushirabad, Doodbawli and Chanchalgooda, where he taught improved methods of flaying and curing to the local butchers.

Three model tanning units were also started at Jiyaguda, Jogipet and Jalna. The departmental tanners demonstrated at the model tanneries and at local private tanneries to the local tanners, the improved processes. The tanners learnt to produce better leather out of buffalo, cow and bull hides. The production consisted in sole and chrome leathers of attractive colours, harness and machine belting. There were 13 hide and skin merchants and 7

or 8 families of *Harijans* engaged in the business at Jogipet.

An export tanning unit was organized for training and organizing the tanneries to raise the quality of their products to the level of exportable standard. This unit worked at Mushirabad, Bolarum and Jalna with much success. Imported coloured and finished leathers which were used for producing leather goods were not available due to war. With a view to provide a substitute a dyeing and finishing unit was started at Pathergatti and other places. The products became very popular in the State and also in Madras and Bombay where they were exported. *This was a unique feature in the history of tanning trade of Hyderabad.* Some of the local men who learnt this work went to Bombay to earn a better income than at Hyderabad.

At Pattancheru where the local tanners gave up their trade as unremunerative a rural tanning unit was started in Fasli 1351 (1942 A.D.) to co-ordinate its activities with those of the rural development centre already working there. The unit itself had to supply raw materials to the trainees since they were poor. The unit at the centre advanced them loans by forming them into a co-operative society. The industry has been revived and the local tanners' Co-operative Society has a working capital of Rs. 500. The work was done by this unit at Manmole and Tellapur where 50 to 60 persons learnt improved tanning. These tanners are now making a profit of Rs. 2 to Rs. 2-8-0 for a hide.

The leather goods manufacturing unit was started in Fasli 1354 (1945 A.D.) at Hingoli to demonstrate improved methods of work and to introduce better types of foot wear which command a ready sale.

Handmade paper.—The hand-made paper industry is carried on at six places in the State, *viz.* Doulatabad, Ellora, Gurud, Koratla, Warangal and Hyderabad and gives employment to 2,500 people. Recently a private hand-made paper factory with 35 workers has been started at Gangawati in Raichur District. Most of the pulp used is reclaimed waste paper pulp. The scarcity of this material has affected the industry to a great extent. So the Government began to help the industry by supplying waste paper from Government Offices free of cost to paper makers and by conducting experiments for supplying cheap pulp from indigenous materials like bamboo, paddy straw, *sabai* grass, etc. Thirty tons of waste paper was supplied by the Government in Fasli 1354 (1945 A.D.). Experiments with paddy straw and *sabai* grass have given an average yield of 42.7 per cent. of bleached pulp at the air dry weight of the raw materials and the cost worked out to Rs. 450 per ton which is equal to one-third of the price quoted for bamboo pulp at present by the mills. The chemicals are supplied to paper makers at controlled rates by the Government agency.

Consequently the quality of the paper improved and scarcity was reduced considerably. Litho printing and other varieties of paper and card board boxes for cheap cigarettes and buttons are produced by the hand made paper industry. Much paper is supplied to Government offices and three tons of paper was exported outside the State in Fasli 1354 (1945 A.D.) as against 8 tons in 1353 (1944 A.D.). The annual production of cigarette boxes was three lakhs in Fasli 1354 (1945 A.D.).

Under the guidance of the departmental inspector one local hand-made paper factory installed a pulp-

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making unit and a steam calender plant at a cost of Rs. 75,000. The factory is expected to produce high class hand-made stationery, greeting cards blotting and filter paper and drawing art paper at a reasonable cost.

Metal Industry: (a) Cutlery.—There are many villages in the interior of Karimnagar district where metal articles like scissors, razors, nut crackers, stationery knives are made by the village artisans in their own cottages. Recently when the imports of these articles failed and a large local demand grew an opportunity presented itself for reviving this old industry. The Industries Department improved the industry by improved processes and introducing new types of articles at the very doors of the workers and by providing facilities for marketing them. Articles worth about Rs. 200 were made in fasli 1354 (1945 A.D.).

(b) *Bidri work* —*Bidri* work which means inlaying of silver ware done at Bidar is by far the best art industry in the State. Several Muslim and Hindu craftsmen are engaged in it. In the earlier days the *Bidri* ware industry confined itself to a few stereotyped designs and a small number of articles like *hookas*, trinket boxes, *etc.* Zinc is the most essential metal required for *Bidri* work. During the war there has been a remarkable expansion of this industry, particularly due to State aid. The annual output which was less than Rs. 5,000 in Fasli 1349 (1940) increased to Rs. 60,000 in 1354 (1945 A.D.). The price of zinc rose up to 800 per cent. and the material became scarce. The industry was threatened with extinction. The State Government went to its rescue and got release of sufficient quantity from the Munitions Directorate of the Government of India. The Cottage Industries Sales Depot is the largest consumer of the *bidri* ware. The depot has

given large help in guiding manufacturers in making new types of articles for the new class of consumers who were mostly military personnel passing through Hyderabad. In consequence a very large variety of articles is now seen in *bidri* ware. Further expansion of the industry is under the contemplation of the Government during the post war years.

Bidi Industry.—The *bidi* industry is in a flourishing condition in almost every town in the State. Most of the people of the State prefer local cigarettes and *bidis* to the imported tobacco manufactures. There are numerous *bidi* making factories run on cottage lines. Some of the *bidi* makers are financed by some merchants who supply *Tuki* leaves and the tobacco and other materials required for *bidi* making. The workers who include women and children manufacture *bidis* at home or at small *Karkhanas* and earn wages. The industry stands a good chance of capturing the outside market also because of the cheapness of the raw materials which are available in the State.

Salt Industry.—In the absence of Salt Laws in Hyderabad State salt manufacture existed from a long time as a cottage industry. The product is meeting local demands. It has been estimated that only about 44 thousand maunds of table salts and 18,500 maunds of tanning salts are produced in parts of Hyderabad and Gulburga Districts. Besides these Nitre is made from old village refuse and exported. The Geological Department of Hyderabad conducted experiments on starch evaporation methods and proved that large quantities of salt can be made on a cottage basis at a low cost as a supplementary occupation to agriculturists. It is also learnt that an enquiry conducted by the combined efforts

III. HYDERABAD: GENERAL CONDITION

of the Geological Survey and Industries Departments in Raichur and Gulburga districts has proved that besides table and tanning salts there is scope to manufacture Soda Ash, Nitre, Calcium Sulphate, etc., at several places. It is stated that some of these salts can find ready use in glass industry and others in the preparation of chemicals and fertilisers.

The State Government are giving help to the artisans. Apart from the various demonstration units like the tanning units and centres in the districts there is a Village Industries Training Centre formerly known as Cottage Industries Institute, (established in Fasli 1340, *i.e.*, 1931 A. D.). This has been making its contribution to the improvement of the handicrafts of the State by training the skilled artisans and organisers introducing improved appliances, supplying raw materials and giving technical advice and also by conducting experiments with a view to evolving new methods of manufacture.

The centre is run on semi-commercial lines and under workshop conditions. As designs play an important part in the success of any handicraft, free hand drawing, painting and designing are compulsory subjects for students of all sections. Preference in admission is given to sons of artisans having previous training in the trade. There is provision for 79 students with a stipend. The handicrafts taught are spinning, and weaving, dyeing and printing; cane and rattan work, lacquered toy making, embroidery and gem setting, etc. The centre gives technical assistance even to the ex-students who start their own industrial concerns. In Fasli 1353, 54 pupils and in Fasli 1354, 28 pupils received training at the centre.

A Cottage Industries Sales Depot was established in Fasli 1339 (1930 A.D.). The depot has solved the marketing difficulties of many cottage industries and put new life into some of the old specialities like Warangal Carpets, *Paithani* gold borders, Karimnagar silver *filigree* and *Bidri* ware. The sales increased from Rs. 17,800 in Fasli 1340 (1931 A.D.) to Rs. 1,59,894 in Fasli 1353, *i.e.*, by nine times. The depot has a Purdha Lady section with a sales woman and also a Ladies Advisory Committee to advise the depot in purchasing saleable articles. In Fasli 1354 (1945 A.D.) the depot bought goods worth Rs. 2,44,914 and sold goods worth Rs. 2,68,062.

3. INDUSTRIAL CO-OPERATION

The development of the co-operative movement among artisans was first confined to the credit side, but later on non-credit activities were taken up. Industrial co-operatives made some progress gradually covering a variety of cottage industries. In 1939-40 there were 92 co-operatives as follows:—

| Variety. | No. |
|--------------------------------|-------|
| Weavers' society | .. 60 |
| Gold and brass-smiths' society | .. 10 |
| Shoe-makers' society | .. 6 |
| Carpenters' society | .. 5 |
| Paper manufacturers' society | .. 4 |
| Dyers' society | .. 1 |
| Bidri workers' society | .. 1 |
| Tanners' society | .. 1 |
| Basket-makers' society | .. 1 |
| Cutlers' society | .. 1 |

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| | | |
|-------------------------|----|----|
| Potters' society | .. | 1 |
| Industrial soap factory | .. | 1 |
| | | — |
| | | 92 |
| | | — |

Of them the sixty weavers' societies had a membership of 1,345 and working capital of Rs. 1,67,003 while the remaining thirty-two societies had a membership of 454 and a working capital of Rs. 47,769 yielding a profit of Rs. 2,158. The war period has not seen any growth in the number of industrial co-operatives though financially some progress has been achieved. In July 1946 there were in all 91 societies as follows:—

| Serial No. | Kind of societies. | No. of societies. | No. of members. | Working capital. |
|------------|-------------------------|-------------------|-----------------|------------------|
| 1. | Weavers' Societies | 61 | 1,298 | 1,55,203 |
| 2. | Paper makers' Societies | 4 | 68 | 4,771 |
| 3. | Carpenters' „ | 5 | 72 | 9,630 |
| 4. | Smiths' „ | 9 | 171 | 19,412 |
| 5. | Dyers' „ | 1 | 10 | 1,458 |
| 6. | Shoe-makers' „ | 6 | 74 | 8,271 |
| | Total.. | 86 | 1,693 | 1,98,745 |

The total membership of the societies in July 1946, including the five miscellaneous societies also is 1753 with a working capital of Rs. 2,05,023. The owned capital was Rs. 1,17,064 forming 57 per cent. of the working capital. The Societies purchased goods worth Rs. 14,415 and sold goods worth Rs. 14,718.

IV.. JAIPUR (RAJPUTANA)

1. GENERAL FEATURES

Jaipur State is the fourth largest in Rajputana. It is ruled by the Maharajah, aided by a Council of Ministers.

The State has an area of 15,579 square miles and a population of about 30.41 lakhs out of which the majority are Hindus. The tract consists for the most part of level and open country.

About 60 per cent. of the people are engaged in agriculture and the rest in industry and other occupations.

Jaipur City is the capital. It is the largest town in Rajputana and also one of the few eastern cities laid out on a regular plan.

The normal revenue of the State is about 1.89 crores of rupees.

The State has numerous cottage industries many of which are artistic in character.

2. GENERAL CONDITION

Next to agriculture and live-stock industry such as rearing of cattle, sheep, camels, etc., cottage industries provide the most important occupation in Jaipur State as evidenced both by the number of persons supported by them and by the value of the goods produced. Of these, industries connected with the production of clothing, employ the largest number of workers, as spinners, weavers, dyers, printers, tailors, etc. In this note a short account is given of a few important cottage industries with suggestions for their future development.

Hand Spinning of Cotton.—This domestic craft is

carried on mainly in the Tehsils of Amber and Bairath. As a result of the activities of the All India Spinners' Association, Govindgarh, handspinning which was declining made remarkable progress, and handspun and hand woven 'Khadi' is now being produced very much in excess of the local requirements and consequently to be exported to places outside the State. For the development of handspinning, the Secretary of the All India Spinners' Association has submitted a scheme which is receiving the consideration of the Industries Department. The Government has allowed the export of pure 'Khadi' free of duty, while that of coarse handwoven cloth of mill-spun yarn is prohibited. Handloom cloth of fine counts (60s. and 80s.) can also be exported on payment of a heavy duty of 33 $\frac{1}{2}$ per cent.

Hand Weaving.—It is reported that about 6,200 handlooms (reliable figures are now being collected) exist in the State and practically all of them use mill-spun yarn. 'Pechas' and Saris of fine counts (60s. and 80s.) are being woven at Jhun-jhuru and Neem Ka Thana mostly for the use of Marwaris living in big cities outside the State. This industry has suffered recently on account of shortage of raw material, namely mill-spun yarn. For assisting this premier cottage industry, four demonstration parties are stationed by the Department of Industries in the four districts of the State, and improved handlooms and cottage warping sets are being introduced. During the last 18 months 511 of these looms were introduced among the weavers after they were trained to use them. The weavers are also encouraged to weave improved designs and to use fast dyes. As the progress in the development of handweaving is retarded on account of the scarcity of yarn, the Textile Controller is requested to

obtain a larger quota of yarn, preferably of finer counts, even in case the State is to forgo a part of its cloth quota.

Dye and Block Printing.—These are the oldest cottage industries of Jaipur with Sanganer as the famous centre; they have established markets in such distant places as Ahmedabad, Bombay, North-West Frontier Provinces and Afghanistan. These industries have suffered seriously, as the printers are not given the necessary cloth for printing. A few printers, however, do job work for the public or print coarse 'khadi' for local markets. The dyeing mastries of the Demonstration parties are teaching the printers the use of fast dyes.

Sheep Breeding and Wool Grading and Marketing.—Jaipur State has about $3\frac{1}{2}$ million sheep which produce about 5 million lbs. of wool. Less than 10 per cent. of this is consumed within the State and the balance is exported. The breed of sheep and the quality of wool have to be improved as the sheep are an important source of wealth in uncultivable tracts of land as those in Jaipur State. For this purpose, the services of a Sheep and Wool Improvement Officer have recently been engaged. Schemes for (1) a sheep breeding farm; (2) a wool testing laboratory and (3) a wool grading and marketing organisation have recently been submitted to the Government for sanction.

Carpet Weaving.—There are at present 31 carpet factories in Jaipur City and most of their production is being exported to foreign countries. On account of a slump in some of the foreign markets and of high prices for jute yarn, the output of this industry has recently declined. Efforts will be made to secure wider markets for

Jaipur carpets through the Marketing Organisation and the Agent, who will be shortly appointed in United Kingdom and Western Europe for securing orders for Jaipur craft products and artware. Local capitalists are also being encouraged to start a wool spinning mill which is an urgent necessity for the growth of the carpet industry. The carpet factories are now being helped in obtaining supplies of cotton yarn.

Felt manufacture.—During the War, Jaipur State supplied several thousands of yards of felt to the Indian Stores Department of Government of India. But the manufacture of felt is now completely stopped in the absence of orders. Efforts will now be made to secure markets for Jaipur felt in foreign countries. Malpura is noted for white felt or 'namda' of a finer quality for which the demand at present is small. It is, therefore, proposed to develop the trade in Malpura 'namda' by introducing attractive designs with embroidery work as in Kashmir products.

Manufacture of Woollen Blankets and Rugs.—During and at the termination of the War, a few factories came into existence for the manufacture of blankets and rugs for both the army and civil consumption. But blanket weaving is now practically stopped, on account of the very low prices offered for the products. With wider publicity through the Marketing Organisation, Jaipur, and with the orders to be obtained from the Jail, Police and Military departments of State Government, it is hoped to revive this industry.

Eri rearing.—Castor plant is grown in several parts of Jaipur State for the production of seed, and the foliage is now being wasted. If the agriculturists who remain idle

for the greater part of the year are trained to rear silk worms during favourable seasons and produce cocoons, they can earn an additional income. If this rural industry is established in the State, it is hoped that the economic condition of some of the agriculturists will improve appreciably. One 'Eri' rearing instructor has been appointed and he has carried on demonstrations at Jaipur West, Needar, Benar and Kanakpura. About 37 persons are reported to have been trained. Further development is being watched with interest.

Tanning and manufacture of leather goods.—These industries are next in importance to those producing textiles. A few hides and skins are being tanned by the 'Chamars' but in a very unsatisfactory and uneconomical way. Most of these hides and skins are now being exported for tanning outside the State and are imported in the form of finished leather and leather goods. According to the reports of Customs Department, about 20,000 maunds of these valuable raw materials are being exported every year from Khalsa areas. For the improvement of village tanning, it is suggested that there should be demonstration parties to teach the 'Chamars' the modern and rational methods of tanning. Similarly 'Mochies' should be trained to manufacture footwear and leather goods of superior quality and of better designs. Proposals for the starting of these parties have been drawn up and will be submitted to the Government.

Village pottery.—The village potter at present works with an inefficient wheel and kiln. The use of the foot driven potters' wheel and kiln of the improved type will have to be demonstrated for the benefit of these artisans.

II] . . . JAIPUR: GENERAL CONDITION

Village carpentry and smithy.—The tools at present employed by the village carpenters and blacksmiths are of the primitive type. These artisans have yet to learn the use of labour saving tools and modern methods of work. It is proposed to effect improvements in these industries by training the younger generation of blacksmiths and carpenters in the Technical Institute, for the starting of which proposals are submitted to the Government.

Lapidary work.—Of the various handicrafts carried on in Jaipur City, lapidary work or the cutting, shaping, faceting and polishing of precious, semi-precious synthetic stones, is the most important one, supporting nearly 10,000 persons. A few enterprising workers use improved polishing wheels driven by electric power. While no improvement can be suggested in the technique of preparing gems, these are to be helped with a regular supply of raw materials, *i.e.*, diamond quartz and rough stones. As they now work for the jewellers in Jaipur City on contract basis, their living depends upon the enterprise of these jewellers. If the latter fail to secure sufficient orders from outside, the lapidary workers remain unemployed. The Marketing Organisation will advertise and give publicity to Jaipur gems although it is not expected to carry on business in them.

Brass artware, sandal wood and ivory carving and marble work.—These famous art crafts have brought world-wide reputation to Jaipur State. Their products are being marketed by several local and other merchants, mostly in foreign countries. In the absence of standardisation of the products, uniformity in quality and workmanship and rational methods of marketing, the artware trade of Jaipur has made very little progress, if not declined.

The Government of Jaipur maintains a school of Arts and Crafts for training the younger generation of craftsmen. The Government Marketing Organisation, *i.e.*, Jaipur Crafts recently started, is trying to standardise the products of these and other cottage industries, give wide publicity to them and find new markets. For this purpose, the Marketing Organisation will study the requirements of foreign markets which are most paying, and will improve the designs accordingly.

Manufacture of hand-made paper.—Sanganer is famous for hand made paper and has at present 64 Karkhanas. During the war they supplied cardboard to cotton mills of Ahmedabad and Bombay. As there is no demand now for cardboard, the paper-makers manufacture writing paper for Bhai Khatas, envelopes, writing pads, etc., and also blotting paper. They are being helped in obtaining supplies of caustic soda, waste paper, maida, etc., since 1944. A well was also constructed at Sanganer with tanks round it for washing the pulp. The paper-makers of Sanganer have formed themselves into a society and are assisted by the Co-operative Department.

Basketry and Reed work.—This is a rural industry among certain classes of workers. Besides supplying the needs of the villages, they make such articles as 'Chiks' 'Mudas', chairs, etc., for urban people. Under the rural development scheme, it is proposed to teach this industry in an industrial school to be started at Bassi. Incidentally it may be stated that four such industrial schools are to be started in the four districts, to teach the improved methods of wool and carpet weaving, basketry and reed work, wood turning and lacquer work, and felt manufacture.

Copper brass and bell metal work.—The making of domestic utensils such as 'Thalis', 'Katoras', 'Kelas', 'Lotas', etc., provides lucrative employment for the 'Theteras' of Jaipur City, Sawai Madhopur, Sri Madhopur and a few other towns. Jaipur is noted for 'Bharat' articles such as 'Hukka-Kolis', 'Lotas', etc. The raw material for these is all imported either in the form of sheets or scrap metals. The sheets are of two types, (1) machine rolled and (2) hand rolled from Rewari and Jagdhri. Improvement in the designs and introduction of labour saving tools will be introduced in this industry by starting a class for non-ferrous metal work in the proposed Technical Institute at Jaipur.

There are a few other cottage industries of less importance and mention has not been made of them in this note. These include gold and silver smithy, enamelling, electroplating, stone carving (both soft and granite), wire drawing and gota weaving, embroidery and needle work, toy-making, lacquer work, making of lac bangles, tailoring, *papier mache* work, etc.

V. JAMMU AND KASHMIR

1. GENERAL FEATURES

The State of Jammu and Kashmir is the northernmost State. The administration is carried on by the Maharaja and a Council of Ministers.

The area of the State is 84,471 square miles with a population of 40,21,616 in 1941 of which over 80 per cent. are Muslims and the rest Hindus.

The country is hilly with irregular rainfall. It has an extensive forest area. The country is very picturesque.

The people are mostly agricultural and pastoral. The principal crops are rice, maize, wheat, oilseeds, etc. The State has a wealth of fruits. The forest wealth consists of timber, lac, etc. The chief minerals of the territory are zinc, copper, bauxite, etc. The *silk* industry of Kashmir is important.

The State has about 400 miles of good road and short railway line. The country is too uneven for the extension of railway and road.

Srinagar is the capital of the State and Jammu a sister town of equal importance.

The revenue of the State in 1945-46 was Rs. 4.62 crores.

There are numerous arts and crafts in the State.

2. GENERAL CONDITION

Kashmir, the Switzerland of India is a land of numerous cottage industries covering a wide range of utilitarian and art crafts. The following is the present position of some of the important cottage industries of the State.

III] JAMMU & KASHMIR: GENERAL CONDITION

1. *Carpets*.—The origin of the carpet industry of Kashmir dates back to the fifteenth century, when it was introduced by Zain-ul-Abidin (1423-1474) with the help of foreign artisans. It developed rapidly under Kashmir rulers. A carpet was prepared for Maharaja Ranjit Singh with a ground showing the natural beauty of Kashmir green turf with pink roses and almond blossoms. That was the golden age of the art. Various designs woven in the State were very popular in France and other European countries. The industry suffered a depression in the last decade. With a view to keep the industry alive the Government have granted a subsidy of two lakhs of rupees.

Kashmir carpets are manufactured mostly from woollen and cotton yarn in a variety of shades matching the colours in the design. Properly twisted cotton yarn is warped and set up on the loom where on the woollen yarn is piled. A class of artists called '*Talim* writers' draw the designs of the carpets and the designs are translated in symbolic script by the weavers. The weaver works in a mechanical way weaving out to the dictation of the scripts keeping in view the number of knots to be tied in a particular colour.

The quality of the carpet depends upon the number of knots per square inch. The greater the number of knots, the costlier is the carpet. The industry is engaging about 1250 workers, and is localised in Srinagar only.

The products are exported to foreign countries and other parts of India. The exports of 1945 amounted to Rs. 3 lakhs.

2. *Shawls and Pashmina*.—The shawl industry of Kashmir is very old. In its present form it was introduced in Kashmir by one Naqad beg Turkistani in Hijri 961. It

received great impetus during the Afghan periods and the products used to be exported to Kabul and Khandahar, where the Afghans used to wear shawls as their head dress. It flourished during the Moghul period also. In 1216 Hijri, when the industry was at its zenith there were 18,000 establishments with 45,000 weavers in Kashmir.

Shawls are of two kinds. (1) The *Kani* or loom woven kind and (2) *Amlī* in which plain *pashmina* is embroidered. *Pashmina* cloth is made of one to four threads of soft wool obtained from the shawl-goat. *Pashmina* products have a rich variety ranging from ordinary to superfine texture. *Pashmina* suitings of modern designs are becoming very popular. *Pashmina* and silk are woven together to give both strength and softness to the cloth.

Another variety of woollen manufactures is *Tashas*. They are manufactured from special under wool of Tibet, Skardu, and Ladakh. A piece one and a half yards wide, is so fine, that it can easily pass through a ring.

3. *Embroidery and Needle work*.—This industry is as old as the shawl industry. It is the art of working on designs drawn on fabrics of cotton, silk *pashmina* wool with thread of different kinds. Much depends on the skill of the fingers and the beauty of the designs. This small scale industry gives employment to about 2,000 persons. The following are the chief types of work relating to the industry.

(a) *Amlī*.—In this the design is worked in almost imperceptible stitches covering the whole ground in an elaborate pattern. Work at one shawl may take one year. This type of work can be seen on old *chogas*.

II] JAMMU & KASHMIR: GENERAL CONDITION

(b) *Chikan*.—This consists in minute satin stitches in silk, *pashmina* or cotton thread. This popular style of embroidery has floral designs and comprises ladies dress-ware, curtains, cushion covers, table covers, bed covers, etc.

(c) *Chhabi*.—Chikan work done in white silk thread on white *pashmina* ground is called Chhabi.

(d) *Doori*.—This is knot stitch work usually done on shawls, ladies' coats, and *chogas*, etc.

(e) *Ismes*.—This is coarse work done on handspun woollens, white and coarse cotton cloth.

Embroidery in general has maintained its reputation but has been handicapped for want of enough spun silk, raffle cloth and yarn to keep the labour engaged.

4. *Silk Industry*.—The rearing of silk worm is a highly organised cottage industry. There are two silk reeling factories in the State. There are about 156 power looms and 1,500 handlooms producing 30,00,000 of yards silk per year and engaging about 12,000 people in all. The silk weaving factories were not able to get enough Kashmiri silk yarn. Spun silk also was hardly available.

5. *Patoo Patti Loi*.—Three kinds of hand made cloth namely, Patoo (tweed cloth), Patti (milled blankets) and Lois (blankets) are commonly made in Kashmir. Pattis are generally made by milling old condemned lois. Milling thickens the cloth by shortening the size and gives it a soft surface. About 40,000 people are engaged in the industry. Sopore and Pampore are the chief centres. Large handmade woollen supplies were made by the State to Government of India during the war. There is now a large demand for fashionable *pashmina* patoo because of its softness and warmth.

6. *Gubba Industry*.—Gubba industry whose origin is shrouded in mystery, is peculiar to Kashmir. Anantnag is its centre. This consists in the washing and milling of worn out blankets or *lois* and then dyeing them in various colours. There are two classes of gubbas, namely, embroidered and applique and also another class combining the two. The first contains designs based on scenery and foliage of Kashmir. The second is in-lay work in which dyed pieces of patoo are cut into designs, and inserted into the ground surface, and held in by stitching.

7. *Namdas Industry*.—There are two kinds of namdas, mixed and pure wool namdas. In the former, cotton is mixed. The wool is Hastnagiri wool got from Panipet, Punjab. The wool is carded and placed on a mat evenly in a rectangular shape, and soap solution is sprinkled over it. The mat is then rolled. Repetition of this process felts the wool. In the mixed one there is a layer of cotton between layers of wool. Of the various sizes of *namdas*, four feet by six feet is the standard size. It weighs from 2 to 3 seers. Other sizes are 9' by 12'; 2' by 3'; 1' by 1½'. The industry is now rapidly progressing and engaging 2,000 people.

8. *Silverware Industry*.—Kashmir silverware is famous. Kashmir formerly produced engraved goods, but now work is plain, highly polished, consisting of varieties like, tea sets, spoons, tumblers, cigarette and toilet cases, mirror and picture frames, flower vases, etc. Some of the common designs are Chinnar pattern, Persia pattern, Lotus pattern, Hazara pattern, etc. The silver is 96 per cent. pure. The chief centre of this handicraft is Srinagar. In spite of the high price of silver the industry is flourishing.

II] JAMMU & KASHMIR: GENERAL CONDITION

9. *Stones and Jewellery.*—Of late ornaments of glass and ordinary stones such as necklaces, ear rings, bracelets, links, etc., have become very popular in the State. A number of goldsmiths find employment in this art craft in some parts of the State.

10. *Wood carving and furniture.*—Kashmir wood carving has made a name. Seasoned walnut wood is used for carving after being sawn into small planks and pieces. Seasoning is done by allowing the wood to dry up in two to five years. The design is drawn on the plank and then carved out by the employment division of labour, which consists in the carving of complicated portions by skilled carvers, and ordinary ones by the others.

There are three types of wood work, raised, undercut and engraved. Tables, trays, book-ends, etc., are some popular varieties. About 5,000 people are engaged in the work. Srinagar is the only centre. There are about 40 concerns, in addition to a large number of wood carvers. The industry suffered due to railway ban on export of furniture. Highly polished plain furniture also is manufactured in the State in modern designs and natural colours.

11. *Hand made paper industry.*—The paper is made out of cotton waste, old cloths, and rags, and hemp. On account of paper scarcity caused by the war, hand made paper industry received an impetus. There is a great future for this industry.

12. *Papier mache.*—The painted *papier mache* wares of Kashmir are very famous. They have a variety of designs like shawl pattern, floral scenes, Chinnar leaf, bulb and king-fisher figures, etc. The products include powder and pulp boxes, cigarette boxes, writing sets, finger bowls, shades, vases, fancy tables, toilet sets, etc.

These articles are made out of paper pulp which is prepared from waste paper and starch. In the place of paper soft ground wood is also used. This industry is a speciality of Kashmir and engages about 3,000 people. This is localised in Srinagar and inspite of poor exports, did fairly well.

13. *Wicker work*.—Wicker work is one of the young industries of Kashmir and it had made much progress. English willow is used as raw material and the products include chairs, baskets, flower vases, photo frames, cradles, etc. There was much difficulty in obtaining good quality willow during war time.

14. *Metal work*.—There is a great variety of articles made of metal. Several kinds of sticks, knives, forks, and surgical instruments are produced. Kashmir nut-crackers are considered very attractive. Of late both carved and plain electro-plated nickel silver articles have become very popular, being both cheap and attractive. Due to difficulties in securing necessary metal sheet quota, some small *karkhanas* had to close down. The industry has a good future.

15. *Hosiery*.—The hosiery products of Kashmir compare very favourably with foreign goods in finish and workmanship. Due to absence of foreign imports, there has been a great demand for local products. Two workshops had been started at Jammu but the industry suffered for want of yarn. The products include sweaters, pull overs, socks, gloves, underwear, etc., etc.

16. *Cotton handloom weaving*.—It is the largest single industry of the State. There was a heavy demand for handloom products. More than 45,000 looms are engaged in the industry. The industry suffered much due to

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scarcity of yarn. The Department of Industries tried its best to secure yarn quota for the weavers but met with very little success.

17. *Soap Industry*.—This is one of the flourishing industries of the province. Yet it was handicapped during war. There was difficulty for some time in the supply of oil for soap making. The Punjab Government however later removed the ban on export of oil from the Punjab at the request made by the Department. The manufacturers felt some difficulty when Government prohibited the use of *maida* in soap making due to food scarcity.

18. *Pottery*.—Pottery on a cottage scale is to be seen in several parts of Jammu and Kashmir. In Jammu some new potteries on cottage scale have been recently started. There is much improvement in the production which includes the production of glazed tea sets which have come into the market for the first time. Srinagar is a very important centre for pottery.

19. *Leather tanning*.—There is a cottage tannery at Shalteng and other important centres. Tanning requires some improvement. Expert technical staff will help the improvement of the industry in the State.

20. *Boot polish*.—There are numerous boot polish making workshops producing boot polish for government supply and civilian consumption.

21. The State has many other small industries such as bee keeping, poultry keeping and toy making.

VI. MYSORE

1. GENERAL FEATURES

Mysore is an important State in South India. The administration is carried on by the Maha Rajah assisted by his Ministers and a bicameral Legislature.

The country is a table land with irregular rainfall.

The State is 29,474 square miles in area with a population of 65,57,302 in 1941 out of which over 95 per cent. are Hindus. The chief language is Kannada (Kanarese).

Over 75 per cent. of the people depend on agriculture. The chief crops are rice, millets, gram, sugarcane and cotton. The chief minerals are gold, bauxite and asbestos. The important industries are iron, silk, sugar and soap.

The State has a fairly long railway line and road fit for wheeled traffic.

Mysore is the capital of the State and Bangalore the other important city.

The revenue and expenditure of the State in 1943-44 were Rs. 8.57 crores and Rs. 8.54 crores respectively.

The State is famous for numerous cottage industries many of which are of artistic value.

2. GENERAL CONDITION

Mysore is endowed with certain natural resources conducive to industrial development. Consequently certain important cottage industries have developed in the State. As in other parts of India local craftsmanship though not organized had the patronage of the Royal Court

which helped the development of industries. . The market is largely confined to the State except in the case of artistic ware which transcends not only the State boundaries but also the national limits.

Indigenous industries of Mysore have been classified into two classes—tottering industries and surviving industries. Those industries in which capital plays a significant part and which specially lend themselves to wholesale production are in a decayed condition. Wherever individual enterprise is most effective or labour costs are proportionately large in the value of an article the indigenous industries have maintained their position.

The following is the present position of the surviving industries of Mysore. Among the surviving industries of Mysore before the War those that employed more than 1,000 families were handloom weaving in cotton, silk and wool, silk worm rearing, pottery, blacksmithy, jewellery, oil pressing, basket making, carpentry, leather working and mat making. Industries employing about 1,000 families were tailoring, *nakki* making, *beedi* making, rope twisting, perfumery and scented joss sticks, wood carving, rattan work and toy making. The war has increased employment in industries like tailoring and rope making. Mysore district and Bangalore district rank as the best regions of cottage industries. Next come Tumkur, Chitaldrug and Kolar districts.

1. *Cotton weaving*.—Nearly 25,000 men and 1,000 women were engaged in this industry. There were 30,000 looms and nearly 35 lakhs of pounds of yarn was consumed by the looms. About 40 per cent. of the industry is concentrated in Bangalore district. Cotton yarn of

20s. and 30s. is used for pure cotton fabrics and 40s. for admixture of silk. Handloom weaving in cotton meets one-third of the demand of the State and was worth a crore of rupees before the war.

The weavers are indebted to local merchants and financiers. Their preparatory processes, *viz.*, winding, warping and sizing are still primitive and uneconomical.

2. *Wool spinning and weaving.*—This industry is found in Tumkur, Chitaldrug and Mysore Districts. About 20,000 persons and 75,000 looms are engaged in the woollen industry. The total value of the production per annum is about Rs. 13.25 lakhs. The raw material is produced in the State and consists of live wool and tannery wool. The annual yield of wool is worked at about 2.7 million pounds, imported wool being about 3 million pounds.

Different types of woollen products are made at different centres thus effecting localisation of varieties.

The economic condition of the wool weavers is similar to that of cotton weavers. The preparatory processes are also defective as in the case of cotton industry.

Carpet making is an important branch of the woollen industry. Bangalore carpets are known all over India and have a large demand in the United States of America and United Kingdom, Australia and other foreign countries. Over 200 looms and 700 persons are engaged in carpet industry and the annual production is over a lakh of square yards valued at Rs. 3 lakhs.

3. *Sericulture.*—Sericulture is the most important cottage industry of Mysore. Two important natural factors, climate and soil conditions, have helped the development of this industry which is now a century old.

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Sericulture is only subsidiary to agriculture. This industry gets the worker income frequently because 4 or 5 crops of worms are raised during the year. 45,000 families are engaged in silk worm rearing and mulberry cultivation. About 70,000 families are engaged in silk reeling and other occupations. About one-sixth of the population of the State is engaged in this industry.

Before the Economic Depression, over 50,000 acres were under mulberry cultivation. Before the War the acreage had fallen by about 50 per cent. but the crisis had been tided over due to the parental care of the State.

The sericultural industry comprises three types of operations. (a) Mulberry cultivation and silk worm rearing. (b) Silk reeling. (c) Trade. These three types are carried on by three different types of business groups. The bush variety of mulberry is grown in Mysore and 75 per cent. of the cost of producing cocoons is due to the cost of providing mulberry leaves. Mysore has a distinct race of indigenous silk worms known as *multivoltine* species. Foreign varieties are reared in Government farms to get hybrids which yield 40 per cent. more silk than the indigenous variety.

Silk reeling is done by professional reelers on *charkas* of which there are about 4,000 in the State. Before the War over 80 per cent. of the raw silk was reeled thus. The reelers sell the raw silk through big merchants who maintain silk *kotis* or depots and who advance money on interest to reelers and undertake to sell their product for a commission. There are also intermediary brokers between the rearers, reelers, and merchants. About 30 to 40 per cent. of the silk is consumed in the State by

the silk looms which number 8,000 and the remainder is exported outside India.

The main cause of the decline of the industry before War and upto hostility with Japan was Japanese and Chinese competition which consisted in the importation into India of raw silk and artificial silk yarn and silk piece goods. The weakness of Mysore industry consisted in higher costs of production and lower efficiency of organisation than in Japan and in China. The Mysore Government took measures to better the conditions of the industry. First it tried to reduce the cost of production by supplying disease-free layings to the sericulturists and also by distributing hybrid varieties. Research in mulberry cultivation is also done by the State. Better methods of reeling silk are introduced by the Mysore Domestic Basin System, and by education and demonstration. Co-operative societies also are being organised for promotion of cultivation among sericulturists.

4. *Jaggery making*.—Most of the sugar cane grown in Mysore was being converted into jaggery till recently by primitive processes which were wasteful. So the Department of Industries has introduced some technical changes both in the extraction of the juice and the conversion of it into jaggery. The three-roller iron mills have largely replaced the primitive wooden rollers. The industry offers a good prospect provided these important processes are adopted.

5. *Wood and ivory work*.—Like many other Indian States Mysore is very famous for its art-crafts. One of its most important art industries is sandalwood carving which is done in Shimoga by a class of artisans known as

Gudigas. They make images of deities, caskets animals, intricate interlacing of foliage and products of very delicate workmanship. Due to lack of a steady demand they do not keep a stock. If they are taught to introduce more realism in their art and to carve in more designs and also if they are provided with a central organisation to finance them and to market their goods their products would have good foreign market also. Another important cottage industry is inlaying ebony and rosewood with ivory. This work is done by Mohamedans. The products are tea trays, soap boxes, paper weights and so on. Since these artisans lack artistic ideas for want of education some of the designs are dull and commonplace. The improvements suggested for sandalwood workers may be adopted for these workers also.

Chennapatna is noted for its lacquered toys. The other centres are Bangalore, Closepet, Bidedi and Kankanhalli and Nelamangala. About 1,000 persons including women and children are engaged in the industry. The principal raw material is *Haley* wood obtained from the State forests. The annual export of toys from Mysore amounted to Rs. 3 lakhs. The manufacture of musical instruments is another important art industry whose market extends beyond the State limits. The absence of new designs which is a defect in other art industries is seen in this industry also.

6. *Nakki weaving*.—The origin of this industry in the State is not known. The raw material, *viz.* *Lametta* which is a kind of imitation gilt or silver copper wire was largely imported from France in pre-war days and partly from other parts of India. The market for this product is in Northern India where there is a keen competition with

the products of Delhi, Jullundur and Ajmere. Yet strangely enough it is localised in Mysore. About 400 families of Soma Vamsa Kshatriyas are engaged in this industry. About 650 looms are employed. The annual output is 100 cases of 200 lbs. each valued at Rs. 30,000 at pre-war prices. In recent years some two local firms of Bangalore have started this industry producing 3,000 lbs. per month.

7. *Joss sticks and perfumery.*—Bangalore, Mysore, Chikbalapur and Chintamani are the chief centres of this industry in which women are engaged. The annual out-put is about 20,000 maunds valued at Rs. 3 lakhs. Bangalore alone accounts for two-thirds of it. About 3,500 persons are engaged in this industry. The industry is suffering from internal and external competition and is in need of a central organisation to help its growth.

8. *Extraction of oil.*—Oil extraction industry is in a transition state because the oil mills are displacing the primitive methods of oil pressing. An improvement in technique of oil extraction on cottage scale is vital to the improvement of this industry.

9. *Miscellaneous.*—Poultry farming, basket making, and other small industries are also pursued but they are only subsidiary occupations.

Co-operatives are cells of Brotherhood.

—DR. E. STANLEY JONES.

VII. TRAVANCORE

1. GENERAL FEATURES

Travancore State, situated in the south-west portion of the Indian peninsula, is a picturesque State. The administration is carried on by the Maha Rajah assisted by his Council of Ministers and advised by a bicameral Legislature.

The State is 7,661 square miles in area with a population of 69,70,018 in 1941, out of which over 90 per cent. are Hindus and the rest Christians, Muslims, *etc.* The tract has a good climate, with about 200 inches rainfall. The State is covered with a vast forest region.

Most of the people depend on agriculture. The principal food grain is rice. But the main source of agricultural wealth is coconut. The other crops are pepper, areca-nut and sugarcane. The forests are rich in teak, sandal and other woods, tea and rubber and numerous minerals like graphite, mica and kaolin. The State has many large industries like coir, coconut oil, and ceramics.

The territory has 100 miles of railway and 500 miles of road and a net work of waterways.

Trivandrum is the capital.

The revenue of the State is about Rs. 5.32 crores.

There are numerous cottage industries in the State many of which are of artistic value.

2. GENERAL CONDITION*

There is hardly any other country in the world which is so rich in the variety and indigenous character of its cottage industries as Travancore. A land of remarkable and unequalled beauty, Nature has enraptured the art and enriched the life of Travancore. Her ever-green forests, her palmy back waters, her *flora* and *fauna*, while enhancing her beauty, have also contributed to the material prosperity and aesthetic achievements of her agro-industrial artisan population. The impact of western civilisation, symbolised in the dumping of cheap products of the machine age, had for a short time dimmed the popularity and value of the cottage industry products of Travancore also, But even in those periods, Travancore works of art held their own and were widely appreciated in the discerning courts of Royalties and aristocracies of the world.

There has been a remarkable development of both large scale and cottage industries in Travancore, of late, as a direct consequence of the policy of industrialisation of the State. The Pallivasal Hydro Electric Scheme, now supported and supplemented by others under way, has made available cheap power to several villages. The State is well provided with a net work of roads covering the length and breadth of the country. These roads combine with a natural system of backwaters and canals to render easy communications, which are so vital to the industrial life of the State.

Kerala has developed through the course of ages a culture all its own, and as a result, a number of industries to

*Contributed by Sri G. R. Pillai, B.A., B.L., H.D.C. (Manchester), Hony. Secretary, The Travancore Central Cottage Industries Cooperative Society.

II] TRAVANCORE: GENERAL CONDITION

provide for the artistic and utilitarian needs of that culture sprang up. Most of them survive to the present day. It has been the constant endeavour of the Cottage Industries Movement to sustain and rehabilitate the indigenous industries of old, and bring them into line with modern demands and requirements. In the main these industries fall under the following heads:—

Handloom products, Coir goods, Ivory and Horn-carvings, Rattan, Reed and Grass-works, Wooden Toys, Bell-Metal Curios, Screw-pine Articles.

(i) *Handloom products*.—Travancore has been a producer of cotton cloth from time immemorial, as the evidence of the earliest Phoenecian and Arab traders shows. In spite of the drastic changes brought about in the dress of the people by the impact of foreign imports and the introduction of cheap mill-made goods, a large internal market has been available for the local industry. Women in particular clung tenaciously to the artistic fabrics which could not be made by mills. The patronage of the Royal Family also helped a great deal to keep them alive in fashion.

The proportion of fly-shuttle looms used is largest in Travancore nearing 89 per cent. Hand weaving is a cottage industry. Most of the workers are full-time workers. Contrary to the popular conception that handlooms hold a sort of monopoly over the coarser counts, the handlooms of Travancore are in fact engaged in the weaving of the finest counts. The *Neryathu* (meaning, "Fine Product") is distinctive of Travancore. Handlooms produce: (i) Cloth from extremely fine material, *e.g.*, yarn of counts above 80s., (ii) cloth interwoven with gold and silver threads, (iii) cloth with multi-colour designs, (iv) cloth

with embellished borders and headings and (v) short pieces with intricate designs to meet individual tastes.

The agency of the co-operative societies has been made use of for the purchase and distribution of yarn to the weavers, and for the marketing of their produce; fifty per cent. of the weavers in the State are members of the Co-operative Society for them, to organise their business.

(ii) *Coir*.—Travancore stands foremost in the market for the quality and quantity of its coir products. The backwaters that adorn the whole of the west coast form excellent reservoirs for the soaking and retting of the coconut husks, preparatory to their conversion into coir yarn. The spinning of coir yarn is a cottage industry almost universal on the west coast and provides occupation for a large number of men and women. The weaving is carried on both on cottage and factory scale. The war has given a tremendous fillip to this industry and Travancore has been able to cope with a very great demand for coir articles for war purposes.

Coir is capable of an infinite number of uses ranging from common cordage to costly carpets. From dyed yarn and fibre are fashioned a variety of useful and fancy articles such as rugs of standard and special measurements and designs, or with fancy stripes, door mats, bags *etc.*

(iii) *Ivory*.—Travancore forests are very famous for elephants; and the fame of the ivory carving in the State and the skill and art of the workmen is ages old. "No substance but the tusks of the elephant presents the characteristics of the true ivory", and it may be truly said of Travancore that, although the rarity and value of ivory have frequently obliged workmen elsewhere to use commoner and less valuable material, workmen here scorn

II]. TRAVANCORE: GENERAL CONDITION

to handle any but the genuine tusk. From the days of the Greek and Roman civilisations, ivory has been exported from the country; and even in the Bible, ivory has a reference to the "magnificence" gathered from the country. European connoisseurs have never failed to note the excellence of Travancore ivory work as an example of rare Indian art, and a writer refers to the "Ivory throne with a foot-stool sent as a present to Queen Victoria from India, and displayed at the London Exhibition in 1851." Beautiful ivory caskets had found their way to Europe long before the 16th century. A great many objects of great charm and attraction are being made at present and it may be generally stated without fear of contradiction that Travancore 'Ivories' are unsurpassed in their flawlessness of line according to both Ancient and Modern Schools of Art. Among the figures carved are (1) images of Hindu Gods and Goddesses ranging in size from 3" to 10" (sitting and standing postures, single or double or groups), (2) Christian figures, (3) artistic nudes including dancing figures in various poses, (4) fancy and decorative figures, (5) figures of Indian art style, (6) village scenes and occupations, (7) animal models, (8) portraitures (reliefs and statuettes), (9) curios, *e.g.*, 100 elephants in a *single* bean and (10) utility articles such as combs, paper weights, paper cutters, cigarette cases, *etc.*

(iv) *Horn*.—What is done in ivory, is also done in horn, principally, buffalo horn. The plentiful supply of this medium allows a more liberal outlay of figures and table ornaments, walking sticks, and other articles in tune with ever changing fashions.

(v) *Bell metal mirrors*.—The bell metal mirror is a speciality of Travancore in metallurgy. A metal mirror with a highly polished surface is no new idea, but the strikingly glass-like finish (which process is a hereditary secret), imparted to these mirrors is worthy of note. Though the article cannot be turned out on a large scale, its value as a curio product of an ancient process cannot be overrated.

(vi) *Toys*.—Another cottage industry that existed in embryo long ago, but has recently sprung up into large scale production is the manufacture of wooden and cloth toys. A variety of durable wood is available in the State and a variety of articles which are sure to attract the *juvenile public* are daily turned out. Among them are a considerable number of modern war weapons such as anti-aircraft guns, armoured cars, tanks, bombers and fighters, destroyers, aircraft carriers, *etc.*; also nursery furniture including chairs and tables, commodes, blackboard and easel, rocking horses in assorted colours, a variety of animals, *etc.*

In the line of cloth toys, there is a fascinating collection of items (small, medium and large sizes) of cotton wool animals, assorted dolls, *de luxe* 'Doll Boys', dolls wearing saris, "*curleta*" Doll with long hair, *etc.*

Under miscellaneous products come all sorts of brooms, brushes for clothes, floor and furniture, fancy electric light stands and useful articles such as book-ends, trays, *etc.*, turned out in various tasteful designs of genuine material.

(vii) *Rattan and screwpine*.—Rattan work falls naturally under the heading of 'Travancore Cottage Industries', as the cane grows in abundance in the Travancore



The Aranmulla Metal Mirror—Polishing



Bidri Work (Polishing)

Muradabad, U. P.

forests and products are made on the cottage industry basis. All articles of furniture in latest styles of comfort are made and there is still infinite scope for development. Foremost among the articles are chairs and tables, picnic luncheon boxes, flower baskets, linen boxes, *etc.*

Although screw pine work is not new in Travancore, new and cardinal departures are being made in its industrial use. All kinds of fancy articles like dinner mats, shopping bags, hand bags, purses, night cases, tea cosies, table centres, *etc.*, are now available in screw pine work of cheerful design.

(viii) The grass matting of Travancore deserves mention as a high quality floor cover material. It can be had in plain, striped or chequered designs. Wall-mats with painted scenery of sketch portraits of prominent people are available. The grass is durable and capable of high finish.

The Industries Sub-committee of the Post War Reconstruction Committee are in charge of the development schemes relating to cottage industries. Three surveys, namely Coir, Bell metal and Screwpine work, have been sanctioned by the Committee. The surveys are being taken on hand. The surveys mark the scientific approach on the part of the authorities to the problems connected with the development of cottage industries.

3. INDUSTRIAL CO-OPERATION

Cottage industries are a very important feature of Travancore's economic life. There had been for some years past some co-operative activity among artisans. With a view to co-ordinate the efforts of the artisans towards co-operative organisation, the Co-operative Department has been doing its best. The textile industry which is the

largest single industry next to agriculture has first drawn the attention of the Department. There are in the State about 20,000 weavers and 50,000 looms. A large number of them have been organised into co-operative societies. The State has a Central Weavers' Co-operative known as "The Travancore Srimoolam Handloom Weavers' Central Co-operative Society Ltd." It has a Board of management nominated by the Government and presided over by the Registrar of Co-operative Societies, Travancore. Over 200 weavers' co-operatives have been affiliated to the Central Society.

This Central Society enjoys much support from Government in respect of yarn supply and cloth marketing. About 40 percent of the yarn imported into the State has been allotted to the Central Society. 3,760 bales of yarn have been distributed by this Central organisation to its constituents. Cloth to the value of about Rs. 3.24 lakhs which has been processed and finished by the primaries has been purchased and sold by this central organisation. A sort of standardisation of quality in some lines of production has been introduced by this organisation. Textile dyeing and screen printing also form important parts of the activity of the Central Society.

The main idea of this Society is to eliminate the middle men who exploit the poor artisans. The Society desires to bring all the weavers in the State into the co-operative fold. The work so far done leaves much to be desired. The Society has not been able to supply enough yarn to its members. The work on the whole is fairly encouraging; for the Society has made some profits and has purchased an acre of land in the capital for putting up buildings. The installation of a bleaching and calendering plant for finishing the production of the weavers is under contemplation.

II] TRAVANCOKE: INDL. CO-OPERATION

Collecting of lime shells is another important industry which has drawn the attention of the Co-operative Department. Near the Vembanad Lake there are rich deposits of lime shells which are useful for cement manufacture. There are two co-operatives of divers there for collecting lime shells. These societies are endeavouring to save the divers from the clutches of middle men. The Co-operative Department has placed these societies under a Co-operative Inspector. The societies issue licences for collecting shells. Over a hundred divers are engaged in this industry. During 1944 to 1946, the two societies collected 37,637 tons of shells and received Rs. 1,18,853 as part-payment and Rs. 12,000 as bonus. The societies have reserve and other funds to the extent of Rs. 48,000.

Screw-pine workers have a co-operative society at Tazhava. The society produces screw-pine mats and other fancy articles. The products have a wide market. For instance, it supplied mat bags for laundry chips to the Tata Soap Factory. There is a co-operative for korai grass mat weavers also. A survey of screw-pine and korai grass industries is under active contemplation of the Government.

There are a few co-operatives for coir workers. The coir industry is largely in the hands of middle-men. The State is endeavouring to organise numerous coir workers' co-operatives all along the back water region and to open licenced ware houses for stocking and marketing the coir to the best advantage of the producer. The Whole sale Co-operative Society at Alleppey has opened a coir department. Producers may deposit their coir in its ware house and receive ware house warrants which will be negotiable instruments. The Licenced Ware-houses Act which legalises these instruments is said to be unique in India. With-

in three months of its starting of this business, the coir department received deposits of 913 candies of coir yarn and advanced Rs. 1.14 lakhs. It sold 687 candies to factories. This ware housing is very popular in the State.

Co-operative organisation is seen in a few other industries also, such as ivory carving. A Central Cottage Industries Society has been started to provide raw materials to artisans and to purchase and sell their products. In 1946 it had a membership of 608 and had a paid up share capital of Rs. 18,195. About 60 suppliers generally supplied goods to the value of Rs. 32,631 and received advance of Rs. 19,734. The goods are sold abroad or at exhibitions. The Government have sanctioned an interest-free loan of Rs. 50,000 for 3 years, and paid Rs. 6,000 towards working expenses.

The war helped the cottage industries of Travancore to organise themselves on co-operative lines. The State is doing its best to prevent a set-back, threatened by changing conditions.

III. DEVELOPMENT PLANS IN PROVINCES

I. BENGAL

1. HANDLOOM WEAVING

While consolidating the existing Weavers' Co-operative Societies, the Government have a plan for expanding the weavers' co-operative movement further. The Co-operative Directorate has a post-war scheme for the development of the handloom industry. Under this scheme it is contemplated to organize 57 Industrial Unions in 57 subdivisions. Adequate staff has been provided for to supervise these Unions and bring them under efficient technical guidance. Loan at the initial stage of these Unions, subsidy for the first 5 years and provision for 4 calendering plants at four important handloom centres are the other salient features of the scheme. The establishment of a central yarn depot at Calcutta for purchasing yarn direct from mills and distribution to Unions, the opening of a cotton spinning mill to feed co-operative handlooms and a central dyeing factory attached to the yarn depot for supplying ready-sized beams to weavers are some of the other features of the scheme in view. The Government would maintain an adequate staff for supervision and technical guidance, propaganda and marketing. Grants would be given to Unions or societies in accordance with the special requirements, local conditions and productive capacity of their members.

2. SCHEME FOR INDUSTRIAL CENTRES

[Development Scheme No. 114-A (63-A)]

(Department of Co-operation)

Objectives.—To develop village industries on commercial lines in village factories, under a centralized adminis-

tration for planning, supply and marketing, so that such industries may hold their own in the progressive industrial fields: to employ artisans and unskilled workers in these factories and train them in improved techniques and the use of modern machinery and tools.

Brief description.—One hundred Industrial Centres will be established in areas which have traditional village industries, or are suitable for the organisation of new industries and will be situated in the villages. The organisation will be run as a commercial enterprise, with the object of making all the Centres pay for themselves and also meet all the expenses of the scheme. The operation and production of the Centres, the organisation of purchasing, supply and marketing, budgeting and accounts, will be planned by the administrative and technical staff of the Head Office and will be directed through five regional agencies. A Staff Training and Research Centre, will be organized in or near Calcutta as a model Industrial Centre, at which all executive and operational staff will receive practical training in factory organisation and management and where new techniques, machinery or materials will be tried out. The nett profits or surplus from any centre, subject to an accrued minimum of Rs. 500, will be distributed on the basis of 65 per cent. as bonus to the workers, 10 per cent. as commissions to the Centre staff and 25 per cent. as an appropriation to a Reserve Fund.

Areas selected for application.—Various districts in Bengal.

Other departments concerned.—Commerce, Labour and Industries Department.

Time expected to be taken for execution.—Five years, but appreciable results will be shown after the first year.

The staff will be recruited locally and suitable members from the Work Centre administrative and operational staff may be engaged.

Rough estimate of cost for each year of first five year plan (in thousand rupees).—

| Item | 1st year | 2nd year | 3rd year | 4th year | 5th year | Total |
|--------------------|-------------|-------------|-------------|-------------|-------------|-------|
| *Capital (fixed) | 1134 | 821 | 622 | 160 | nil | 2737 |
| Working capital | 600 | 700 | 500 | 400 | .. | 2200 |
| | 1734 | 1521 | 1122 | 560 | .. | 4937 |

*Includes cost of buildings, plant and equipment.

To what extent is the scheme productive and/or cost recoverable.—The scheme is directly productive in manufacturing goods for local consumption and for export to urban areas both within the Province and outside. The regular wages paid to the workers and the returns on exported products will benefit the areas of operation and help to raise the standard of living.

Estimated returns from Industrial Centres—surplus or loss (in thousand rupees)

| Calculated at prime-cost | 1st year | 2nd year | 3rd year | 4th year | 5th year |
|-----------------------------|-------------|-------------|-------------|-------------|-------------|
| Plus 20 per cent. of cost | L. 155 | L. 66 | S. 265 | S. 864 | S. 1643 |

To what extent will be scheme cater for returned service personnel.—Suitable higher grade technicians will be engaged, where practicable, for the administrative and operational staff and lower grade personnel will be encouraged to find employment as workers in the Industrial Centres.

General description of plant, equipment and stores:—

(a) To be imported from abroad: Power weaving machinery, wood working and metal-working machine tools and small plant.

(b) To be purchased in India:—Machinery, tools, accessories and raw materials for the various industries; Office, stores and showroom furniture and equipment.

Labour force required in case of large schemes.— It is estimated that approximately 10,000 to 15,000 workers will be employed in the Industrial Centres, drawn from their localities.

*Whether Assistance of the Central Government is likely to be required for obtaining Machinery or Technical personnl.—*Yes, for plant and machinery imported.

*Brief indication, where applicable, for further development contemplated on the lines of the scheme in succeeding five year periods.—*The scheme, if successful can be widely extended in all districts of Bengal. Foreign marketing, which may be initiated during the first period, can be developed. The Industrial Centres are likely to become more self-governing, as co-operative societies, although retaining the central planning and co-ordinating organisation.

*Any other remarks or information.—*There are, at present 35 Rehabilitation Work Centres in five districts, some of which will provide suitable foundations for the proposed Industrial Centres. The main factors in selecting sites for the Centres will be the concentration of artisans, local support, good communications and transport facilities and good market prospects. Approximately 15 of the above-mentioned Work Centres conform to these standards and are likely to be taken over for the new scheme and it

is expected that these will bring immediate returns sufficient to meet a part of the initial administrative expenses of organizing entirely new Centres.

The scheme will be run under the Co-operative Department, but it is not proposed to introduce full co-operative organization in the Industrial Centres until the scheme is well established and developing. Worker's committees will take some share in the management and will be gradually educated in co-operative principles and management.

The scheme is phased so that 100 Industrial Centres will be established by the end of the year 1948-49, allowing about 50 centres in the first year of operation. It is emphasised that, as this scheme is to be operated on commercial lines, every economy will be practised both in regard to staff, operational costs and expenses; therefore whilst full provision has been made for expenditure under each head, actual expenditure will only be incurred as necessitated.

II. CENTRAL PROVINCES

1. SCHEME FOR THE MANUFACTURE OF *Gur* FROM JUICE
OF PALMYRA AND DATE PALM IN THE
PROVINCE*

(*Department of Co-operation*)

Brief Description.—C.P. is deficit in the production of *gur* and much of its requirements on this account is imported from outside. There are at present about 40,000 palmyra trees and about 10,00,000 date palm trees spread over the whole of the Province but most of the trees are concentrated in forest areas in Chanda and Wardha districts. Apart from the nutritional value that the palm *gur* has, if systematic efforts are made the existing trees are capable of producing about 1,13,000 maunds of *gur* per year and thus the requirement of the Province can be met with to this extent. With this view it is proposed to launch a five year scheme concentrating efforts at two training-*cum*-production centres, one in the Chanda district and the other in the Wardha District. It is proposed to train 100 persons, drawn from local tribes in the case of Chanda, and from all over the Province wherever palm-trees are available in the case of date-palm trees, (Wardha) per year, at each centre in the art of scientific tapping of trees to enable them to undertake this business independently as a source of maintenance. Thus though in the scheme only two centres are mentioned, there will spring up many centres through the trained personnel throughout the Province. The centres will train persons and manufacture *gur*—simultaneously and it is expected that this method

*This is under consideration of the C.P. Government.

would almost be self-supporting as about 9,000 maunds of *gur* is estimated to be produced in five years by the trainees themselves entailing no expenditure on the part of the Government, excepting expenditure on the organisation, though at the first instance Government will have to spend for initiating the people in this industry. The total expenditure for 5 years over the two centres including fresh plantation-activities and the organisation is estimated at Rs. 4,77,000 as against the income of the centres at Rs. 3,28,000. Thus at the close of the fifth year Government would be required to bear at the most Rs. 39,000. Under the scheme it is also proposed to advance interest-free loans to trainees at Rs. 100 per head in the form of equipment to encourage them towards the business. This loan is proposed to be recovered in two years in suitable instalments. Eight *nira* shops as a refreshing drink are also proposed to be opened at Nagpur for the public on self-supporting basis.

The Scheme is proposed to be launched during the current year 1947-48.

Rough estimates of costs at the existing rate for each year.—

| S. No. Items | 1st year | 2nd year | 3rd year | 4th year | 5th year | Annual com- Total mitment after the 5th year. | |
|------------------------|----------------|------------|------------|------------|------------|---|-------------------------|
| | (In thousands) | | | | | | |
| (a) Capital | | | | | | | |
| (i) Loan | 10 | 20 | 20 | 20 | 20 | 90 | |
| (ii) Non- recurring | 37 | 5 | 2 | 2 | 2 | 48 | |
| (b) Recurring | 38 | 97 | 97 | 98 | 99 | 429 | 99 (Organi- sation). |
| Total.. | 85 | 122 | 119 | 120 | 121 | 567 | 99 |

Cost of building for each year included in item 5.

| 1st year | 2nd year | 3rd year | 4th year | 5th year | Total |
|-------------|-------------|-------------|-------------|-------------|-------|
| 25 | ... | .. | .. | .. | 25 |

To what extent is the scheme productive or cost recoverable:—

| | Rs. |
|---|----------|
| Cost recoverable in 5 years by way of sale proceeds of <i>gur</i> produced in two centres .. | 3,38,000 |
| Recovery of loans .. | 90,000 |
| | 4,28,000 |

Nature of equipment, store, etc., needed from:—

- (i) Abroad:—Nil.
- (ii) Local:—Korai, Chemicals, Ropes, Utensils,
etc.

Any other remarks for information:—

1. The cost over the scheme for 5 years including loans comes to Rs. 5,67,000 and the cost recoverable from sale-proceeds of palm-gur produced in the two training centres and the loss in 5 years is Rs. 4,28,000. Thus actually Government will have to incur an expenditure of Rs. 1,39,000 only over the scheme during 5 years. The deficit will be due to high rate of overhead charges which will be reduced to the minimum when the business is undertaken by the local tribes.

2. Palmyra and date-palm trees of the Province need to be protected from cutting under Law.

II]

2. SCHEME FOR PROMOTION OF OIL PRESSES FORMULATED BY THE GOVERNMENT OF CENTRAL PROVINCES AND BERAR*

When compared with the other oil-presses existing in the Province, the Magan Madi Oil Press designed and prepared by the Village Industries Association of Wardha has proved itself most capable. This scheme has adopted this particular type of oil press. If oil seeds can be procured locally, the oil made from this press can be made available to the villagers at the same price as mill made oil.

In this province there are at present 500 such presses working and what we have said above is a result of our experience with these Mills. If we go into the matter a little carefully, we will find out how oil can be got from these presses at the same price as mill made oil. The mill owners are able to supply oil at a cheaper price because they take more oil from the seeds while they spend less in pressing. But for gathering oil seeds from distant places and also to send the oil and oil cakes to the villages once again, they have to spend sufficient amounts on cartage and they have also to give sufficient commission to the dealers. Taking into consideration these expenses, it is found that they have to spend more in proportion to their gains. The Maganwadi oil press obtains seeds from its own locality and it sells the oil also only locally. Thus it avoids unnecessary over-head charges with the result that from the point of view of the consumers, the price of the locally pressed oil is the same as that of the mill pressed oil, the extra

*The Scheme is now in operation in C.P. and Berar.

advantage being that the oil pressed locally is fresh and more healthy.

Successful experiment.—This scheme has been drawn taking into consideration the difficulties experienced in the working of the oil-press. In this scheme instruction and guidance will be given on behalf of the Government. The people will have to harness their enthusiasm and organising capacities to make the scheme a success. The Government derives its strength from the people. Hence it is not possible that the people should depend entirely on the help of the Government. Village committees in the respective districts should put such schemes into practice. The scheme has four parts: (1) Training of carpenters, (2) Meeting the demand for oil presses, (3) Supervision of the oil presses, (4) Helping the collection of oil seeds.

(1) *Training of carpenters.*—While the demand for the improved Maganwadi oil press has been increasing in the province, two difficulties have been experienced in meeting the demand. One is the non-availability of wood of sufficient width in one and the same place and secondly shortage of trained carpenters. There are some carpenters available in Wardha, but the number is not sufficient and they cannot reach the different places in the presidency for repairing the presses. This is one of the important obstacles in running the oil press continuously. Hence the first essential for running the oil press in any place is that the local carpenters should obtain the necessary training in the construction and repair of the oil press. To give the necessary training oil-press-workshops will be run at the four places mentioned below:—

(1) Narasimhapur—Maha Kosal District—for the northern portion.

- (2) Thilayari—Raipur District—for Chattisgad.
- (3) Betul for Nagpur Division.
- (4) Pahur Jeera—Buldana District—for Vidarbha.

Information to carpenters.—The period of training will be 2 months. 20 candidates will be taken in each centre in the first year. Later on 30 candidates will be taken per year. If more candidates want to join, they will have to do so at their own expense. Carpenters should be sent on behalf of responsible institutions or persons. While sending up the carpenters it should be assured that they will work in this line after obtaining the necessary training. While selecting the candidates, special attention should be paid to see that intelligent craftsmen who are eager to learn work should be taken. During the period of training each candidate will be paid a scholarship of Rs. 2-8-0 per day. T.A. to and from will also be met and after successful completion of training he will be given some of the important tools free of cost. While under training the candidates must provide themselves with their own bedding, vessels, tools and other essentials. The candidates should send in their applications through any responsible person or institution of their place. The names of the centres are given above. After completing the training, the carpenter will manufacture oil presses on his own account or for wages and supply the same to the people.

2. *Meeting the demand for oil presses.*—The four workshops, will side by side with the training of the candidates, manufacture presses to meet the needs of the people. But it will not be possible to manufacture oil presses in large numbers. That is the reason why training

to the local people is proposed to be given. The trained carpenters will go to their respective places and manufacture presses. Hence, whoever wants to manufacture these presses should arrange to send local candidates for training in the workshops. They must also collect the following wood; the drier the wood the better the results.

| No. | Purpose | Variety of wood | Dimension |
|-----|---------|--|---------------------------------------|
| 1 | Mortar | Tamarind, <i>Siras</i> <i>Neem, Anjan</i> | 7½ ft. Circumference 5 ft. length. |
| 2 | Wedge | <i>Babool, Kusum</i> | 4½ ft. circumference 1½ ft. length |
| 3 | Pestle | <i>Babool, Bhera,</i> <i>Kusum, Seesum.</i> | 2 ft. circumference 10 ft. length. |

In addition to this, miscellaneous pieces of wood will also be required which can be collected according to convenience. Where it is not possible to get big logs for the mortar, wood for the other items should be collected and the mortar should be made of cement concrete. This will facilitate the manufacture of presses in larger numbers. The following articles are required for making the cement mortar.

| | | | |
|------------------|---------|-------|----------|
| Cement | .. | .. | 4 bags |
| Mud | .. | .. | 12 " |
| Sand | .. | .. | 7 " |
| Galvanised Pipes | 1½" | 15' | length |
| Rod | 1½ inch | thick | 30 ft. " |
| " | ¾ | " | 50 ft. " |

Note.—Arrangements to obtain cement and iron at controlled rates will be made by the workshops. Correspondence in this matter should be addressed to the Manager of the workshop concerned.

Two presses at a time.—Those who wish to put up presses are advised to put up two presses at a time. The

special facility in the improved Maganwadi Press is that one man can manage two presses at a time. This results in economy of man-power and saving in production costs. One press can ordinarily yield 16 seers of oil per day, and the weight of oil seeds required for the same is about a maund. On a broad calculation, it can be said that two presses are enough to meet the needs of a village which has 1,000 population. For the two presses roofed space will be required as follows:—

For Bulls. $16' \times 5'$.

For oil cakes. $8' \times 8'$.

Space for storing and cleaning oil seeds. $8' \times 16'$

With a view to help those who want to buy new oil presses, the Government propose to advance Rs. 50 for each press, refundable in 36 monthly instalments carrying an interest of $3\frac{1}{2}$ per cent.

3. *Supervision of the presses.*—One of the difficulties experienced by the people who run these presses is that if the out turn of the oil press goes down, they lose financially. There are several reasons for this. The defect may be due to defective method of pressing the oil; some part of the press might have gone out of order and the presser might not be aware of the same. For the success of the oil press, its maximum capacity must be maintained right through. To guide the people who work the improved presses, the Government proposes to appoint one supervisor for each division. He will tour his area and it will be his duty to see that the oil presses in his division work perfectly. He will also popularise this new scheme.

4. *Help in collecting oil seeds.*—The biggest difficulty for the oil press is want of oil-seeds in adequate

quantity. After the harvest, the oil seeds do not generally remain in the villages and the poor oilman does not have enough money to buy and stock seeds for the whole year. This is the main reason for the failure of the scheme of the oil presses. The remedy is quite easy provided people understand it. Just as we grow and collect our grain and have it ground in the local mills by paying a small charge, so also if the villagers arrange to get the seeds grown by them pressed in the local oil presses, paying a small charge, they will find things very easy. This will also save the producer a lot of worry and the oil presser from stocking seeds for the whole year. This idea therefore requires to be popularised. The villagers should realise the need for collecting oil seeds for their needs. The shopkeepers in the village should also be educated about buying the oil seeds and stocking them; or the village co-operative society may take up this work. To see that the stockist does not run the risk of a loss due to the falling-off price after the harvest, Government propose to give a subsidy of Re. 1 per bag wherever there is such a loss incurred by the stockist. There is provision in the scheme for this. But there is no fear for the present on this score, as there is control over oil seeds and oil. Now it is necessary that co-operative societies and other institutions should help the oil press owners in this matter. The Government will do everything on their part, to aid them.

Due to the control on the price of oil there is every possibility of the villager not being able to secure his needs of oil easily. Therefore the general public by co-operating with the Government in this scheme can help in securing pure and fresh oil for their use in adequate quantities.

Capacity of the Maganwadi Oil Press:—

| Oil Seeds | Quantity required per feed | Percentage of oil | Time for one pressing |
|----------------|----------------------------------|----------------------|--------------------------|
| Red Gingelly | 18 lbs. (9 seers) | 45 | 1½ hours |
| White Gingelly | " | 42 | 1½ " |
| Groundnut | " | 45 | 1¼ " |
| Cocoanut | 20 lbs. (10 seers) | 55-60 | 1 " |
| <i>Alsi</i> | 12 " 6 " | 30-35 | 1¼ " |
| Mustard | 16 " 8 " | 30 | 1½ " |
| <i>Sarso</i> | 16 " 8 " | 35-40 | 1½ " |
| <i>Mahua</i> | 16 " 8 " | 35 | 1¼ " |
| Castor | 18 " 9 " | 40 | 1 " |

III. MADRAS

1. FIVE YEAR PLAN FOR THE DEVELOPMENT OF COTTAGE
.. INDUSTRIES

(Scheme No. 40.)

Department of Co-operation

The Scheme drawn by the Registrar in the first instance envisaged the organisation of the following cottage industries on co-operative basis.

1. Coir-rope making, mat and matting industry.
2. Leather goods manufacture—chaplis, boots, shoes, sandals, bed-straps, money purses, hand-bags, etc.
3. Pile carpet and woollen goods.
4. Ceramics—glazed potteries, ash trays, flower vases, cups, saucers, etc.
5. Metal ware—brass-ware, aluminium ware, bronze and bell-metal wares, etc.
6. Mat industry—rattan, kora and bamboo, etc.
7. Wood work, wooden toys and dolls and school models, slate, frame manufacture.
8. Tobacco, cigars and cheroots.
9. Glass, glass bangles and beads.
10. Distillation of essential oils and soap manufacture.

New co-operative societies will be organised for each of the cottage industries mentioned above. To execute the plan in a period of five years, 100 societies will be formed every year, so that by the end of five years 500

societies will have been formed. These societies are to concern themselves with the production of goods with such help as might be given to them in the matter of supply of raw materials, small tools, machinery funds and technical assistance. A provincial organisation is necessary to obtain in bulk the raw materials, appliances, tools, etc., and supply them to the societies. Such an organisation is also necessary to market the finished products. It was thought that without going in for a new separate organisation for the purpose, the Provincial Co-operative Marketing Society itself might be re-organised to suit the needs. The lines on which the re-organisation of the Provincial Co-operative Marketing Society was to take place, are the following:--

1. Two separate departments are to be opened to perform its functions on the agricultural and industrial side.

2. The following additional functions are to be performed by it.

(i) To assist in the formation and development of cottage industries co-operative societies.

(ii) To arrange for the purchase in bulk and supply of raw materials, appliances, tools and implements, etc., to the affiliated societies.

(iii) To arrange for the marketing of the finished goods of its affiliated societies and to open emporiums for the purposes wherever necessary.

(iv) To carry on propaganda, arrange exhibitions of cottage industries products.

(v) To set up work shops for purposes of demonstration, etc., and to arrange for the training of members of cottage industries in up-to-date methods of production.

(vi) To administer the grants which may be placed at its disposal by Government and others for the development of cottage industries societies, and

(vii) To take such other measures as may be necessary to carry on these objects.

The constitution of the Provincial Co-operative Marketing Society will be suitably modified so as to permit representation of cottage industries societies on the Board of the Society. The Registrar and the Director of Industries and Commerce will be ex-officio members of the Board. If in course of time, as the cottage industries develop, the need for a separate organisation is felt, steps will be taken to organise a provincial federation exclusively for cottage industries. With this re-organisation, the Provincial Co-operative Marketing Society will be styled as "The Provincial Agricultural and Industrial Federation."

The state has to render the following financial assistance for the successful working of the scheme.

Staff.—1. Technical staff at one instructor for each cottage industry.

2. Two Deputy Registrars with necessary staff for general supervision of the scheme, one for the northern districts and the other for the southern districts.

3. 50 Senior Inspectors at the rate of one Senior Inspector for 10 societies.

4. A Co-operative Sub-Registrar and a Senior Inspector with two peons for Registrar's Office.

Subsidies.—Subsidies may be given in the first few years for the maintenance of clerical staff, for rent, etc. Money grants are also needed for certain societies, the

members of which may be too poor to subscribe adequate share capital to enable them to raise funds from the financing banks. Grants for the initial equipment will also have to be provided.

Facilities for the supply of raw materials either free or at as low rates as possible may be afforded. For instance members may be permitted to take Korai from river beds for mat weaving.

Other forms of State aid may be as follows:—

(1) Supply of brass and copper at controlled or reasonable rates.

(2) Concessional railway freight.

(3) Asking the departments of Government and local bodies to purchase the goods.

Subsequent to the submission to Government of the 5 year plan explained above, the following proposals were made.

The Provincial organisation will establish its branches in the districts. There should be at least one centre for each district. These centres will be called "district service centres". They will discharge the function of the Provincial Society on the spot in so far as they relate to helping the primary cottage industries societies in the district to procure raw materials, offering technical advice, sale of finished goods, etc. They will co-ordinate the activities of the primary societies within the district in the matters relating to organisation, finance, marketing, etc. A Senior Inspector will be in charge of each centre. A technical assistant may also be appointed. It is not the idea to start all the District centres at once. Roughly 6 service centres may be started in the first year and another 6 centres in

the 3rd year and another 6 in the 5th year, in all about 18 centres.

The plan was discussed further by Mr. S. Y. Krishnaswamy with the Joint Registrar and Director of Industries and Commerce and the following modifications from the original scheme were introduced.

1. Glass bangle and beads industry might be left over for the present.

2. In respect of cottage industry No. 10, *viz.*, distillation of essential oils, etc., a start might be made with eucalyptus oil in the Nilgiris and oils from seeds in areas where there are fruit growing societies.

3. Instead of organising 500 new societies at the rate of 10 societies per each industry per year, a start will be made with 5 societies under each of the 9 industries for every year bringing the total number of societies to 225 at the end of the period.

The total cost of the modified scheme including the expenditure to be incurred on account of the district centres will come to Rs. 12.08 lakhs.

| | | |
|------------------|----|-----------|
| 1st year | .. | 1,35,805 |
| 2nd year | .. | 1,64,605 |
| 3rd year | .. | 1,92,655 |
| 4th year | .. | 2,11,015 |
| 5th year | .. | 2,25,007 |
| District centres | .. | 2,29,716 |
| Lump sum grant | .. | 48,000 |
| | | <hr/> |
| Total | .. | 12,08,303 |
| | | <hr/> |

2. DEVELOPMENT OF WOMEN'S COTTAGE INDUSTRIES

(Scheme No. 42.)

The scheme is based on the five year plan drawn up by Mrs. K. Sathianadhan for the development of women's cottage industries co-operative societies in the Province which has been accepted by the Cottage Industries Sub-Committee. The Indian Women's Civic Corps (I. W. C. C.) raised the objection that, if the scheme was implemented, there should be overlapping of the work done by it at present. Government however agreed with the Registrar that the Women's Cottage Industries should be kept separate.

For purposes of organising new societies women can be classified under three heads rich and well-to-do, (or upper middle class) women, middle class women and poor and lower middle class women. The first two classes may be grouped together, while the last class may be put under another head. Societies composed of the first two classes of women may concentrate upon:—

(a) Propaganda and spread of co-operative education.

(b) Socio economic activities such as maternity, child welfare, promotion of thrift, etc.

(c) Eradication of social evils,

(d) Teaching the rural womenfolk simple industries such as tailoring, needle-work, etc. The middle class women who can be admitted into these societies can take to small cottage industries such as preparation of jams, preserved pickles, embroidery, etc.

The proposal envisages the starting of about 250 co-operative societies in the Province, about 10 in each, dis-

tract at the rate of 50 societies per year. There are 220 taluks in the Province and every taluk will be provided with at least one society. It may be necessary to start more than one society at the district headquarters to suit the convenience of the women residing in the different localities.

It may not be possible or desirable to start the 250 societies all at once. It may be enough if the organisation of 50 societies is taken up each year. In the initial stages, there may be no need for a Provincial Organisation also. It would be enough if the activities of the Women's Cottage Industries Committee now functioning in the Madras City are enlarged. Two or three ladies from the mofussil may be added to this Committee which will co-ordinate the activities of all the women's societies in the Province and also act as an advisory body and assist the Registrar in matters relating to the working of these societies.

The Provincial Co-operative Marketing Society and in the case of textiles the Madras Handloom Weavers' Provincial Co-operative Society will arrange to provide the necessary raw materials to the societies and also for the sale of finished goods.

The industries proposed to be tackled are:—

1. Tailoring and needle work.
2. Embroidery.
3. Preparation of pickles.
4. Rattan work.
5. Stitching of leaf plates.
6. Lace making.
7. Making of *appalams*.
8. Doll making.

9. Painting.
10. Crotchet.
11. Knitting.
12. . Small handloom weaving.

Industries which each society should concentrate upon will depend on the capacity and inclination of members and the local conditions, etc., of each society.

Staff.—The Province including the Madras City will be divided into 9 groups and a woman officer of the grade of a Co-operative Sub-Registrar appointed for each. Thus 9 women Co-operative Sub-Registrars will be appointed. Besides, it is necessary to appoint women instructors to give necessary training to the members of societies. It is considered unnecessary to appoint separate instructors for each industry proposed to be introduced; it is enough if 2 instructors are appointed for each district. In the first year it is proposed to appoint 25 instructors and in the 2nd year another 25 will be employed thus bringing the total number of instructors to 50.

Subsidies.—Government will have to provide the societies with funds for purchasing the necessary equipment such as sewing machines, etc., at the rate of about Rs. 300 to each. Until the societies firmly establish themselves as successful business enterprises, it will be in many cases difficult for them to meet their establishment and contingent expenses. Subsidies for clerical assistance are necessary.

The financial implications for the 5 years are as follows:—

| | Rs. |
|---------------------------|----------|
| 1. Capital expenditure .. | 75,000 |
| 2. Recurring .. | 6,26,898 |
| | <hr/> |
| Total .. | 7,01,898 |
| | <hr/> |

The scheme was discussed by Joint Registrar with S. Y. Krishnaswamy, Esq., I.C.S. It is understood that Mr. S. Y. Krishnaswamy is supporting the proposals of the Registrar.

3. DEVELOPMENT OF VILLAGE INDUSTRIES IN THE FIRKA DEVELOPMENT SCHEME

*G.O. Ms. No. 4591, Development, dated 14th
December 1946.*

In pursuance of the announcement by Hon'ble the Premier at a meeting of the Legislative Assembly in September 1946, that suitable steps will be taken to develop cottage and village industries on intensive lines as a part of the Firka Development Scheme, the Director of Industries and Commerce formulated a scheme for the consideration of the Government. The main features of the scheme are:—

- (i) Opening of demonstration and training units;
- (ii) Reorganization of Industrial and Commercial Museums; and
- (iii) Provision of financial assistance to Cottage Industrialists.

The Government pass the following orders on the several items relating to the scheme.

2. (i) *Opening of Demonstration and training units.*—Of the 35 industries selected by the Director of

Industries and Commerce, the Government consider that 'Crucible making,' 'Pith hat manufacture' and 'embroidery' may be left out and direct that demonstration and training units be started in respect of the remaining 32 industries in the select firkas in the twenty-five districts as indicated in Annexure I to this Order

In working these units, the Director of Industries and Commerce should arrange to convert certain of these industries to more utilitarian and useful trades, such as employing goldsmiths on clock and watch manufacture instead of on the production of common jewellery, switching over of bell-metal casting to the manufacture of water pumping sets and other useful implements and diverting the manufacturers of steel trunks to pressing iron sheets and producing enamel ware.

The recommendations of the Director of Industries and Commerce regarding the conditions of admission of artisans for training in the several units, the duration of the course of training and the number of admissions in each of the units are approved. The Director of Industries and Commerce is permitted to award stipends to 50 per cent. of the number of trainees in each of the units and to fix the rate of stipends for each trainee within the rates of stipends for the several industries prescribed as specified in Annexure II to this Order

He is also permitted to distribute as bonus, among the trainees, 25 per cent. of the recoveries effected by the sale of articles produced in the respective units. Steps should be taken to supplement the number of stipends available to the trainees by enlisting local support for donations, contributions, etc.

(ii) sanction is accorded to the employment, in the demonstration and training units, of the following techni-

cal staff temporarily for a period of one year from the date of appointment:—

- 1 Superintendent of Training and Demonstrations in Tanning (Gazetted) on Rs. 200—30|2—410.
- 2 Pottery Development Officers on Rs. 70—7½|2—100—10|2—150 per mensem each.
- 2 Supervisors of Tanning on Rs. 70—7½|2—100—10|2—150.
- 8 Supervisors on Rs. 55—5|2—75 per mensem each.
- 10 Senior Instructors on Rs. 70—7½|2—100 per mensem each.
- 39 Instructors on Rs. 45—5|2—7½|5—6½ per mensem each.
- 28 Instructors on Rs. 35—5|2—55 per mensem each.
- 18 Instructors on Rs. 40—5|2—60 per mensem each.
- 7 Instructors on Rs. 55—5|2—75 per mensem each.
- 8 Instructors on Rs. 30 per mensem each.
- 51 Instructors on Rs. 28—2|2—42—1|2—45 per mensem each.
- 16 Demonstrators on Rs. 40—80 per mensem each.
- 4 Demonstrators on Rs. 35—5|2—55 per mensem each.
- 23 Demonstrators on Rs. 28—2|2—42—1|2—45 per mensem each.
- 1 Assistant Demonstrator on Rs. 35—5|2—55.
- 4 Mechanics on Rs. 45—5|2—65 per mensem each.
- 4 Jaggery Manufacture Experts on Rs. 55 per mensem each.
- 4 Drivers on Rs. 40 per mensem each.
- 4 Cleaners on Rs. 15 per mensem each.
- 232 Skilled workmen; and
- 4 Workmen.
- 20 Maistris on Rs. 15 per mensem each.

The staff should be distributed among the several units as specified in Appendix II to this Order. . . .

The Director of Industries and Commerce is permitted to fix the starting pay of persons appointed to these posts at any higher stage in the time-scale and he should report such cases to the Government. The candidates so appointed should be informed specifically that starting pay fixed by the Director of Industries and Commerce is subject to the approval of the Government. The Director of Industries and Commerce is requested to fill the posts, with due regard to the actual requirements of the scheme, only as and when necessary.

The staff will be eligible to draw the cost of living or dearness allowance admissible to them from time to time.

The skilled workmen, except the thirty-two persons employed in Lime-burning Units, will be paid wages at the prevailing market rates subject to a maximum of Rs. 42 per mensem the dearness allowance being paid separately. The skilled workmen employed in the 'Lime-burning' units and the four workmen employed in the 'Charcoal-burning' units will be paid wages at the prevailing market rates subject to a maximum of Rs. 15 per mensem and Rs. 12 per mensem respectively, the dearness allowance in both the cases being paid separately.

The Director of Industries and Commerce shall be the appointing authority in respect of the staff sanctioned above except for the Gazetted post of Superintendent for Tanning Demonstrations. He is requested to submit necessary proposals to appoint a suitable candidate to the Gazetted post.

Under the proviso to sub-section (2) of section 241 of the Government of India Act, 1935, His Excellency the Governor of Madras considers that the conditions of service of the staff sanctioned above are matters not suitable for regulation by rule. The incumbents of these posts who have a lien on permanent posts will be governed by the respective service rules which governed them before appointment to the temporary posts sanctioned above.

(iii) *Recurring and non-recurring expenditure.*—The Government permit the Director of Industries and Commerce to incur expenditure on 'raw materials' and 'contingencies', in respect of the scheme, within the limit of annual expenditure for each industry specified in Annexure II to this Order. They also improve provisionally the lump sum estimate of Rs. 6 lakhs (six lakhs) for the construction of sheds and of Rs. 8,56,580 (rupees eight lakhs fifty-six thousand five hundred and eighty only) for the equipment required for the scheme. The Director of Industries and Commerce is requested to submit a report giving detailed information relating to the number of sheds and the places where it is proposed to put them up, the cost of the sheds and also particulars relating to the items of equipment to be purchased for each unit.

(iv) *Canteens.*—The proposal of the Director of Industries and Commerce to provide midday meals to the trainees at a cost of two to three annas per meal for a trainee and to incur an annual expenditure not exceeding Rs. 1,09,772 (rupees one lakh nine thousand seven hundred and seventy-two only) on this account is approved. He is requested to submit full particulars as to how the canteens are proposed to be run and to report the details in respect of the lump sum annual estimate. He is also

requested to enlist local support for feeding the trainees so that the cost to the Government on this account may be reduced to the minimum.

(v) The Government consider that, wherever possible, the existing demonstration and training units in respect of several cottage industries should be merged with the proposed units under the Firka Development Scheme. The Director of Industries and Commerce is requested to take suitable action in this regard.

3. *Reorganization of Industrial and Commercial Museums.*—Orders will issue separately on the proposals of the Director of Industries and Commerce for the reorganization of the Industrial and Commercial Museums.

4. *Provision of Financial Assistance to Cottage Industrialists.*—The Director of Industries and Commerce has suggested that a sum of Rs. 5,000 should be provided for each firka for payment of subsidy, loans, etc., for development of cottage industries by persons who had received training at the training centres or for payment of scholarships to persons for further training, that another sum of Rs. 5,000 will be required for purchase of raw materials required by cottage industrialists in each of the firkas and that a further sum of Rs. 10,000 is necessary for general developmental work on cottage industries in the district as a whole, as apart from the selected firkas. The Government consider it essential to provide for the “follow up” of the work in the training units and therefore direct that a sum of rupees five lakhs per annum be placed at the disposal of the Director of Industries and Commerce to meet the expenditure on the several items indicated above. Before any expenditure is incurred from this amount, the Director of Industries and Com-

merce is requested to submit to the Government for approval suitable *ad hoc* rules to regulate the grant of loans and subsidies and other payments to assist cottage industrialists.

5. The Government consider that adequate arrangement should be made for the maintenance of the accounts relating to the demonstration units sanctioned above and the audit of such accounts. The Director of Industries and Commerce is requested to submit urgently suitable proposals in this regard in consultation with the Accountant-General.

6. The expenditure on the scheme sanctioned above should be debited to a separate sub-head "Post-war reconstruction (expenditure from the fund for village reconstruction and Harijan uplift) under "43 b. Industries—Cottage Industries", the amount to be transferred from the Fund being shown as a *deduc* entry under the same sub-head. Suitable sub-heads of appropriation under this head of account should be opened by the Director of Industries and Commerce, in consultation with the Accountant-General.

Receipts on account of sale proceeds of articles produced at the training centres and other miscellaneous items should be credited to a new detailed head "Post-war Reconstruction—Cottage Industries" under the minor head "XXXII a. Industries—Industries." The Accountant-General is requested to report his concurrence to the opening of the new head of credit.

The Accountant-General is authorized to admit in audit the expenditure in connexion with this scheme pending the provision of funds later. The Director of

Industries and Commerce is requested to take steps to provide the requisite funds to meet the expenditure.

7. The Director of Industries and Commerce is requested to submit a quarterly report, not later than the 15th of the month following the quarter to which the report relates, giving full particulars of the progress in the running of the training units and of the receipts and expenditure relating to the period.

8. The Government have included two more firkas in the Agencies, under the Firka Development Scheme. The Director of Industries and Commerce is requested to submit necessary proposals for extending the scheme sanctioned above to these firkas also.

(By order of His Excellency the Governor)

T. SIVASANKAR,
Secretary to Government.

IV. NORTH-WESTERN FRONTIER PROVINCE DEVELOPMENT PLANS*

The economic condition of the people depends on their productivity and not on their capacity to consume. Therefore the one thing needed above all else, is training in industries. The personal independence that characterises the Pathans marks them out for production by decentralised methods as individual artisans rather than as the hands of a large centralised mill. Hence it becomes necessary for us to concentrate attention to train the Pathan either as an agriculturist or as an artisan. In the 1940 recommendations emphasis has therefore been laid on organising a training centre to train young men in village industries. This has not been given effect to. This should be the very first step to be taken up towards improving the economic state of the people. The backbone of the problem is to find suitable staff for the training centre. Unfortunately this lack of trained personnel still exists and has to be grappled with first.

I. IMMEDIATE SCHEMES

1. *Cotton spinning and weaving*.—The Government Handloom Weaving Institute as it is organised to-day is not capable of fulfilling the purpose for which it was meant. A good deal of the products of this Institute are not saleable in the open market. That in itself is a condemnation of the Institute. An institution that is intend-

*These Development Plans of 1940, not having been given effect to, still hold good for the Province. The values in money represent those obtaining in 1940. They have since risen.

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ed to help the villagers has to be based on village conditions. The Institute is divested from village conditions and the financial outlook of the Institute is any thing but that of a village institution. Unless the Institution is completely overhauled from top to bottom it will not be capable of serving any useful purpose.

The Government has to organise several units for the development of spinning and weaving. To begin with a centre should be started on the lines of the A.I.S.A. constituted to become self-supporting as early as possible. Such a spinning and weaving centre should be located at a place like Mazogarhi in Mardan District where:—(a) people are in need of employment, (b) spinning has survived in some form or other, (c) facilities for weaving exist. The management should be entrusted to one experienced in A.I.S.A. production centres. A minimum production of Khadi worth Rs. 16,000 is necessary for the centre to be self-supporting. This amount of production requires 16,000 lbs. of coarse yarn, which means employment for 600 to 700 spinning wheels and 60 to 70 handlooms in its area of operation. The scheme may take at least two years during which period the subsidy will be required to meet the deficit. It may require in the first year a capital of Rs. 3,000, in the second year Rs. 4,000 and in the third year Rs. 5,000 when the centre is expected to be self-supporting.

2. *Woollen industry.*—The grading of wool and improved weaving methods are chiefly required for the woollen industry in the Province. These improvements and the manufacture of many new types of woollen goods should be introduced through the agency of the Government. A Wool Spinning and Weaving Centre has to be run by the

Government so as to improve the industry. A working capital of Rs. 2,000 will be needed for the purpose. Making of woollen carpets, *nakhai* and *taghar* work and making of pullovers and slipovers may also be taken up by the centre in course of time with the help of expert workmen and apprentices.

3. *Tanning industry*.—The tanning industry requires proper organisation of the supply of materials like lime and bark. Lime stone is available in most of the districts like Peshawar, Dera Ismail Khan and Bannu; and *babul*, and pine barks and peel of pomogranate fruit are available in the neighbourhood to some extent. All these materials should be properly exploited. The tanners are handicapped largely by the lack of finance. The Government ought to stock hides and thus relieve the tanners of the financial burden. They should arrange to supply the necessary tanning materials and take back the half tans. There should be a Government owned or Government controlled institution to give the necessary finishing after which the leather could be marketed. Allied industries like gut making, preparation of sausage containers, preparation of horn articles, glue and bone meal manure should be developed. In the first instance it will be necessary for the Government to obtain experts in these side industries. These new industries should be started in a Central Government Training Institute. The working capital required for a centre for training about six students is Rs. 7,000. Peshawar, Hazara, Bannu and Dera Ismail Khan form good centres for Governmental experiments on the scale suggested.

4. *Oil pressing*.—The oil pressing industry offers a good scope for exploitation. The appliances used are fairly

well-designed and satisfactory but owing to the general poverty of the *Telis* they are kept in a state of bad repair. They require expert attention and periodical inspection. This function may well be performed by Government. The Government should bring into existence in due time an organisation which will stock the seed during the harvest and issue it to the oilmen as and when needed charging them prices which will cover the cost of administration and interest and should also arrange to sell the oil; or in the alternative the Government should get the seed crushed by the *Telis* on a piece-work basis and sell the oil obtained. Before selling the oil the Government organisation should filter and refine the oil and if necessary put it in satisfactory containers. These services could not be rendered by the *Teli* under the present conditions. The Government Institution which trains students in industries should also undertake the examination of oil cake and advise improvements in production processes. For a centre consisting of 2 *Ghanis* the working capital required varies from Rs. 3,000 to Rs. 6,000 according to the kind of seed pressed—mustard, rapeseed, taramira, etc.

5. *Gur making and sugar manufacture*.—There is an increasing demand for sugar on account of the tea habit. To take up this demand it will be well to introduce a model centrifugal machine for sugar making, designed by All India Village Industries Association, Wardha and costing Rs. 55 with an output of 160 lbs. per day. The Government has taken active interest in the promotion of the Frontier Sugar Mills and Distillery Ltd., for sugar making. This is not desirable for obvious reasons. It is advisable that the Government encourage *gur* making on improved methods.

There are large areas of wild date palm offering a wide scope for date palm sugar making. Palm sugar is noted for its nutritive and medicinal qualities besides being a good source of occupation and income for the people. Unfortunately no use is made of this source of wealth. On this industry considerable amount of research has to be done and this work entirely will fall on the shoulders of the Government. The working capital required for a *gur* making unit on 3 stages varies from Rs. 300 to Rs. 600.

6. *Bee keeping*.—Bee keeping is not organised in the Province. Scientific exploitation of this source of wealth and food in the Province is essential. The methods of honey extraction are very crude wasteful and unhygienic. The Government should explore the possibilities and develop this industry both by scientific exploitation of its sources and organising demonstration of agriculture by modern methods. The Government should open a Training Centre for bee keeping. The capital required for such a centre with 12 hives is Rs. 125. The annual production from the same will be about 30 seers and at Rs. 1-12-0 per seer the income will be about Rs. 630 for the centre as a whole. If a trained rural worker is paid Rs. 35 to Rs. 50 per mensem for maintaining these colonies a centre can be made self-supporting. Gradually the industry should be extended by training the villagers in the neighbourhood. The aim should be to let every village have its own bee colonies.

7. *Dairy farming: Ghee*.—*Ghee* production, being one of the most popular industries, demands Government's attention. The marketing of *ghee* has to be carefully regulated and protected under the Pure Food Products Act. The health of the people will be in danger if such import-

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ant food products that are brought in from distant places are allowed to be contaminated by inadequate supervision.

The danger to the milk industry lies in the development of the newly formed tea drinking habit. The villagers must be weaned from this tea habit and made to acquire milk drinking habit. Some legislation like banning entertainment with tea must be adopted by the Government in this direction. It will also be advisable for the Government to have small dairy units where milk can be collected from the surrounding areas and better and pure *ghee* prepared on scientific basis, returning the skimmed milk to the villager and paying him on the fat basis. Such a measure will give the villager all the benefits of the mineral contents of the milk and it would be possible for him to substitute the fat taken out by adjusting his diet so as to obtain its equivalent from comparatively cheap vegetable oil. Milk dairy centres should be established in suitable localities where:—

(i) at least 200 lbs. of milk per day is available at reasonable rates,

(ii) where the farmers are sympathetic and willing to co-operate.

(iii) where it is possible to get cheap and intelligent labour and

(iv) where the bye-product, *i.e.*, skimmed milk can be economically disposed of. Farmers within a radius of 4 miles should be induced to maintain good cows. All their surplus milk should be purchased at the centre at fat percentage basis. Every time the milk is weighed a small sample is set aside for testing the fat contents.

Every week a composite sample is tested and payment made accordingly. The milk is then separated by means of a hand centrifugal machine. The cream may be re-separated and boiled to make *ghee* or some starch may be added and then butter and *ghee* made by agitation and boiling. A part of the separated milk which is also nutritive is returned to the farmer for feeding his children and calves. Some of it is turned into sweets and sold in the markets. The *ghee* from the various centres is collected at a central depot from where it is retailed to the consumer. In order to cheapen the cost of production of milk the farmer can be helped in many ways:—(a) A store for concentrates can be maintained where the farmer can purchase suitable concentrates at moderate rates; (b) the farmer may be helped in selling the milk stocks or in marketing his surplus animals; (c) his animals may be tested from time to time; (d) community breeding bulls can be maintained; (e) expert veterinary aid may be brought within the easy reach of the shepherd; (f) from the price of the milk to be paid to the farmer a small sum may be kept back as deposit which would, of course, in time of need be returned to him. It is always to be kept in mind that gradually the farmers should be enabled to stand on their own legs, work up on co-operative lines and make themselves independent of outside help.

The minimum requirements for a small centre working 200 lbs. of milk per day cost Rs. 200. Such a centre can be run by one worker with the assistance of a boy and can produce about 12 to 13 lbs. of *ghee* per day. The working of such a dairy will possibly yield an income of 6 annas per day.

8. *Paper making.*—There is an increasing demand for paper in the Province as in other parts of the country. There is an abundance of village waste and other raw materials like rags, broken bamboo, mats, baskets, hemp ropes, gunny bags, rice straw, grass, and other fibrous materials out of which valuable paper can be made. If cheap electrical power can be made available, caustic soda and bleaching powder which are needed in this industry can be easily manufactured at Salt Ranges. The water-power *dhenkis* (pecos) used for de-husking can be used with slight adjustments for pulp-making in improved processes. Pulp can be made in Hazara and Peshawar districts and the pulp so obtained can be made into paper in the villages. The Government should organise a training centre for paper making. Large quantities of waste paper available at the offices can be used as raw material. In the early stages while this industry is gaining strength and the workers are becoming skilled this industry may prove a source of loss but it will be worth the while in the interests of the Province to suffer the small losses for a few years so as to be able to become self-supporting in regard to stationery in the future. In addition to the making of blotting paper and writing paper, *papier mache* toys can be made from the pulp. This in itself is a flourishing industry at Jaipur, Kashmir and other places. The estimate of capital for paper making on a cottage unit basis where 6 men, and 4 boys work is Rs. 2,500.

II. LATER SCHEMES

1. *Paddy-husking.*—Paddy-husking is done by means of water mills. The Government rules appear to discourage the use of these water mills. The reason given

for the Government attitude is that the speed of the current in the rivers is retarded. This does not seem to be correct as most of the rivers in this part of the country have a considerable gradient. The provisions of Section 58 of the Punjab Minor Canal Act are being applied. The Government will be well-advised to use its discretion as it has ample powers in the Act and encourage the use of water mills. Power-driven mills are fast replacing the indigenous methods. Such power mills help to concentrate wealth of the people and they have to pay in cash for services which are now being rendered by Nature. The Government should, therefore, discourage these power mills even at the beginning.

2. *Flour grinding*.—The policy recommended for production of paddy husking applies to flour grinding also.

3. *Poultry rearing*.—Exotic breeds of poultry like leg-horns and minorcas succumb easily to epidemics. These imported varieties are found in agricultural farms and Government poultry yards. Since the introduction of these breeds will throw a heavy burden of risk on the shoulders of the villagers work in this direction requires much caution. The Co-operative Egg Marketing Society in the Province has a marked tendency to drain away the egg supply of the people outside villages and outside the Province. Thus there is a decrease in the food supply of the people. To this extent co-operative activity is objectionable. Such co-operative societies should interest themselves only in farms which they have been instrumental in creating and not encroach upon the supply from the household pens. The grading system itself is good and follows the requirements of the Agricultural Committee. Small improvements are capable of being made to bring the in-

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stitution within the reach of the villagers' finance and to make it possible to manufacture them locally.

4. *Pottery*.—Manufacture of glazed pottery has to be improved in the Province. There is much scope for research in this direction. Pottery is now suffering from keen competition from imported china-ware and imported and indigenous metal vessels. Production of better varieties by improved methods to cater to the changing tastes of the day will stabilise the industry. There has also been no systematic analysis of the clays of the Province. This has to be undertaken by the Industrial Laboratory where experiments in glazing also have to be made before being introduced commercially. Work in this direction needs Government agency which it is hoped will help to develop the industry.

5. *Soap making*.—Indigenous varieties of soap are crude and imported varieties are objectionable from the point of view of quality. There should be a good organisation which will be capable of showing that such materials are not placed before the public. Chemical tests should be made to detect both adulteration and bad quality.

Raw materials like *sajjika* and oil are available. Caustic soda itself may be easily produced at the Salt Ranges by cheap electric power. The method of soap-making from these indigenous materials should be popularised by teaching it even in girl schools so that every house hold may be able to supply itself with its own requirements.

6. *Glass ware*.—The neighbourhood of Fort Lockhart in Kohat and the Hilly Tracts of the Province are rich in many varieties of stone, sand and other materials from which black glass can be produced. These materials

should be tested and experimented upon locally before recommendations can be made in regard to this industry.

7. *Wood work.*—The Government carpentry training section must be so improved so as to make it self-supporting. The possibilities of lac culture in the Province have to be investigated. The forests have a few *topes* of trees which would form good host trees if the climatic conditions prove suitable.

8. *Paints and varnishes.*—With the availability of yellow and red ochres in plenty in the Provinces and the use of large quantities of paints and varnishes both in house building and *tonga* making, it is possible to promote the manufacture of paints and varnishes in the Province. Such an industry will not only utilise the turpentine from the forests but will also create a demand for the *Ghani* oil and increase the cultivation of the oil seeds.

9. *Pencil making.*—Considerable quantities of blue pines are available and there is a large range of graphite running through Amb State, about 5 miles below Darband. This graphite may be a good material for pencil making on a cottage basis in Hazara district.

General.—The small workshop established to make sewing machines has great possibilities. This can be run as a mechanical training and research centre in the making of implements for village industries. Sugar centrifugals, water pumping engines and other small machines can also be made here. The Institution needs to be re-organised to meet the new needs.

There is much scope for improving the statistics section of the Industries and Marketing Departments. This would apply to the Departments of Agriculture and Public Health also.

V. ORISSA ..

1. OIL PRESSING

The Government of Orissa have prepared a separate scheme for post war development of industrial co-operatives and special staff for the purpose are appointed. Measures to co-ordinate the activities of the different departments of the Government through the District Officer are also adopted. In accordance with the recommendation of Sjt. J. C. Kumarappa, oil pressing co-operatives are now being organised. They should supply raw materials to the *Telis* and pay wages and market the oil through co-operative stores and member hawkers. The organisation of other types of industrial co-operative societies also is under contemplation of the Government.

2. TANNING SCHEME

The leather industry in general which may be divided roughly into three sections, namely (1) production of hides and skins, (2) production of leather, (3) manufacture of leather goods was in a very undeveloped state in the Province. The hides which are produced mainly from fallen animals are very inferior in quality and abound in both natural and inflicted defects such as pox marks, teek marks, thorn marks, vulture pecks; brand marks and also such defects as flaying cuts insufficient curing, etc. Leather was very little produced and manufacture of shoe and leather goods too was being done in very small quantities. With a view to developing the industry in all these aspects a tanning demonstration party was formed in 1938 to demonstrate and introduce the proper methods of flaying

ing and curing, tanning and leather goods making throughout the Province. Activities of the demonstration party have been mainly centred at such places as Barang, Bhagatpur, Digpahandi, Parlakemidi, etc., which are inhabited by a large number of *Mochies* whose traditional occupation is to carry on the leather and allied industries on a cottage scale. Two Co-operative Societies one at Barang and the other at Digpahandi have since been formed and they are running satisfactorily.

So far the number of persons benefited will be round about 200 and their average income even on the pre-war basis has increased 3 times.

There has not been much improvement on the hide production side on account of certain economic factors which handicapped the introduction of better flaying and curing methods. But the other two sides in the tanning and leather making industry have appreciably developed. Previously the shoe making industry had to depend on its leather and on adjoining Provinces but now excepting chrome shoes upper leather all the requirements of sole and lining leather are supplied locally and more over some quantity of leather for export to other Provinces is being produced.

Recent attainment of the tanning demonstration party is the successful utilisation as leather of the skins of monkeys which are killed in thousands in the Province as a supplementary measure of the Grow More Food Campaign.

VI. UNITED PROVINCES

SCHEMES FOR DEVELOPMENT OF COTTAGE INDUSTRIES

The following are the schemes which were undertaken in the past to develop the cottage and rural industries in the province. Excepting No. 2 and 4 to 6 of these, the rest are still continuing on a revised scale.

1. Scheme for the development of cottage oil industry in the United Provinces.
2. Scheme for the development of glass industry.
3. Scheme for the development of handloom industry.
4. Scheme for the improvement of raw-hide industry.
5. Scheme for the development of leather industry.
6. Scheme for the development of ground-nut oil industry.
7. Scheme for development of *gur* industry.
8. Scheme for the development of cottage glass industry.
9. Scheme for the development of woollen industry.
10. Scheme for the development of hand-made paper industry.
11. Scheme for the development of sunn-hemp industry.

The schemes which are in hand these days to give direct aid to the cottage and village workers are as follows:—

1. *Production centres*.—The Department maintains at present, handloom production centres at 7 places in the province. Cloth is manufactured at these places under the direct control of the Department. Yarn is distributed

departmentally and the sale is arranged through Government sale depots such as Government U.P. Handicrafts and its branches at important places in the province.

2. *Government U.P. Handicrafts.*—In 1935, the United Provinces Government Handloom Emporium was opened with the following ends in view:—

(a) To deal directly with the weaver, eliminating the middlemen.

(b) To train him to produce standardised goods and to stock to given specification.

(c) To bring new business to him and to introduce new types of fabrics so that the internal competition may be lessened and better wages obtained.

(d) To find new uses for his products by dyeing, printing and better finishing of his products.

(e) To organise the weaver on co-operative lines.

It is now known as Government U.P. Handicrafts. Not only the sale of handloom products prepared at the Departmental Production Centres but all other sorts of handicrafts are stored here for sale to the public. This has been of great assistance to cottage workers who are hardly aware of the principles of marketing.

3. *Designs.*—There is one designer in the Government U.P. Handicrafts for suggesting and introducing new designs of modern taste, in handloom goods and another in the Wool Scheme.

Designs competitions were held in the past to create an active interest in certain articles such as saree borders, tea sets, flower vases, curtains, drawing room furniture,

etc., etc. In these, competitors from all over India participated.

4. *Tuitional classes.*—The Department is maintaining a large number of Tuitional classes with a view to train craftsmen in the latest designs and processes of manufacture to training in a short time and to develop production by trainees as part of their training, in the following industries:—

| | | |
|------------------------|----------|-----------------------|
| 1. Handloom weaving | .. | 15 Tuitional Classes. |
| 2. Tanning | .. | 10 Tuitional Classes. |
| 3. Blanket weaving | .. | 5 Tuitional Classes. |
| 4. Dyeing and Printing | .. | 10 Tuitional Classes. |
| 5. Carpentry | .. | 10 Tuitional Classes. |
| 6. Smithy | .. | 6 Tuitional Classes. |
| 7. Leather working | .. | 7 Tuitional Classes. |
| 8. Wooden toy making | .. | 5 Tuitional Classes. |
| 9. Pottery | .. | 5 Tuitional Classes. |
| 10. Miscellaneous : | | |
| Paper | .. | 1 Tuitional Class. |
| Soap | .. | 1 Tuitional Class. |
| Basket making | .. | 2 Tuitional Classes. |
| Oil | .. | 2 Tuitional Classes. |
| Water proofing | .. | 1 Tuitional Class. |
| | | — |
| | Total .. | 80 Tuitional Classes. |
| | | — |

Besides, the following schemes are being executed by this department or the development of cottage and rural industries:—

1. Dyeing and Printing Scheme (to improve the dyeing and printing industry).

2. *Khadi* Industry.

3. *Chikan* Embroidery (to improve the dyeing industry of Lucknow in which it once earned wide fame).
4. Inspection Depots (to standardise the handloom goods prepared by cottage workers).
5. Loans and Advances (Rs. 1,50,000 has been provided in the current year's budget for advancing loans and advances to cottage industrialists).
6. Development of Pottery Industry at Chunar.
7. Cottage Oil Industry (by popularising H.B.T.I. *ghani* in the villages to replace the old *ghani* of the village Teli).
8. Hand-made paper industry.
9. Sunn-hemp fibre industry (experiments are being carried on in the H.B. Technological Institute, Cawnpore in this industry).
10. *Charsa* Industry.

Other schemes such as basket making, toy making and bangle cutting at Firozabad are under the consideration of the Department.

IV. DEVELOPMENT PLANS IN STATES

I. HYDERABAD

POST WAR DEVELOPMENT SCHEMES

A few institutions had been functioning in the Districts for the past several years to put new life into some of the village industries: for instance the District Demonstration Parties did some useful work for the improvement of handloom weaving. Apart from some individual successes and failures there had not been much regular and systematic work done to revive the old industries or start new industries in the State. Hence the Government through the Department of Industries and Commerce set to formulate a scheme for the industrial improvement and expansion in the State. Ambitious plans were formulated in the Post-War Planning Secretariat for the future development of industries in the Dominions. The following are some of the plans under contemplation by the Government.

Handloom weaving.—The chief obstacle which the handloom industry has is that while the handloom weaver buys his raw materials in the dearest market he sells his finished articles in the cheapest one. His method of work, his appliances and his general environment leave much to be desired by way of improvement. The Department has been devoting considerable attention to formulate a scheme which might provide a solution for all these problems and lead to a revival of the handloom industry on a suitable and permanent basis. A tentative scheme has been drafted and is under the scrutiny of the Finance Department.

Women Cottage Industries.—The experiment in tailoring the cut pieces of cloth as women cottage industry

gave the Industries Department a great encouragement; so, it has been proposed to launch a scheme of home industries for poor women both in the Districts and in the City from the provision of Rs. 5 Lakhs to be granted to the Industries Department from the E.P.T. Funds.

Woollen Blanket Industry.—A scheme prepared in the light of experience gained in the improvement of woollen blanket industry is awaiting the sanction of the Government. The Weaving Institute of Paithan played an important part in saving the old artistic industry of Paithan from extinction. It was, however, seen that much more progress was essential to place the Institute on a sounder basis in order to introduce a greater variety of designs in *saree* borders and to make them more popular by reducing their costs as far as possible and also to provide better arrangements for training the future *paithani* workers. A scheme was, therefore, formulated and submitted to the Government for consideration.

Tanning Industry.—As a part of the scheme for the improvement of tanning in rural areas, it was found that tanning pits and sheds should be constructed in rural areas on small pieces of land measuring not more than 10 to 15 *guntas*. It was thought that it would be an easy matter to secure these pieces from Government waste lands in rural areas. Actually it has not been possible to secure a single piece so far. Another difficulty felt was the general increase of about 60 per cent. over the scheduled rates on all constructions by the Public Works Department with the result that no contractor was willing to take up the work of building sheds unless the increase was allowed. A request has therefore been made to the Rural Welfare

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Board for sanctioning the necessary increase in the grant. This sanction is awaited. This scheme would help rural planning a good deal.

Metal Industry (Cutlery).—With a view to revive the metal industry the Industries Department undertook to train local artisans in improved processes and improved types of metal manufacture. The work of the Department held out a good prospect. It was felt that the quality of goods manufactured by the local artisans would so improve as to enable them to withstand internal or external factory competition. A scheme has therefore been submitted by the Department to the Rural Welfare Board for the provision of funds to enable it to continue and intensify its efforts.

Cottage Industries Sale Depots.—The cottage industries sales depot has been instrumental in solving the marketing difficulties of many of the cottage industries and putting new life into some of the old specialities in the State. A scheme for the expansion of the sales depot with a view to enable it to render greater service to the cottage artisans has been prepared and it is under the scrutiny of the Finance Department.

Bidri-ware.—The *Bidri-ware* industry expanded remarkably during the war period on account of an increase in the demand for *bidri* articles and the parental care of the Government. Now that the war is over there has been a likelihood of the demand falling, the Government is now engaged in considering further steps that may go to stabilise the progress already achieved as well as to secure further expansion of this industry in the post-war years.

II. MYSORE

DEVELOPMENT SCHEMES

A three-year scheme costing Rs. 25 lakhs for the development of cottage industries in Mysore State is sanctioned by the Government. Under the scheme about ten technicians in different subjects will be appointed.

After a survey of the available raw materials, industries will be established in various parts of the State. A sum of Rs. 1,000 as subsidy and another sum of Rs. 1,000 as loan without interest, payable in easy instalments, are to be granted to those persons who are interested in starting cottage industries.

The Government have approved the proposals of the Superintendent, Veterinary and Animal Husbandry Services regarding the development of bee-keeping in the State.

The scheme is estimated to involve a non-recurring expenditure of Rs. 71,000 spread over three years and a recurring expenditure varying with the increase in the number of bee-keeping centres from year to year and amounting to Rs. 1,06,000 from the third year onwards. The Superintendent anticipates that the receipts from this scheme for the first year would be from Government centres Rs. 10,400 and from private bee-keepers Rs. 15,000.

V. DEAD AND DECAYING INDUSTRIES: THEIR RESUSCITATION

I. CENTRAL PROVINCES AND BERAR*

1. *Paddy husking*.—Paddy husking has been one of the most important food industries in the Province. Rice is widely cultivated in the Province. In former days people used to store paddy and dehusk it in small quantities either for daily use or for trade purposes. Traders used to employ labour for dehusking of paddy. They used to polish it partly and keep only a small store to dispose it of according to the demand. The labour employed was usually that of old women and dependents to whom the wages provided a living allowance.

This process requires only a pestle and a mortar or a wooden or mud *chakki* or *dhenki*. They were made by the local artisans or by the worker himself at a small cost. The husk was used as manure and a little bran as fodder for animals.

The advent of rice mills dealt a blow to the industry. Even during the pre-war period there were many rice mills in the Province. Though their product was of poor food value, yet on account of the cheapness it was very popular. Not only traders in rice but the small consumers in the rural parts found it easier to get paddy dehusked at a mill than by the indigenous process of hand pounding. This affected not only public health but also national wealth in the form of unemployment of numerous local artisans

* Based mainly on the Report of the Industrial Survey Committee, C. P. & Berar, 1939.

who formerly made implements for paddy husking. Milled rice came to be used even in Government institutions like the Central Jail. The change that has been brought about by the introduction of rice mills reduced the purchasing power of many of the poor workers denying them even their very necessities of life. Mills began to be used even for preparing "*poha*" a preparation made from rice. This industry was formerly carried on as a cottage industry largely by very poor communities like the fisherfolk during their spare time. The production of it by mills threw many families out of employment. There was at that time a great need for research in rice industry with a view to better public health by supplying nutritious food and also to enable the poor workers to produce more and earn more. The A.I.V.I.A. had already taken up the matter and helped the revival of the industry by designing improved appliances and inculcating the value of hand pounded rice.

2. *Flour grinding*.—The conditions prevailing in paddy husking were to be seen in flour grinding also. Flour mills were established in several parts of the Province. The industry used to provide occupation for a large number of women paying them about one or one and half annas per day before the War. Now these women were thrown out of employment. Lack of research and propaganda were to be seen in flour grinding also. The A.I.V.I.A. did some useful work in this industry also.

3. *Oil pressing*.—Next to paddy husking and flour grinding oil pressing is the most important food industry of the Province. The Province has large quantities of oil seeds like ground-nut, linseed. Practically every village used to have bullock *ghanas* and oil pressers called *telis*.

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Some of the *telis* are now engaged in field labour. Only a few still pursue their hereditary occupation but their returns are very low. Their work is very uneconomic. Their machines are old, their extractions poor, and their methods dirty. They have been reduced to this position by the introduction of machine-pressed oil into the market. It is said that oil pressed out between wooden surfaces of the *ghani* by the cold process retains its nutritive value unlike the mill expressed oil. All parts of the *ghani* are usually made of wood at very little cost, by a special caste of carpenters. The competition of machine pressed oil hit hard a number of these *ghanis*. 25 lakhs of maunds of oil seeds were being exported every year in the pre-war years. Vegetable oil is of value not only as an article of food but for illumination purposes also. Vegetable lamp oil has suffered much from the competition of kerosene oil. The absence of an invention of a vegetable oil lamp has been a great handicap. In China the *Chung lin lamp*, designed to burn vegetable oils, has practically driven out kerosene oil from the villages. During the recent years such lamps have been invented by institutions like the All-India Village Industries Association.

Oil cake is useful as cattle food and also as human food. Its use as human food dwindled due to the inferior quality of the power mill product. One important handicap to the industry was the desire to export the seeds instead of the oil. During their survey the Industrial Survey Committee, Central Provinces and Berar found in 1939 that the flourishing old *ghanis* had been reduced to the position of relics of a dead industry. The need to regulate the existing power mills and to take drastic steps

to restrict imports and to increase the use of *ghani* pressed oil was keenly felt by the Committee.

The *telis* experience considerable difficulty in stocking seed. The middlemen purchase the stock of seed during the harvest and supply it to the *telis* either at a very high price or by offering piece-work wages. In such cases the *telis* stand to lose. Proper arrangements for stocking seeds and supplying them to the *telis* with Government aid as far as possible would develop the industry.

4. *Tile and brick making*.—Like pottery this industry is also languishing. The advent of cement concrete for buildings and galvanized sheets for roofings has hit this industry hard. The financial depression also is partly responsible for this condition. Most of the houses in the villages are dilapidated. There are not improvements in the designs of the tiles. The Government should direct research to enable the villagers to produce the necessary roofing and building material. Bricks and tiles are often made only to order. Even these workers had to pay fuel charges amounting to 44.4 per cent. of the return during the pre-war days. The Municipal tax in certain places was about 2 annas for 200 bricks. Taking the price of tiles at Rs. 1-4-0 per thousand during the pre-war days, the fire wood charges worked out to 38.5 per cent. of the cost and 27.5 per cent. of the profits. The average return to a man during the season was about 2 annas a day before the War. Nobody—not even the Government—took interest in this industry. Government buildings are built and tiled by factory made materials. It is necessary that the Government should take some interest in the matter. The workers have competition from the factories at Mangalore.

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5. *Cotton ginning*.—About 6 lakhs of bales of cotton are produced in the Province. Hence, cotton naturally affords one of the main employments to the people. Over 90 per cent. of the raw cotton produced is exported. The methods to be followed should be such as will enable the village people to obtain employment. At present raw cotton is sent to ginning mills. The seeds obtained from the mills are not satisfactory for sowing purposes. For seed, people prefer hand-ginning. The hand ginning machine itself is very simple and can be made by the local carpenter and the blacksmith. This is an industry in which the advantage of operation on factory basis is comparatively little. Women can take to it in the villages. The old type of hand gin cost about a rupee but the improved type cost about Rs. 5 during the pre-war days. The latter can gin 4 to 4½ lbs. of *Kapas* per hour. If one anna per day can be taken as the average return in a village then a woman had to be paid Rs. 1-12-0 for ginning one candy of *Kapas* while the charges of factory were Rs. 2-8-0 for the same quantity before the War. Hand ginning can compete with the factory. At present hand ginning is practically dead. It requires immediate attention. The A.I.S.A. has produced a small improved ginning and carding machine but it costs about Rs. 80, which is too much for the poor cottage worker.

6. *Blacksmithy*.—Blacksmithy also is closely allied to agriculture, and holds a good position. Many of the blacksmiths were skilled enough to temper village razors and other cutlery. But the foreign articles have affected the demand for them. The workmanship is not good and requires improvement. At present the village black smith mostly carries on only repair work. He gets a certain share

of the agricultural produce for keeping the agricultural instruments in good repair. Any additional articles bought from him by the farmers are separately paid for under the *dan* system. Therefore his subsistence is carried on, and whatever he earns outside is an additional income. Like the carpenter the blacksmith is comparatively well off, but even so his trade has to face the onslaught of substitutes imported from outside. Crowbars, spades, etc., were made by him from raw materials, but now they come in ready made. His condition is growing worse every day. If the competition from the large scale industry continues any longer, under an unbalanced system such as prevails to-day, the blacksmith's profession will be gone before long. Even the crudest articles are imported, for instance nails, hinges, bolts. Good locks were locally made at one time, but now that industry is gone. The Government have not done anything to help the blacksmith in the matter of improved methods of manufacture and other facilities connected with the industry. Many of the blacksmiths have learnt what little they knew from their parents. Generally the blacksmith's wife helps him in blowing the furnace with a pair of goat-skin bellows. The profits are not constant. The smith's implements are of the simplest type and can be made by himself if good steel and iron are supplied. Jubbulpore was once famous for its stainless steel. But now the industry is gone. It is deplorable that a Province which supplied high class steel to the world at one stage has now to depend upon scrap iron and old springs for its stock of raw materials for its blacksmiths.

7. *Dyes making*.—At one time vegetable dyes were largely manufactured in the Province. Many fast colours and rich shades could be made out of indigenous materials.

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The imported dyes killed the industry. Important dye materials like lac, turmeric and Myrobolom are now wasted. A few of the old dye-makers are still to be found but they do not divulge their secrets. Strangely enough even *Khadi* printing is done with mill made materials.

8. *Brass and metal wares*.—Brass and bronze vessels, lamps and other products, were largely produced. But now foreign competition has killed the industry. Formerly the basic materials were produced in the Province itself. But prior to the War imported metal came to be used. The cost of production showed that 87½ per cent went towards the basic material and 12½ per cent. remained in the Province as labour. Such an industry would drain the country of its purchasing power unless its condition is improved. The bell metal industry is a side industry which uses in addition to imported metals, the scrap metal available in the Province. The worker hardly gets about 3 per cent. profit after the taxes and middleman's profits have been taken away. In spite of heavy work the average earnings of a *tamera* were barely four annas per day in pre-War days. Finance is the stumbling block of the brass and bell metal workers who find themselves in the hands of the *sowcars*. The Government have not paid any attention to the improvement of their condition. If steps are not immediately taken to improve the industry it may die out early.

9. *Tools and implements*.—A great many of the local artisans have become only repairers because most of the tools are imported. Even the Government Departments have been unfortunately advocating imported implements. In many villages craftsmen were able to turn out

good work. They knew how to make with high tempered steel *bansalas*, chisels, planes, *etc.* Even razors were tempered by blacksmiths. The quality of steel around Jubbulpore was very high. Tool making is the real test of craftsmanship; workmen who use foreign tools do not know their job. The Handicrafts School at Nagpur is doing its best in this direction. Even that School is using some imported instruments. The Government would do well to revive the industry and help the local craftsmen.

10. *Smelting of iron.*—In the neighbourhood of Jubbulpore superior steel was produced formerly. Even now this art is known; but the furnaces that were working have almost disappeared.

II. UNITED PROVINCES

Almost all the cottage industries were in a decayed condition. For the revival of the handloom industry in these Provinces, which is the most important of all cottage industries, the Department took special steps towards development and organisation. Various problems which confronted the handloom weavers were:—

1. Availability of raw materials,
2. Finance,
3. Technical improvement,
4. Marketing,
5. Taxation and transport, and
6. Finishing.

Textile.—All these were considered by the Cottage Industries Committee in 1935 and the following steps have been taken by the Department to improve the condition of this industry.

(a) Government Handloom Emporium was opened in 1935 at Lucknow to stock and sell goods prepared by cottage workers.

(b) Production centres were started to give direct aid to the workers.

(c) Industrial Institutions and Tuitional classes and Peripatetic classes were started to impart training in attractive and modern designs.

(d) Researches were conducted at the Government Central Weaving Institute, Benares, to introduce improved appliances, tools and plants.

(e) Finishing machines were established at important places such as Tanda and Maghar to give a better finish.

(f) At production centres raw materials are made available departmentally.

Leather.—Leather making and working has been somewhat decaying for some time and the Department helped it through the establishment of leather working schools and tutorial classes to train students and to improve the processes of manufacture and by the opening of small leather tanning institutions in rural areas, wherein the village tanners are taught the art of tanning and curing of leather on improved lines.

Gur.—This industry had been in the hands of illiterate persons and was almost in a decayed condition specially in the face of the expansion of the manufacture of refined sugar. It can only exist if the quality of *gur* is improved and its process of manufacture is simplified. The Department therefore started a special scheme for the development of *gur* industry and operated it in a large number of districts. Due to war conditions the scheme was closed down in 1943 but has been revised now. The essentials of the scheme are:—

(1) Improved crushers were distributed to villages in order to increase the yield.

(2) Improved types of furnaces were constructed by which the quality of *gur* was much improved.

(3) Training of demonstrators in *gur* making to teach villagers the improved art of *gur* making.

(4) Propaganda work was carried on by putting demonstration in exhibitions and *gur* making centres.

II] U.P. : REVIVAL OF DECAYING INDUSTRIES

Woollen Industry.—In the Khuman Division the industry was in the hands of the hill people. The method employed by them in the manufacture of woollen fabrics was old and the finished products were not much in demand. The Department took steps to popularise woollen products in the following manner:—

(1) The Department purchased wool, got it carded, spun and woven.

(2) It arranged for the supply of finished goods through handicrafts emporium its agencies and branches and largely through the multi purpose co-operative societies in the hills.

(3) It supplied cloth to spinners against yarn.

Cottage Oil Industry.—After the establishment of large scale oil mills, the question of re-organising village telis attracted the attention of the Department. The yield by the village ghani was much less in comparison with the yield by an oil mill. The Department introduced a Wardha type ghani to replace the village ghanis. The former one takes a charge of 10 seers and the latter only $2\frac{1}{2}$ seers. The following steps are being taken to popularise this ghani:—

(1) By training demonstrators and carpenters in a central organisation and conducting investigations with a view to further improve village ghanis.

(2) By organising peripatetic organisations to train village telis in the use of improved ghanis.

(3) By distributing *taqavi* loans for the purchase of improved ghanis.

Hand-made Paper Industry.—The making of good sheets of paper by hand was an important cottage industry

in India. Like the others it decayed with the advent of the machine age and its survival is due mainly to the demand for Bahikhatas or Account Books of Mahajans or Indian Bankers and for wrapping gold and silver articles and Agra Sweets, which require thin but strong paper. Some of the States have also kept alive this industry by using hand-made paper at least on formal traditional occasions.

The movement of Khadi revived interest in hand-made paper also and there was sudden awakening at the languishing centres. Kalpi, the best in the United Provinces became prominent. Some craftsmen of this place have kept alive the old process of utilising vegetable fibres. The movement of handicraft received greater impetus when the Congress Ministry came into power in the United Provinces.

A scheme for the development of hand-made paper industry was launched with the following objects in view:—

- (1) To organise training-cum-production centres.
- (2) To train students who can take up the vocation of hand-made paper making at other places in the Province.
- (3) To conduct researches in the H.B. Technological Institute and to advise trainees to increase the manufacture.

Besides these, the Department assisted to develop some other industries, such as, dyeing and printing, wooden and paper toy making, chick making, carpentry, smithy, blanket weaving, etc., etc., through tuitional and peripatetic classes.

III. MYSORE

Among the defunct or declining industries may be mentioned hand spinning, metal industries, gold lace, paper manufacture, glass bangle making, wire drawing and tannery. The decay of these industries may be due to the disintegration of the village economic life and the infiltration of western civilisation and influence. Some special reasons also have contributed to the decline of particular industries.

1. *Hand spinning*.—Hand spinning was of outstanding importance till the rise of the cotton mill industry. The adoption of mill yarn weaving on handlooms almost killed hand spinning. During the recent years the Government of Mysore with the assistance of the A.I.S.A. has been endeavouring to revive the industry. Hand spinning exists at present in the Badanvol region where good yarn is spun for weaving into shirtings, coatings and turban cloth. Estimates before the war were that about 3,000 persons were engaged in it and produced 80,000 lbs. of yarn and a lakh of yards of cloth. Of late several district boards have been evincing considerable interest in this industry.

2. *Metal industries*.—Of this group the iron industry is the most important. Iron smelting was formerly done by a crude uneconomical process at Magadi, Chikkanaickanhalli, Malavalli, Heggadevanpeta and several parts of Kodur, Shimoga and Chitaldrug districts. This industry is now defunct on account of the importation of mill made sheets and other articles. Brass-casting and steel metal work were carried on at Magadi and Nagamangalam and also at Sravanabelgola. Lamp-stands, images and utensils

were made to meet a large local demand but the advent of aluminium and enamel wares had made the industry defunct.

3. *Gold lace industry*.—This was carried on by a group known as *Sarigeyavaru*. But the importation of French lace killed it as early as 1870. There is a great demand for lace from handloom weavers in South India which is even now the largest region in India for handloom weaving. Hence the gold lace industry may be revived. This would be possible if the State renders aid to the industry.

4. *Paper industry*.—The presence of soda and lime near Ganjam (near Seringapatam) and Chennapatna, etc., has given rise to the paper industry. The industry is now defunct particularly due to the rise of paper mills in the State and elsewhere. Of late the Government have taken up the industry. The Department of Industries, Mysore State, is doing its best to place the industry again on an economic basis.

5. *Glass bangles*.—Chitaldrug and Trimulgheri districts were famous for this industry. This also is now defunct due to a rise in the rents of land containing soda and also a rise in the wages of workers. A change of taste among the people who have begun to favour glass ware imported from Ferozabad and elsewhere is particularly responsible for this decay.

6. *Wire drawing industry*.—Wires for musical instruments were drawn from superfine indigenous steel. Imports of foreign strings have almost killed this industry.

7. *Tannery*.—Tanning was an important cottage industry at Hansur, Tarikere and at Malavalli. Changes in the tastes of the people and the cheapness of imported things were responsible for the decay of cottage tanning

and manufacture of leather goods. Bark tanning under cottage conditions has been under trial with a view to revive the industry. Glue manufacture out of fleshings in the tanneries as a cottage industry is now receiving the attention in many parts of the State. Of late tanning by improved methods also is receiving considerable attention from the State, due to a lack of imported varieties of finished leather.

The introduction and establishment on an extensive scale of cottage and small-scale industries are of supreme importance to India. We wish to emphasize here that the problem which we have to solve does not deal only with the provision of gainful occupations for the mass of the rural population which remains unemployed or unprofitably employed, but also, and to an important degree, with the organization and encouragement of subsidiary occupations for even the larger mass of rural population which is forced for a part of the year to while away its time in idleness for want of avenues of profitable employment. The organization of such occupations and industries in India is still in its infancy. Interest in them has been aroused in recent years, especially during the war, and our chief purpose should be to suggest how to develop them on sound lines so that when the artificial scarcity of their products created by the war is replaced by keen competition from abroad, they may be able to withstand the shock.

—REPORT OF THE CO-OPERATIVE
PLANNING COMMITTEE, 1946.

COTTAGE INDUSTRIES OF INDIA



Bidri work.

COTTAGE INDUSTRIES OF INDIA

SECTION III—SPECIAL ARTICLES

I.—VILLAGE INDUSTRIES AND PROGRESS.

DR. J. C. KUMARAPPA

People as a rule, associate progress with large-scale industries and many people have also been thinking that large-scale industries are scientific. They believe that falling back on village industries to supply our every day needs is a step back into the past. These conclusions are the result of much propaganda by centralised industries.

To-day the public may be made to believe anything provided they are told often enough what to believe. Propaganda has become a science and is ousting all individual thought. Even education in our colleges and schools is taking the form of promulgating undigested half-truths. When rightly understood science is the basis of all village industries and village industries afford the fullest scope for scientific research and application.

Science is not the creation of man. Nature works in well-defined grooves according to immutable laws. When man understands these laws and reduces them to a system of knowledge we call it science. It follows therefore that any course of action to be termed scientific should conform to

nature in all its bearings and where we deviate from nature to that extent we are unscientific. Man may understand vaguely the lines on which nature works, and make use of that partial knowledge for his own purpose, deviating by so doing from the course ordained by nature. Such deviation will lead ultimately to his own destruction because he himself is a product of nature. Destruction so caused may be at his own hands or through mal-application of a partial understanding.

Progress.—Progress signifies both the search after knowledge and truth as found in nature and its application to satisfy human needs. In the measure in which we are able to pull alongside nature's dictates we shall be progressing in the right direction. But in so far as we are pulling against the course of nature we shall be creating violence and destruction which may take the form of social conflicts, personal ill-health and the spread of anti-social feelings, such as, hatred, suspicion and fear. From these symptoms we shall know whether we are progressing scientifically or not. If our course of action leads to goodwill, peace and contentment we shall be on the side of progress, however little the material attainment may be; and if it ends in dissatisfaction and conflict we shall be retreating however much in abundance we may possess material things.

Economic Activity.—The activity of man to satisfy his elementary needs must therefore not merely produce the material goods but should also be conducive towards growth and development of his own personality. When a man eats food it not only satisfies his palate but it replenishes the waste products of his body, maintains it in good condition and allows for growth and further

development. If the food that he ate only satisfies the palate without contributing to the two other aspects of the needs it will be of no use. If a person drank water sweetened by saccharine all the time however much he may like the sweet taste he cannot enjoy good health and strength as all the elements necessary for his body building, maintenance, replacement of wastage are not present in proper proportions. Taste is a good thing but it is not all. The main function that food plays is performed after it has left our palate. It is the manner in which the food gets assimilated in the body that is going to tell ultimately. Similarly, work also must not be judged by the outward appearance,—nor by the quantity or things produced. Work should develop the human personality and be as food to all human faculties. When we, through greed or false notions or wrong sense of proportion, interfere with nature hoping to obtain short-cuts we generally end up by being wasteful. Nature does not believe in shortcuts. The mills of God grind slowly. Hence in our hurry, we often bring destruction on our heads and we imagine such quick results to be a sign of progress.

Food.—For instance, nature packs up all nutritious articles, *e.g.*, foodgrains, fruits, eggs; etc., carefully in such a way that the ingredients are kept intact and in proper proportion as will be necessary for the users. But we destroy nature's packing; we create counter influences which also destroy the value of food.

Rice, to cite one example, is packed up well in the husk coated with bran and equipped with pericarp and grain. When this is to be eaten all that we have to do is to dehusk the rice. Such dehusked rice, because of its nutritive nature, will be attacked by weevils, vermin, rats,

etc. Therefore, when we require rice we should dehusk what is needed at the moment and keep the rest as paddy. Then alone we get the whole benefit from eating the cereal. But man in his hurry uses a rice mill and as he cannot store rice when dehusked he proceeds to polish it and takes away all nutritious elements of it. By so doing he no doubt increases the storage properties of rice but at the cost of its food value. This is an instance in which human interference with nature is thoroughly unscientific and injures man. Hence, rice mills are against progress and however skilfully the mechanism may have been devised it is unscientific in the true sense.

Husbanding of Resources.—A scientific use of resources should mean that we get the fullest benefit out of what we find around us. Man in his eagerness to use mechanical devices is often irrational in the utilisation of resources. For instance, if paper is to be made out of bamboo by the simple hand process, we do not use bamboos cut fresh from the forest. The bamboos in the forest when they are first cut are used in various ways for roofing, for being made into mats, sieves, baskets and other household articles and then, when they have served their term as such, the broken and used-up bamboo pieces are converted into pulp and paper is made from it.

But the so-called scientific industrialist cannot afford to work on this basis as his machines are to be kept going all the time; so in his hurry, he has to get the tender bamboos from the forest and feed them into his mills to be converted into paper. For this purpose, he has to cultivate forests of bamboos, directing human energy into lines which were totally unnecessary in the former case. Hence, the mill process of making paper as we have shown, is

thoroughly unscientific and wasteful in the utilisation of natural resources.

Similarly, if we have to utilise as food the nutritious elements found in nature we may get, *gur* from palm trees that grow wild on uncultivable lands and obtain the whole benefit of the sap *minus* the water which it contains along with sugar in a digestible form, and various minerals and salts.

But man in his anxiety to use his knowledge puts up sugar mills. converts good lands which may be used for cultivation of cereals into sugar cane growing lands and then the sugar cane is converted into sugar, wasting bulk of the minerals and salts in the molasses which are thrown out as unfit for human consumption and from which he prepares rum and gin to poison the people and to acquire for himself the money they possess.

Even if sugar be required to be produced by hand the *gur* prepared from palm juice can be centrifuged, and having obtained the sugar, the molasses left can now be converted into edible *gur* rich in minerals and salts. Molasses produced from the sugar mills as they are effected by the use of sulphur compounds in the processes are not fit for human consumption and have to be wasted or converted into intoxicating drinks as stated above.

Here again we see that sugar mills are thoroughly unscientific and wasteful of human resources. They, like the rice mills, are only to satisfy the greed for accumulation of wealth by individuals at the cost of nutritious food products found in nature.

In our quest for ways and means of satisfying our needs we have to take into consideration the resources available to us and make the best use of it possible. It

will be unscientific to use coal for fuel where it is not available and where crude oil can be easily obtained. Similarly where coal is available and where no firewood is available it would be senseless to bring firewood from distant places for purposes of fuel. In the same manner where human energy is available cheaply and in abundance it will be irrational to obtain other motive forces from distant places. In India where people are suffering from unemployment and lack of occupation to produce our needs, to resort to mill production which ultimately spreads unemployment is unthinkable. From this point of view hand spinning however slow it may be is scientific and in line with human progress while textile mills are irrational and spell ruin to the people.

Perversion of Taste.—Through propaganda people's natural taste is perverted. They are made to believe smell and colour are to be avoided. They may be taught soon to hold that paper roses are better than natural ones as the former do not "stink". The best example of this type of perversion for business purposes is the present drive to popularise "Vanaspati Ghee". Here the mill prostitutes scientific knowledge to deodorise and decolourise the natural oil, to substitute nutritionally inferior oils for the traditionally used ones, to solidify vegetable oils while lowering or destroying their digestibility. They render all this disservice at an enhanced price. Is this not taking liberties with Nature—science and progress? Do we not deserve it if in return Nature visits us with blindness, loss of powers of growth and reproduction? This is industrialisation in all its nakedness. Such is what passes for science and progress to-day heralding their advent by highly paid advertisements, exploiting the ignorance of the people.

Machines and Tools.—This does not mean that there is no room for machines. Where standardisation and regimentation of labour are called for the use of large scale machines is indicated. Where precision tools are to be made and standardised articles are essential, then production of these through machines will be necessary. But in consumption goods duplication and standardisation are not of the very essence of their being. A comb may be made of horn by hand; but no two combs so made be alike precisely. There is no purpose in standardising such articles. Hence making combs from plastics is not called for. Similarly there are many articles in common usage which do not call for standardisation. On the other hand, most consumption goods call for the catering of individual need and taste. In such cases only cottage and village industries can answer the purpose. When a man has to be fitted with a pair of shoes, the shoes have to be made for his feet even so as to conform to any deformities that he may possess. Such making of shoes for a particular person's feet is scientific and will help the shoe-maker to use his resourcefulness and ingenuity to meet the need and thus help him to develop his capacity; while standardised shoes, though they may produce the articles in abundance, cannot be said to be thoroughly scientific in so far as they are not calculated to fit any particular foot exactly. So large-scale production of shoes as compared with the work of the *muchi* is again unscientific and so against progress.

Violence and Destruction.—In the last two generations we have known the results of mechanical production of standardised goods. The raw materials are needed in large quantities and they have to be collected from the four corners of the world and the finished products have to be

assured of a definite market and for these the ocean routes have to be kept clear and safe. These conditions have brought about the two catastrophic global wars. In the course of these wars much of the human production and skill has gone into destruction. Any war is definitely against progress, it turns men back to the jungle and so can be termed unscientific. Since our activities to satisfy our human needs have culminated in these global wars, they are unscientific and retrogressive.

Conclusion.—Therefore when we attempt to plan production in our country to satisfy our needs we have to be careful to choose the most scientific method and the most progressive ways. We must remember production of a multiplicity of goods is not synonymous with progress nor is destruction a sign of science. Attainment of quick results are not conducive to production of culture. Nature works in mysterious ways and demands its own time. No man in a hurry can be either progressive or scientific. We need patience and we need a ballast to our lives. This we can find only through satisfying our needs by village industries and decentralised production.

Large-scale industries may be used as a necessary evil as has already been referred to above in the production of tools and machines needed for cottage and village industries and provision of basic raw materials such as sulphuric acid, steel, etc. It can also provide natural monopolies, such as communications, means of transport, public utilities like water and power. Anything more than this will spell ruin and destruction to humanity. It calls for great care and forethought to be able to judge. However, we cannot resort to centralised methods of production in the satisfaction of our daily needs. Wherever there is a doubt,

it is safer to fall back on the decentralised methods of production. Hence, we hold that the proper application of science and the way to real progress lies in resorting to village and cottage industries to satisfy our daily needs.

An apparent conflict has arisen in the minds of some between the claims of cottage industries and those of large scale industries. This conflict is largely one of emphasis. It is clear that in India to-day the development of cottage industries on a vast scale is essential for the well-being of the masses. It is equally clear that the rapid development of large scale machine industry is an urgent need of the country. Without industrialisation no country can have political or economic freedom, and even cottage industries cannot develop to any large extent if economic freedom is absent. Without industrialisation also the rapid and effective raising of the standard of the people is not possible.

—PANDIT JAWAHARLAL NEHRU.

II. ART IN MODERN INDUSTRY .

PROF. O. C. GANGOLY.

It is being slowly recognised that it has not been possible to preserve the conditions, religious, social, and psychological, under which India had produced the magnificent and monumental Arts and Crafts which illuminate the brilliant pages of her culture—history during the pre-historic and the historic periods. The marvellous quality of wood carving and metal work which her craftsmen and *sthapatis* had produced attained a high water mark in patterns, designs, and executive skill under the patronage and inspiration of religious worship. It is the demand of worship in the Temple which called for an incessant supply not only of *utsava murtis* but of various kinds of ritual implements, lamps, bells, platters, dishes of exquisite shapes and patterns. The beautifully carved temple cars and their decorations, kept alive generations of Guilds of wood carvers, weavers, and textile workers of marvellous, talent and executive skill. Their handicrafts were not commercial products but the best and finest gifts that the hand of man could produce for the service of the gods in the temple. They were produced very much under the same conditions as the religious craftsmen working under the system of the Art Guild of the Gothic Churches, in Europe. The modern age with its new economy, new psychology, new kinds of faiths and beliefs has produced new conditions, which are calling forth new kinds of productions different from the past. And, we have recalled the past history in order to face the new history that the new age is building up under

our very eyes against our wishes, and in opposition to our old habits. A new order, better or worse is destined to come. And "the best way to suppose what may come is to remember what is past". If we ignore the past history of our handicrafts we may lose the gifts of a valuable heritage which generations of skilled and devoted craftsmen have bequeathed to us. There are no more Mahendra Varmans to punctuate each military victory by carving a temple on the sea shore. There are no more Rajarajas, no more "Sivapada-sikharas" (those whose crowns were the footstool of Shiva) to raise sky-kissing *Vimanas* and *Gopuras* to thrill the hearts, no donors (*donapatis*) royal or humbler personages to load the services in the temples with gifts of Lamps and Ritual implements of exquisite craftsmanship. Should the great heritage of our great craftsmanship and the talent for creating Beautiful Forms be for ever buried in the pages of history and survive only in the pride of our national memories? Is it not possible to put this great national heritage to newer and secular uses? Is it not possible to make our artistic past live in the new and living present?

This brings us to the topic of our discussion—the possible use of Art in Modern Industry. In order to realize accurately all the implications of the problem, it is necessary to define clearly what we understand by the term 'Art' and what is implied by the term 'Modern Industry.' Generally, the term Art is supposed to be opposed to the implications of the term Industry. Art in current application has acquired a subjective, romantic, sublimated and a high-brow function. It is supposed to be something remote from the realities and actualities of hum-drum existence. It is an unattainable

luxury item in the base struggle for winning bread. Yet man cannot live by bread alone—he needs a little butter to swallow his bread. “Run into debt in order to sip a little butter,” (*Rinam kritva ghr̥tam pibet*), this is one of the injunctions of our moralists. If it is a luxury, it is a luxury which is a necessity. Hunger for Beauty is a biological necessity. It supplies the sauce, the salt of life. Art helps to meet this biological need by creating forms of beauty to express the disinterested, the spiritual, or the emotional thoughts of man. In this sense, it is the most valuable medium of human intercourse—the communication of human values between man and man. It is thus a valuable record and a repository of what human being feels and what feelings he wants to communicate to his fellow-beings whether near to him or distant from him in time or space. An Indian poet having made his emotional records in forms of poetical composition was prepared to wait indefinitely—until a sympathetic connoisseur capable of sharing his feelings was forthcoming from the far corners of the earth, or centuries after his death—for as he said—‘Time is endless, and this earth of ours is truly spacious’. From this point of view, the chief function of Art is communication of human emotions. From another and higher point of view—art is the by-product of an attempt of human beings to communicate with the divinity. Images, Sculptures, Temples, and their pictorial and sculptural decorations, hymns and songs, are products of thought dedicated to the divinity. “My highest aim is to find within God whom I find every where without”. (Socrates) “External Nature is only Internal Nature writ large”. (Vivekananda, Gothic Churches, Buddhist Frescoes, Brahmanical Images are

the bye-products of communication with the divinity—of attempts to render the Limitless within limited spaces. But are these high and noble conceptions of Art applicable to objects of Industry?

To answer this query we have to define what we understand by Industry. The word is commonly understood to mean laborious work, labour, sometimes uninterested labour, forced labour, drudgery, while art invariably stands for work executed out of and through pleasure. It is this quality which stands for the pleasure and the happiness that the workman has felt in carrying out a piece of work. A majority of our machine-age products—our factory goods—are not the consequences of the pleasures of the workmen in producing them; so that in considering the use of Art in connection with Industry we have to understand art in a more limited sense, in a much narrower application. In this narrower sense Art stands for "skill", "fine execution", irrespective of any subjective, or spiritual quality. In a still narrower sense art stands for 'ornament' or 'decoration', something not inherent in or emanating from the design but something added to, or applied to a thing for the purpose of effect, attention, or attraction. There is another related word—'Craft'—frequently used in connection with works of Art. A piece of 'Craft' is a work of ingenuity or skill—and generally, applies to works of Applied Art as distinguished from works of Fine Art, confined to objects made for contemplation, and spiritual uplift, and not generally considered as essential to the daily material needs of life, such as Painting, Sculpture, Architecture (as opposed to mere 'buildings' and 'structures'). Fine Art is not generally understood to cover objects of essential uti-

lity. But the most essential element in the connotation of the word 'craft' is that it is made mostly by hand, sometimes with the help of crude appliances—*e.g.*, wood work and pottery. 'Craft' is thus distinguished from works of 'Industrial Art'. 'Craft' is applied to all works with hand-constructed and fashioned objects—in the fields of ceramics, metallurgy, wood-work, paper; leather; weaving; and hand-blocked textiles—generally covering things of utility necessary for the daily needs of life. 'Industrial Arts' are generally understood to cover all three-dimensional objects, designed, constructed and fashioned in all the above materials—with the aid of machines worked by 'factory hands' and are not regarded as works of Art. One may protest against this denial of a respectable title to objects turned out through the medium of machines which are after all the products of human skill and ingenuity. The answer invariably given is that machine products do not bear the human touch, the personal, individual touch of the artist who is unable to convey his emotions, messages, yearnings, and prayers through the machines,—which stands between the maker and the user and robs it of human and spiritual values.

This brings us to the heart of the discussion of our topic. Can there be any room for 'Art' in works produced by our Modern Industrial machines. Can 'Art' and 'Industry'—apparently of contradictory values be affiliated, allied, and joined together in ties of matrimony? The answer to the problem can be conveniently sought in the respective history of Art, Craft, and Industry.

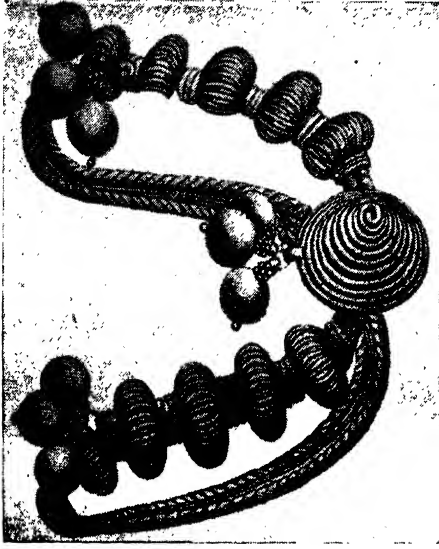
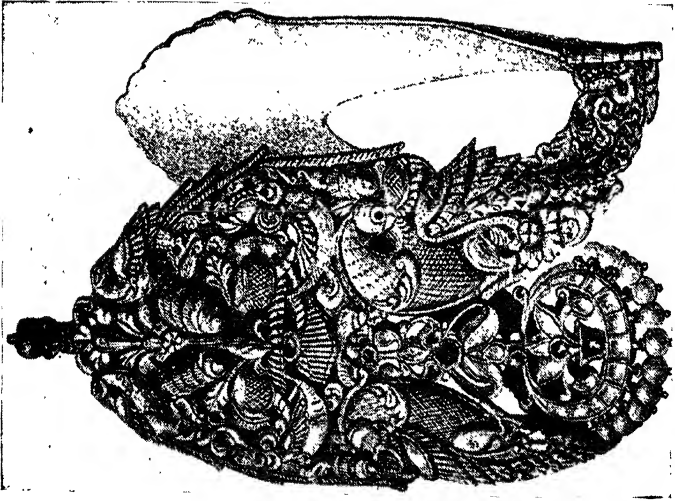
In mediaeval times, before the advent of the Machine Age, all requirements of life, secular or religious—generally called 'art-crafts' used to be made by Artists and

Craftsmen in India, called *sthapati*s, the sons of Visvakarma—who were experts in all materials, wood, metal, stone or stucco, and covered all demands of society excepting weaving. They were organized in Guilds (*Goshtis*, or *Srenis*) and used to live in one special quarter of a town or village assigned to them. In the Jatakas we have numerous references to these Guilds or Groups of artists and artisans practising craft as a hereditary occupation, and, generally specializing in more than one craft. They kept up a high standard and quality of production—in patterns, designs, and execution. In Swamimalai (Kumbhakonam), we have still surviving a whole village of architects and sculptors (*acharis*) catering to the needs of the temples; and also at Raghunathpura (three miles from Puri, Orissa) we had, upto a few years ago, two groups of pictorial artists,—painting sacred pictures for the use of pilgrims. The advent of the printed pictures and machine-made lithographs has put an end to a high-class hereditary art of extremely fine quality and flavour. The flagging of faith and the decadence of devotion have lessened the demands for votive images for the temples; and the great school of South Indian Bronzes has perhaps come to a logical termination replaced by the modern sculptors trained in the Schools of Art. The first batch of products of the machines were ugly, crude products—severely utilitarian objects—without any decoration and devoid of any claim to beauty. People with Victorian or Mediaeval prejudices looked with suspicion at any products of the machine; and many of them continued to use the rarer and the more expensive handicrafts which were unable to compete with machine products, notwithstanding the beauty of their patterns and the quality of their execution.

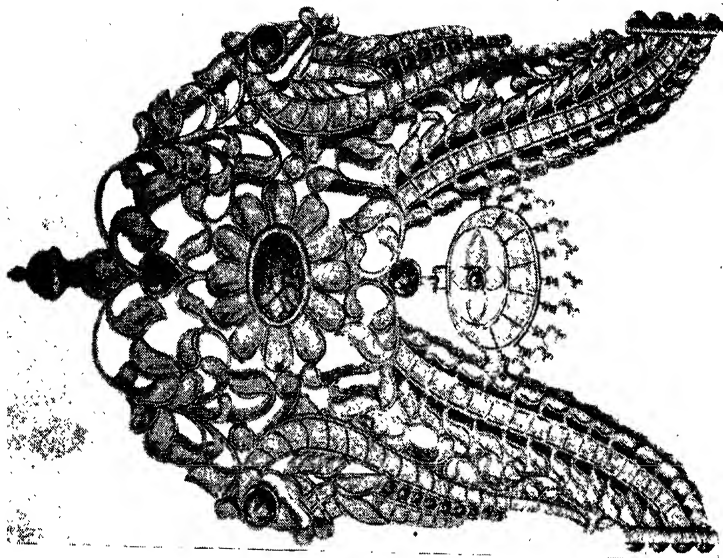
On the other hand, in vainly trying to compete with the machine-made article—the handicrafts lost all their qualities of beauty and craftsmanship. Ultimately, the machine-made things triumphed and drove from the market all fine handicrafts.

Owing to an ingrained prejudice against machine-made things, the factory products, the artist and designer as such for a time non-co-operated with the Industrialist, the factory owner, and the Artist refused to contribute any manner of Beauty to the machine product. This is typically illustrated by the attitude of the great English Artist, Eric Gill. "Factory is a place where things are made, in which the individual workman is not responsible for the design of workmanship of the thing made, being only responsible for doing what he is told. Modern industrialism is built up on the twin forces of greed and need. Greed supplies the motive power for the masters, need keeps men tame under servile conditions" (Eric Gill: *Art Non-sense*, 1929, p. 11). Assuming this criticism to be just it was all the more necessary for the Artist to co-operate and to save the soul of the Industrialist and to try to invest his products with Beauty. In the industry of pottery-making in England, Josiah Wedgwood (18th century) in association with a man of excellent taste Thomas Bentley, brought culture and beauty in association with Industry. His attention being drawn to the supreme quality of Ancient Greek Vases—both in the design and fine technique, Wedgwood made an attempt to use ancient principles of beauty to modern pottery. "Once before in the history of art, pottery had been the medium of a nation's highest artistic genius, A Grecian Urn was a symbol for all the grace and serenity of the ancient world. Wedgwood

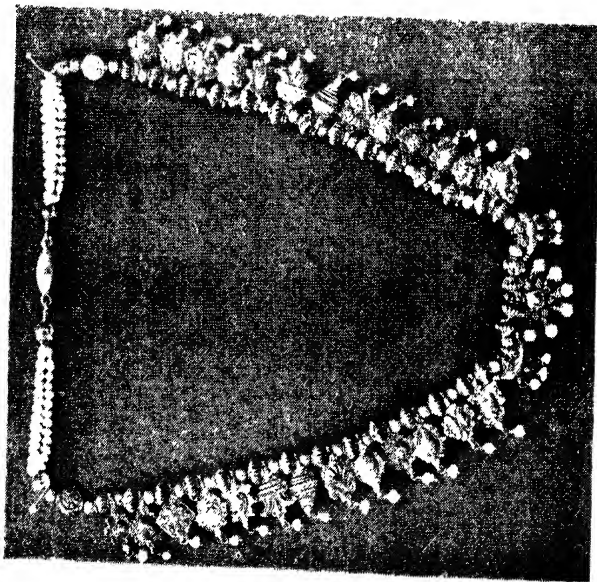
JEWELLERY IN GOLD



A Gold *Vanki*—Still worn in South India



A Stone-set Armlet



A Gold Necklace

determined that pottery should again rise to those heights. The best artists in the land, were commissioned to copy ancient prototypes or adapt them to modern uses. In a sense, they succeeded all too well" (Herbert Read: *Art and Industry*, p. 35). Wedgwood was the first potter to think out forms which should be thoroughly suited to their purpose, and at the same time capable of duplication with precision in unlimited quantities for distribution on a vast scale. In oriental countries we have excellent artistic traditions in the Pottery Industry—the Pottery of Mohenjo-Daro—with exquisite animal and vegetable decorations, the incomparable Pottery of China—progressing through the centuries in excellent traditions of forms as well as of decorations, and the beautiful Islamic Pottery of Sultanabad and Rhages which were produced with the active collaboration of Masters of Pictorial Art. But these excellent traditions have not been adopted or exploited for modern needs. To resume the history of Industrial Art, in England, we have the advent of William Morris, who came a century after Wedgwood and attempted to revive handicrafts and supply new designs for furniture, textiles and tapestries. He was opposed to the development of machinery and the ugliness and degradation which he associated with that development. "Morris's attitude was the inverse of Wedgwood's." "Wedgwood was the industrialist who thought of art as something external which he could import and use." Morris was the artist who thought of industry as something inconsistent with art, which must therefore be reformed or abolished. He had however seen in the machine a chance to save the drudgery of labour." "I suppose that this is what is likely to happen; that machinery will go on developing,

with the purpose of saving men labour, till the mass of the people attain real leisure enough to be able to appreciate the pleasure of life, till in fact they have attained such mastery over Nature that they no longer fear starvation as a penalty for not working more than enough." (Aims of Art, 1887). Unfortunately, machinery has not yet succeeded in eliminating the drudgery of life—or in securing more leisure for pursuit of the higher and more spiritual values of life. Towards the end of his life, Morris had to modify his attitude towards the machine. "Those almost miraculous machines which if orderly forethought had dealt with them might even now be speedily extinguishing all irksome and unintelligent labour, leaving us free to raise the standard of the skill of hand and energy of mind in our workmen and to produce afresh that loveliness and order which only the hand of man guided by his own soul can produce; what have they done for us now?" (Art and Socialism).

"The Morris Movement had some indirect effect on the attitude of the Industrialist. He made an attempt to cover up the ugliness of his machine-products. He called in the aid of some 'artists' (inferior ones no doubt) to provide some 'designs' to sugar-coat and cover his machine-made ugliness."

Then came the Design and Industry Association (1933) with the avowed purpose of creating a real alliance between qualified artists and designers and the manufacturer. A Government Report entitled 'Design and Cotton Industry' surveyed with elaborate care the methods customary in the Cotton Industry for obtaining suitable designs. The Report stated that economic circumstance

rendered it "vitally important that effective means shall be found to draw into the service of the industry men and women of trained artistic ability." The sources of supply for designs for printed and woven fabrics were described in detail, also the manner in which those designs are inspired. Whether art and industry could enjoy partnership in this field may best be judged by the following quotations from the Report: "Fabric painters obtain their designs from one or more of the following sources: works studio, English commercial studios (chiefly in Manchester), free-lance designers (including, occasionally, art students), and French commercial studios." "The designs may be either entirely new and the expression of the designer's own originality or, more often, the result of suggestions made by clients and based upon their opinion of what is likely to sell in the particular market for which they are catering. These opinions, are, of course, usually based upon designs which have already proved successful." "It does not appear to be unfair to say that the designer in a studio is generally looked upon as a person of no great importance." According to the calculation of the British Institute of Industrial Art it is estimated that only 3 per cent. of the designs were bought from free-lance artists. When the free-lance "presents his designs for inspection, the treatment he receives sometimes reflects too crudely the subordinate status of the designer in the studio, and he retires from the effort in disgust." Somewhat similar reports have come from artists employed by some of the owners of various cloth-mills in Ahmedabad who requisition the services of artists and designers to provide attractive 'designs' for sari borders."

The attempt to introduce good designs into the products of Metal Industry is beset with still more insurmountable difficulties.

In India, many of the handicrafts still survive, in a very moribund condition, owing to lack of sufficient patronage, and they cannot compete with machine made products and are unable to maintain a reasonable standard of quality and design. It is difficult to say if it is possible to keep them alive by a "spoon-fed" patronage to help it to survive the competition with machine-made products. An enquiry by a committee of qualified experts should be able to dig out all the facts and conditions now governing the old surviving Indian handicrafts. If the old handicrafts cannot be kept alive, the only alternative is to find ways and means to employ qualified and talented artists and designers to introduce beauty into machine-made products.

The problem, as it stood in England, has been clearly stated by Arthur J. Bentley in the course of a review of Eric Gill's *Beauty Looks After Itself*: "Experience proves that none of the arts can stand up against machinery and mass production. The Crafts were the first to suffer. Now the turn of the Fine Arts has come, the latter are not attacked so much by machinery direct as were the crafts, but they wither in the new social atmosphere that has come into existence with the increasing mechanisation of life and industry. A people whose occupations are mechanical, whose leisure is spent in motor cars and cinemas, whose ideal is speed and whose god is money, cannot discover points of contact with the arts whose existence presupposes life, lived in a more leisurely and contemplative fashion. They belong to different worlds and no communication is finally possible between them. Hence our

dilemma. It is no use attempting to save the arts as Mr. Gill and the modernists would have us do by advising architects, artists and craftsmen to throw in their lot with industrialism, for that can only make the destruction absolute. Art has to do with the *ends* of life, while industrialism is concerned with the *means*. And it is impossible for ends to serve means, which is what would have to happen for the arts to derive their inspiration from industrialism."

As against this somewhat extreme view, there is a group of thinkers who consider that even under the present conditions it is possible to bring about a real partnership between Design and Industry,—accepting the inevitable use of the Machine for the production of useful objects on a large scale in factories. If the artist-designers realize the mechanical conditions of production and the nature of the materials used, he should be able to provide suitable designs which will elevate the looks of industrial products and help to abolish ugliness from Industry.

In the coming New Order of things in India, with planned designs for village improvements, such as contemplated by the Kasturba Trust, it is possible to keep alive some of the old handicrafts, and also to improve and modernize their designs and patterns, on a reasonable economic foundation. Very beautiful handicrafts have been produced at Sri Niketan (Visva Bharati) in the fields of pottery, leather-work, wood-work, and textiles—but it has not been possible to keep down prices on a reasonable level, so as to make these handicrafts available within the purchasing power of buyers of moderate means. Very close and intimate co-operation is necessary between the expert economist and the expert artist-designer to place the new village handicrafts on a

sound and practical foundation. It would be much easier to keep alive Art in Village-industries and Handicrafts, than to provide for its survival in the mechanical conditions of machine products.

The greatness and beauty of Oriental art, especially in Japan and China, consist in this, that there the artists have seen this soul of things and they believe in it. The West may believe in the soul of Man, but she does not really believe that the universe has a soul. Yet this is the belief of the East, and the whole mental contribution of the East to mankind is filled with this idea. So, we in the East need not go into details and emphasise them; for the most important thing is this universal soul, for which the Eastern sages have sat in meditation, and Eastern artists have joined them in artistic realisation.

—RABINDRANATH TAGORE

III.—THE NEED TO DEVELOP FOOD INDUSTRIES
ON A COTTAGE BASIS

RAO SAHEB G. JOGIRAJU

One of the main causes of the present poverty and low standard of living in Rural India, which is inhabited by over 87 per cent of the total population of the country, is that there are far too many people dependent on the cultivation of the land than it can fully employ or keep in comfort. The remedy suggested by one school of economists is the large scale industrialisation of the country on Western lines and the transfer of the surplus rural population to the new industrial centres for work. India is industrially very much behind other civilised countries and needs the expansion of mechanised industries on a large scale. Such expansion, however, has to be brought about in a manner and to the extent that it will be conducive to the welfare of the vast masses of the rural population.

The extent of unemployment in rural areas, computing the odd periods of idleness into units of 300 days' labour may not be less than about 20—30 per cent of the total available labour. If indiscriminate mechanisation of industries were to be effected on such an extensive scale as to produce every requirement of the country—from the axe to the aeroplane, even the few cottage industries still extant in the rural areas may perish and the percentage of unemployment go up still further, and it will be impossible for the

new industrial institutions even if developed to the utmost possible extent, to absorb such a large percentage of the huge rural population. Even granting that mechanised industries can absorb all the surplus rural labour, it will be necessary to retain in the villages sufficient casual labour to attend to the agricultural operations in the busy seasons in time and efficiently and such extra population provided with other employment in the off seasons. If agricultural production is not to suffer, not more than about ten per cent of the present rural population can be spared to go out of villages and with this labour such essentially large scale mechanised industries such as those required to produce steel, transport-craft, machinery and machine-tools, cement etc., may be pushed on to the utmost needs of the country. But to provide sufficient work to the partially unemployed rural population which has to be retained in the villages in the interest of agriculture, it is essential that certain industries connected with the production of the daily requirements of life, chiefly food and clothing, should be decentralised and organised on a cottage basis at least to the extent of the needs of the rural population, increasing often their efficiency by effecting such improvements as the introduction of better tools and methods of work. It is possible that in the case of certain industries some stages may be organised on a cottage basis and others on a factory basis. But it is certain that no cottage industry can thrive, however efficient the worker may be, under competition from its mechanised counterpart.

Before discussing other points in favour of the decentralisation of industries connected with the essential needs of life and in particular the food-industries with which this article is mainly concerned, the principal food indus-

III] FOOD INDUSTRIES ON COTTAGE BASIS

tries which were once confined to the villages and which have suffered from competition from their mechanised counter parts may be briefly referred to here.

1. *Husking of paddy*.—The establishment of rice factories all over the rice growing tracts has practically exterminated this home industry which once provided regular employment to a number of people in the village.

2. *Grinding wheat and other grains into flour*.—This domestic industry has also suffered considerably from the competition of power-mills, especially in the wheat consuming areas.

3. *Extraction of oil from gingelly, groundnut and other oil-seeds*.—The recent introduction of Rotary Power mills and Expellers has of late considerably thrown local 'ghanies' or 'chekkus' out of work.

4. *Manufacture of butter and ghee from milk*.—The advent of factory-made vegetable ghee or 'vanaspathi' into the market has of late commenced to compete with this industry which has already been much affected by a decrease in the production of milk for various causes and owing to the large scale use of milk as coffee, tea, etc.

5. *Manufacture of jaggery from sugar cane*.—The establishment of new sugar factories in old sugar cane growing areas has also encroached on the existing industry, in some cases, with the aid of compulsion by the Government.

Besides displacing existing village industries, and increasing unemployment, the concentration of industries such as the above, in a few industrial centres creates a number of new problems which are difficult to tackle.

A sudden breakdown in the production at the factory or in the means of transport and distribution on account of unforeseen causes such as floods, cyclones, wars, or strikes which last have of late become none too common, may paralyse supply, create black markets, and bring on untold mass suffering in the area affected, as was the case in Bengal and Malabar a few years ago. It is therefore advisable to see that villages are, as far as possible, self-reliant and self-sufficient in the matter of their essential needs, especially food materials, by facilitating not only their production but also their processing on a cottage basis, in the villages themselves.

Since the raw products for the food industries are produced in the villages, their transport to the industrial centres for being processed, and the return to the villages for consumption enhance the prices of the final products to the consumer in the latter, who has to bear not only the transport and processing charges but also the profits of the factory owners and commissions of traders and middlemen. It may also be noted that the transport charges which once went to the village cartmen, have of late been going to the lorry owner of the town, or the factories.

The rehabilitation of food industries on a cottage basis is also desirable from the health-view of the rural population, since processed products such as milled rice, machine-ground flour and hydrolysed fats are now known to be inferior as food to the corresponding cottage industry products.

✓ Cottage industries also contribute to the health of the rural population in another way. A period of enforced idleness in a slack agricultural season, makes a person

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less fit or inclined for work in the following busy season and cottage industries provide in the interval, useful work necessary to keep the body accustomed to efficient work especially to women and juveniles.

The main food industries referred to already and a few others which may be encouraged or newly started, may be estimated to be capable of providing the number, roughly noted below, of units of labour of 300 days per year per 1000 persons or roughly 200 families living in villages of the non-deltaic rice-growing areas where other irrigated and dry crops are also grown:—

| | Units of Labour. | |
|---|------------------|--------------------------|
| | Male | Female or Juvenile |
| Husking of paddy with 'dhenkis' or lever-pounders .. | 21 | 16 |
| Oil extraction by 'ghanies' improved on the Wardha pattern .. | 3 | 6 |
| Butter and ghee making on improved lines but on a cottage industry basis .. | .. | 15 |
| Jaggery manufacture from sugarcane or sweet toddy*) .. | 1 | .. |
| Other minor food industries such as malting grain, preservation of fruit and fruit-juices, bee-keeping, poultry-rearing, fish-breeding, etc. besides existing ones such as popping corn, making sweet-meats, biscuit) etc. .. | 5 | 10 |
| | <hr/> 30 | <hr/> 47 |

* With the prohibition of the use of palmyra and da te-toddy all over the country, its conversion into jaggery may also be encouraged under precautions against illicit use, so that the present toddy drawers may be kept employed.

Roughly, about 30 out of every 200 families in a village will thus find employment in food industries. The distribution of these and other avocations among the families of a village as shown below (per every 200 families or 1000 persons inhabiting it) will provide adequate occupation and fair means of living to all and at the same time ensure all essential supplies and services on a mutual basis:—

| | Number of families. |
|--|---------------------|
| Agriculture .. | 90 |
| Agricultural and other casual labour .. | 30 |
| Food industries as shown above .. | 30 |
| Carding cotton, making slivers (spinning being done by every family generally) and weaving .. | 12 |
| Other cottage industries such as pot and other earthenware manufacture, mat, basket and rope-making, leather work, etc. .. | 4 |
| Skilled services such as carpentry, smithy, masonry, washing clothes, dressing hair, etc. .. | 10 |
| Trade and transport (carting) .. | 6 |
| Village servants (curnam, munsiff, and menials) School-masters, post master, purohit, etc. .. | 8 |
| | <hr/> 190 |
| To leave the village if unemployed and settle down in large industrial colonies .. | 10 |
| | <hr/> 200 |
| Total .. | <hr/> 200 |

Besides the above, ginning of cotton, hand-spinning for sale of yarn to those who may not spin for themselves, and other minor works afford extra off-time occupation to some women of families who do not wish to do agricultural or other out-door work.

IV. WHAT FOR IS RICE POLISHED?

M. VINAİK.

There is a lot of difference between what is now-a-days known as paddy husking and what was understood in days of yore. In the olden days it used to be a household industry carried on mostly by women. They were removing only the outer husk of paddy thus making available to the people what is at present known as wholly unpolished rice. There was no unpolished and polished rice in those days and what was available in the name of rice was all unpolished, the most nutritive and health-giving form of rice.

Nature has provided ample facilities to the eastern parts of the world to grow paddy extensively. It is more or less a monopoly of nations like Indo-China, Java, India, Burma, Japan, etc. Near about 90 per cent of the world's production of rice is concentrated in Asia. To the Westerners rice is rather a rare commodity. Even to this day it is not grown there to any large extent. Rice is one of the world's important staple cereals and it had to be exported to many foreign countries from these tracts.

Industrialisation brought with it all its horrors. Machines needed all sorts of material to satisfy their insatiable hunger for raw materials. Private capitalists who stood to gain by these machines became unscrupulous in exploiting all available resources without the least thought of the harm they were doing to their brothers. Thus in their search they found in rice a good starch that was highly

useful for their different industries. They began importing rice. It took a pretty long time for the consignment to reach their destination. In the transit unpolished rice, being highly nutritive, attracted weevil, vermin, rats and hoards of insects. The stuff would deteriorate due to the development of rancidity of the fatty bran and emit unpleasant smell. So this was not fit for purposes of making high grade starch.

Elaborate machines were invented to be set up in the rice exporting countries to deprive rice of all its outer-coats. By this they solved their problem of importing rice without any deterioration on the way.

Thus the machines were invented with a specific purpose of simply improving the keeping quality of rice to be made into starch. But to-day what do we see? People have all become mad after this rice polishing machine. We find these enemies of public health in every nook and corner of our country. There is no sense in copying a process which is intended for producing mere starch for large scale industries—for the rice which is intended for human consumption. But still to-day's fashion requires milk-white polished rice. That is, rice which has been repeatedly shorn of all its outer layers which are the seats of the nutritious and vitaminous contents of rice. The madness did not stop there. It has spread from rice to wheat and then to other cereals. We eat different cereals not only for their starch content but also for their mineral salts and vitamins. The latter are concentrated in the outer layers of cereals. And when these layers are purposely removed is there any reason for having worthless starch for human consumption?

The popular slogan is "gone are the days when people were unimaginative, unreasonable, blindly following whatever is dinned into their ears." To-day we claim to be advanced, civilized and educated. We do not do things blindly because that was the custom; we ask ourselves the question 'why'. Will anyone answer this question—why polished rice?

THEY CAN NEVER GO TOGETHER

We have referred to the causes that led to the invention of rice polishing machinery. Improving the keeping quality of rice which was to be made into high grade starch for large scale industrial purposes was the chief incentive that led to its invention. But to-day the same machine is put to use for treating rice for human consumption without the least thought of the harm it does to the health of the people. In spite of this discredit rice pounding industry is considered to be an advancement and anyone who dishonours the machinery for polishing rice for human consumption is accused of being a utopian who wants to "put back the hands of the clock." The reason for this scathing propaganda is not far to seek. It is an instance of the capitalist—Satan at work. To-day we find all over the world private capitalists owning these large machines which bring to them huge profits which otherwise would go into the hands of our poor paddy husking women. How can they tolerate those who propagate against the use of machines thereby undermining their parasitic and easy-going existence?

Now a days we commonly hear these capitalists and their agents coming out with a suggestion why not use wholly unpolished rice prepared in these mills? It means that we can have nutritious food with the help of the latest

machinery. At first sight this looks like a reasonable remedy. Let us now examine what this suggestion means.

The nature of machinery is to overproduce. With the help of the machinery we cannot produce our requirements only. We will have to produce over and above the needs of our country and the stock thus accumulated will have to be exported to other countries. If we produce unpolished rice by the mills and try to export it to other countries we will come to face the same problem that led to the invention of these machines. So, centralised and over-producing machinery cannot suit unpolishing due to the difficulty of the rice getting deteriorated in a short time before it reaches the consumer.

Dehusking of paddy and getting wholly unpolished and health-giving form of rice is essentially to be a small scale industry to be carried on in every village if not in every house. Instruments needed for the purpose are also to be such that every village or villager should afford to keep for household use.

Large scale machinery and nutritive rice are two incompatibles that can never go together. If we want large scale industry that means we insist on eating that polished form of rice which is completely devoid of all mineral salts, vitamins, pleasant flavour and sweet taste. If we care to consume the most nutritive and health giving form of rice, we shall have to eschew completely all kinds of centralised machinery. It only remains to see how far are our people educated enough to separate chaff from the grain.

V. FISH CURING AS COTTAGE INDUSTRY

DIRECTOR OF INDUSTRIES AND COMMERCE, MADRAS

1. Fish curing as a cottage industry has an abiding place in the basic economy of the Nation. If the collection of food in seasons of plenty and its proper preservation and storage for use in times of scarcity is a prime necessity of life, then it is essential that fish curing should be practised to a far greater extent than is done at present. For, fish is a seasonal food in the sense that in particular periods it is available in extra large quantities at ludicrously cheap rates and at other times it is rare and costly. To take the case of "Mackerel", the most common medium sized marine fish on the west coast, its price for home delivery in Calicut in 1945-46 by hawkers in the fresh condition has ranged from Rs. 5 to Rs. 80 per 1000 (roughly weighing 2 maunds) or from 6 pies to 8 annas per pound, while the range of price for mutton ranged only from Re. 1 to Rs. 1-4-0 per pound according to quality and for milk from 4 annas to 6 annas per lb. The price of fish at the landing grounds has been considerably lower than the price paid by house owners. Further, fish is a cheap flesh food just like meat or milk products so essential for the building up of our bodily tissues. It is only a point of domestic economy to purchase it in quantity when it is cheap and keep it safe for the rainy day. The methods of curing practised commonly at the producing centres alone are described. The principles and processes of fish curing are similar to those adopted for the preservation of

other kinds of food, but with this difference that fish preservation requires greater quickness, cleanliness and carefulness as fish is more easily decomposed and putrefied than other food materials.

2. The causes of decomposition and putrefaction however may not be so well-known as their effects. Decomposition and putrefaction are brought about in living or dead organic matters as much by the action of substances called "*Enzymes*" present in living tissues as by bacteria present in air, water and land, infesting such materials. Fortunately these agents can bring about putrefaction only in the presence of air and moisture and at particular ranges of temperature.

3. The basis of all curing methods is the removal of these optimum conditions. Keeping materials at a very low temperature out of contact with air, after their moisture content is considerably reduced, will be the ideal method of preservation especially for fish, but according to the facilities and funds available, one or more of these points might be observed. As practised at present in India, fish is kept salted partly or wholly dried, or in pickle but rarely at a low temperature as methods of refrigeration and cold storage are comparatively modern and continue to be costly in this hot climate.

4. The earliest records of fish curing and the export of cured fish in modern times in India are found in the export statistics of 1869 when a few hundred tons of cured fish were exported from the ports of Tellicherry and Negapatam. An enquiry into the origin of this export revealed that the article was produced on the Malabar coast by private individuals in small quantities simply by sun drying fishes with or without salting them with mud salt

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produced as a home industry. This was essentially a crude product but it found a ready market in Ceylon, Burma, and other Eastern countries where vegetarianism was not the fashion.

5. Fish curing was essentially a cottage industry as Government found it in 1872 and it was permitted to maintain its character though considerable improvements have since been effected. The Government undertook to give good salt in sufficient quantities at cheap rate for the fish-curing industry, if the concession was not misused. For this purpose the Government opened Fish Curing Yards in which the Curers were expected to carry on their operations. Starting with 10 yards in 1882, they now have 65 yards in which 1319 curers or ticket holders carry on their operations on a cottage industry basis. The Government has all along kept strict supervision and control to see that it is not converted into a large-scale capitalistic venture. The fisherman or fish curer and his family do most of the manual labour themselves. It consists in cutting and cleaning the fish as it is landed and putting it in salt in proportion varying from $\frac{1}{16}$ to $\frac{1}{3}$ of the weight of the fish in earthen or wooden tubs or cement tanks according to quantity and keeping them for a day or two when the salt penetrates the fish and a certain quantity of fish liquor is thrown out which dissolves the remaining salt and forms a pickle in which the fish is kept indefinitely sweet. This is a process which any individual can adopt easily. After such salting the fish is taken out after one or two days, sun dried for 2 or 3 days and packed in mats and despatched to the consuming markets. If these are put in strong saltpickle in the houses in wooden tubs or in earthen and porcelain jars,

it will form a useful addition to the larder and various preparations can be made according to taste with different condiments, just like vegetable chutneys, pastes, soups, etc. Fish will thus help maintain the nitrogen balance so deficient in the diet of poor people living mainly on rice and tamarind water, who have not been able to get sufficient quantities of milk. On the west coast of the Madras Presidency the catch is estimated at 48,40,187 maunds valued at Rs. 18,29,206 in 1945-46. Out of this 21,26,560 maunds of fish using 3,35,644 maunds of salt have been handled in 65 fish curing yards on this coast entertaining 1219 ticket holders. Unorganised curing might also account for an additional 15 per cent.

6. The consumption of fish as fresh fish either plain or iced will account for a further 40 per cent. The rest of the fish is beach dried, and the quantities so treated are estimated at 1,93,400 maunds; part of this has been used as manure but the rest has been used for edible purpose. With the development of fish curing as a home industry less and less will be converted as manure and more and more will be used for edible purpose. No attempt has been made in this article to deal with the quantities of marine fishes caught and cured on the east coast, where also the Government are having similar institutions. But the catch is poor and much of it is consumed as fresh fish.

Similarly, the lakes and tanks and large irrigation canals and other huge storage reservoirs give appreciable quantities of fish in summer when they are cleaned, the fishing rights being generally leased. As these are generally handled by private individuals, no figures are available regarding the quantities caught. It is presumed that

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most of it is consumed as fresh fish and very little is available for the curing industry.

7. Once the principle of curing, especially hard salting is well understood, it will be easy to adopt the other methods of light curing, semi-drying, smoking, pickling or making fish flour which will all give very tasty products. In most of these cases, the initial process consists in curing the fish in concentrating salt water (brine) forfeited with additional quantities of salt as required. The curing effect is quicker requiring only $\frac{1}{10}$ the time required for the previous, the product neater and sweeter. Generally saturated brine is prepared by adding 25 lbs. of water to 10 lbs. of salt, warming it up in a mudpot and allowing it to settle. The liquid is allowed to cool and settle down clay and impurities. The top layer of clear liquid is decanted and stored separately for use. It will be worthwhile to purify a fair amount of bazaar salt in the same way by preparing some saturated salt solution as above and dip into it a close woven wicker basket containing crystalline salt, stir it well and take the basket out and allow the water to drain back into the pot and dry the salt on cloth. The same hot brine can be used to wash 5 times its weight of salt.

It is worthwhile to use such purified brine and salt if long storage is attempted. The cleaned fish can be cured by keeping it in such saturated brine. 10 lbs. of fish for 10 lbs. of brine and 1 lb. of salt can be kept spread in a wicker basket or tray at the top so that salt will get dissolved in the brine as the fish absorbs salt from the brine. It is enough if the fish is kept in such brine for half an hour for every quarter inch thickness of flesh or part thereof. If the fish is in slabs or slices one inch thick, it should

therefore be kept in brine for 2 hours. It may then be taken out, drained and dried for transport till the weight is reduced to 50 to 60 per cent of the original. This is an improvement which can be practised in the producing centres. The ordinary house keeper in the consuming centres has learnt to purchase and keep such fish in saturated brine and take it and use it as required for hot or sour dishes or for making pastes, soups, or pickles with suitable condiments as pepper, vinegar, etc.

8. It will be seen from the foregoing that there is considerable scope for development in the producing centres and an equally wide field is awaiting development in the consuming centres and markets, if only the ordinary individual will take a little more interest in his daily diet. In the absence of such development we will have to export the major portion of our cured fish to the other countries when we are ourselves suffering from shortage of food.

The Japanese consume as food one-fourth of the total consumption of fish in the world, and to them it is the healthiest of all foods. So long as there are good supplies of fish and rice available, the life of the Japanese is well assured.

—THE EAST ASIA ECONOMIC NEWS

VI. THE HANDLOOM INDUSTRY IN INDIA

M. P. GANDHI

The total number of handlooms in India, excluding Burma, according to the information available to the Fact-Finding Committee,* is about 2 million. The number of active looms is about 17,00,000, more than 2,65,000 being reported to be idle. The percentage of idle looms thus works out to about 13 per cent. Classified according to textiles in the weaving of which they are engaged, it is found that a great majority of the looms are engaged in cotton weaving. Over 14,00,000 were engaged in cotton (72 per cent.); 99,000 in wool (5 per cent.); 3,71,000 looms in silk (16 per cent.); 25,000 looms in artificial silk (1 per cent.); and 1,00,000 looms in other textile mixtures (6 per cent.).

In a broad sense, handloom weaving includes weaving of all types of fibres of vegetable, animal, mineral and chemical origin.

TYPES OF HANDLOOMS

In regard to the types of handlooms, we find that to-day out of a total of 2 million handlooms in India, about 64 per cent. are throw-shuttle looms, 35 per cent. fly-shuttle looms and 1 per cent. other categories. It is certain that 20 years ago, the number of fly-shuttle looms was far less and credit for the increase in the number of this type of loom must go to the

* Report of the Fact-Finding Committee (Handlooms, Cotton Mills), published by the Government of India, 1941.

endeavours of various Provincial Governments who have popularized them. It will be noted that the proportion of fly-shuttle looms is largest in Travancore (89 per cent.), Madras (81 per cent.), Mysore (78 per cent.), Cochin (73 per cent.), Bengal (67 per cent.) and Bombay (55 per cent.), and it is low in the Punjab (5 per cent.), Orissa (15 per cent.) and in the United Provinces (19 per cent.). While in Bengal, the total number of looms has fallen with the increase of fly-shuttle sleys, the total has risen in Madras, indicating that production has advanced more in the one than in the other.

§. NUMBER OF WORKERS

Obviously there are serious difficulties in counting workers in the hand-weaving industry as it is functioning to-day. Formerly each weaver was an independent worker. But to-day a great majority of them work for a wage under a master-weaver, *mahajan* or *karkhanadar*. The condition of the industry is, however, still unorganised, most of the weavers still working in their own homes, and there is no facility for collecting periodical returns as in the case of mills. According to the Fact-Finding Committee, however, the number of weavers is 14,34,000 whole-time, and 7,47,000 part-time, the total being about 24,00,000 (including 1,75,000 estimated for smaller States). The number of paid assistants is 2,53,000 and unpaid 25,73,000. Thus the total number of weavers for India is 24,00,000, while with the addition of auxiliary workers who assist them, some paid and others unpaid, estimated at about 36,00,000 by the Fact-Finding Committee, the total number of workers is about 60,00,000 for the 20,00,000 looms working in India. In addition to these, there are the dependants whose number cannot be less than 40,00,000.

Assuming that each of the 24,00,000 weavers has to support besides himself three persons on an average, it can be assessed that the total population depending on the industry must be round about 10 million.

SMALL-SCALE POWERLOOMST†

It has been difficult to estimate with any exactitude the number of powerlooms operating in the country. According to the information which the Fact-Finding Committee was able to gather in 1941, there are about 11,640 powerlooms in the Provinces and States, of which 6,350 or more than half (55 per cent.) are in the Bombay Presidency. Next to Bombay come the Indian States, of which Mysore has 1,300 and Kolhapur also 1,300. The rest are scattered in the Punjab, Central Provinces, Berar, Madras, Hyderabad, Baroda and Bihar; 58 per cent. of the looms are engaged in weaving artificial silk, 14 per cent. in silk, 8 per cent. in mixtures and 3 per cent. in wool.

STATISTICS OF PRODUCTION.

An estimate of the total production of cloth on handloom would perhaps give a better index of the progress of the handloom weaving industry than the number of handloom weavers. It is unfortunate, however, that accurate statistical computation is not possible in the case of a non-organized industry like hand-weaving, pursued in small units and scattered all over the country. The Fact-Finding Committee went into the question very closely and arrived at the conclusion that the quantity of handloom cloth

† Reference to powerlooms in this context is only to small powerloom factories, and not to powerlooms in the large mills of the country. The number of such powerlooms in mills is 2,00,000 at present.

(cotton) on the basis of the number of handlooms and the average normal pre-war output per handloom may be estimated at 1,617 million yards‡, assuming a rough average working season of 200 working days of 9 hours each§. The estimate made by the Fact-Finding Committee of the total value of handwoven cloth in India (in 1939) works out to Rs. 72.80 crores, value of cotton cloth being Rs. 47 crores; silk, Rs. 15 crores; artificial silk, Rs. 4 crores; and wool, Rs. 3 crores. This was the position immediately before World War II, that is, in 1939.

A word in regard to the structure of the handloom industry would be useful at this stage.

STRUCTURE OF THE INDUSTRY

Although hand-weaving is essentially a cottage industry, there are elements in it which are somewhat allied to the factory system and for which intervention of financiers is greatly responsible. Inquiries made by the Fact-Finding Committee have shown that hand-weaving at present is a full-time occupation. The Committee takes exception to the statement of the Tariff Board (1932) that "for a large number of those who are engaged in it, it is a secondary

‡ It has been assumed that 1 lb. of yarn is equal to 4.57 yards in the case of handloom cloth. In the case of mills, 5.24 yards have been estimated as the production per lb. of yarn. In the case of handloom cloth made from hand-spun yarn, the estimate of cloth woven per lb. of yarn is 3 yards. Thus, on the assumption of 54 million lbs. of available hand-spun yarn, the production of hand-loom cloth is about 163 million yards from hand-spun yarn.

§ The average output per loom per day of 9 hours adopted in the estimate is 4 yards from throw-shuttle, 7 yards from fly-shuttle, and 10 yards (as a flat rate) for other types of improved looms like Hattersley, semi-automatic. etc.

occupation ancillary to agriculture," and has found that the great majority of weavers in India, with the exception of Assam, are full-time workers. The proportion of full-time weavers is 90 per cent. in Sind, 88 per cent. in Bombay, 87 per cent. in Madras, 81 per cent. in the Punjab, 75 per cent. in the United Provinces and 75 per cent. in Bengal. Nearly all the weavers of Travancore and Cochin, 97 per cent. of the weavers in Mysore and 85 per cent. of those in Hyderabad are full-time workers. The only notable exception is Assam, where hand-weaving is pursued as a full-time occupation in only a few places. In Assam, while every woman is expected to spin and weave as part of an age-old custom, men work the looms only during two months (November to January) when agricultural operations are slack. While hand-weaving is common occupation to all in the Assam Valley, it is the function of special castes, at any rate among Hindus, in the rest of India.

URBAN OR RURAL?

According to the popular view, handloom weaving is essentially a village industry and is carried on mostly by independent weavers. This is still largely the case in backward tracts of the country, but it is no longer true of the more important hand-weaving tracts. With the development of communications, markets were extended and trade grew between distant parts. From early days, especially fabrics from India always found growing markets in certain distant lands. In this state of things, the ordinary weaver found himself helpless in his village without credit from a financier or advance from a merchant in the town, and this induced him to migrate to the towns. As a result of this tendency operating during the last 80 years, hand-weavers are now largely in towns, especially in those areas of the

country where production is for distant markets. In many of the towns, the weavers occupy prominent positions in civic life. Most of the hereditary weaving classes have had nothing to do with agriculture, and indeed some of them have considered agricultural work as *infra dig.* The Fact-Finding Committee comes to the conclusion that to take the weaving folk as a part of the village population is, therefore, incorrect. Handloom weaving, according to this Committee, has now become largely an urban industry. In Bombay, 45 per cent. of the total number of handlooms are found in 26 urban centres; in Madras, 39 per cent. are found in 49 urban centres. The position is nearly the same in the Central Provinces and Berar, Hyderabad and other areas. It is true, however, that a large number of weavers are still working in villages, but it is to be noted that although they are residing in villages or hamlets, they have little connection with agriculture.

CHANGES IN INDUSTRIAL STRUCTURE

The structure of the industry has also been affected. In certain areas where production is largely for distant markets and the weavers are financially weak to undertake the risk of price fluctuations, they have become employees of *sowcar* weavers, although working in their homes, and in some places they have been brought to the workshops or *karkhanas*. Such changes have taken place more in Bombay and Madras than in Northern India. The independent cottage system now predominates only in backward areas.

There are several types of middlemen, including the *sowcar* weaver (often called the master-weaver) who employs under him weavers mostly of his own caste; secondly, the merchants, either of yarn or of cloth or both, who are keenly interested in the supply of cloth of qualities re-

quired and in adequate quantities and, thirdly, the *karkhanadars* who bring the weavers together into small factories or workshops.

THE "ENTREPRENEUR'S" POSITION

Materially, a class of small *entrepreneurs* is now controlling the handloom industry in many areas. Whether as *mahajan* working through the domestic system or as *karkhanadar* with his labour housed in small factories, such *entrepreneurs* are to-day playing a large part not only in marketing of handloom cloth but in its production also. In 1918, the *Indian Industrial Commission* reported that such middlemen were not so powerful nor so numerous, but since then, the movement in this direction has been rapid and the hand-weaving industry in the more developed areas has come into the grip of a growing number of middlemen. Some of them have indeed sprung from the professional weaving castes, but the majority are outsiders with only a financial interest in the industry and their monetary transactions with the weavers are not always quite fair. This is a matter of great concern to the poor handloom weavers.

The number of independent weavers has greatly diminished, especially in the Provinces of Bombay and Madras, where they form only 21 and 28 per cent. of the total number. In other areas like Assam, Bihar, Punjab, a great majority of them are still independent. The number of employees under the domestic and *karkhana* systems has increased generally. The wages of the weavers under nearly all systems are paid on a piece basis. In most cases advances have to be made and later adjusted when wages fall due. The earnings of skilled labourers weaving speciality fabrics requiring skill and care are higher, but as such

work is not obtained every day, their total earnings do not amount to much.

SUPPLY OF RAW MATERIAL

The principal problem, a problem of vital importance to the industry, is the supply of suitable yarn. As a raw material it accounts for a large proportion of the total cost of production to the weaver, ranging from 50 to 60 per cent. or even more, according to the count and quality of the yarn. It would be clear from this that the uninterrupted availability of cheap and plentiful yarn is a primary condition for the success of the industry. Unfortunately, this primary condition is far from being satisfied at present owing to a multiplicity of factors. So long as the weaver continues to buy yarn in the dearest market and sell his cloth in the cheapest market, it is impossible for him to make a decent living out of his employment. The Fact-Finding Committee observes (page 87) that

“the handloom weaver is being mulcted on several fronts by a host of middlemen and parasites, whose existence leads to a ‘pyramiding’ of the prices of yarn and who have carried on nefarious practices in regard to the quality as well as the quantity of yarn supplied and fully exploited the ignorance, poverty and helplessness of the weavers. The malpractices prevalent in the yarn trade in many parts of the country have added to the costs of handloom industry and to that extent handicapped it in relation to its competitors.”

The cost of production of the handloom weaver, in so far as yarn is concerned, becomes high, observes the Fact-Finding Committee on account of (a) the profits, legitimate and otherwise, made by the chain of middlemen, (b) packing, freight and handling charges, cartage, etc.,

(c) interest charges, and (d) the various other charges such as insurance for fire risk, godown rent, commission and discount paid by the series of middlemen.

The prevalence of a multiplicity of middlemen at every stage in the marketing of yarn, leads to a pyramiding of yarn prices. Parallel to the pyramidal structure of the selling organization, there is also a pyramiding of prices. From the wholesale stage to that of final retailing, each dealer adds his own quota of commission to the price of yarn so that by the time it reaches the hands of the weavers the price becomes considerably inflated.

KINDS OF YARN USED

The handloom weaver uses practically every type of yarn, from the coarsest yarn made from waste cotton to the finest silk, artificial silk, *tassar* and mercerized products. Some of these yarns are also consumed by the small-scale powerloom factories. Generally speaking, the village artisan, in view of the demand for inferior types of cloth in local markets and *shandies*, uses cotton yarn of coarser counts. On the other hand, important centres, catering for distant markets and for well-to-do consumers utilize finer yarn made from cotton and the costlier fibres. It is not untrue, however, to say, observes the Fact-Finding Committee (page 102) that

“the handlooms hold a sort of monopoly of coarser counts or that there is any natural dichotomy under which handlooms may be relegated to the coarser counts and the mills and powerlooms can use finer counts, only. In fact, the handlooms in many parts of the country, are engaged in the weaving of the finest counts to a far greater extent than is commonly imagined.”

The sources of supply of cotton yarn are (1) Indian mill yarn, (2) imported foreign yarn, (3) hand-spun yarn. According to the Fact-Finding Committee, the annual consumption of cotton yarn by handlooms in various parts of India is about 360 million lbs., 274 million lbs. (78 per cent.) being mill yarn, 27 million lbs. (7 per cent.) being imported yarn, and 50 million lbs. (14 per cent.) being hand-spun yarn. These figures are for 1941.

ESTIMATES OF HAND-SPUN YARN

The figures for mill-spun and imported yarn are easily available but there is considerable difficulty in regard to the figures of production of hand-spun yarn in the country. One thing can be stated, however, with certainty, observes the Fact-Finding Committee, that hand-spun yarn, which once used to be the mainstay of the handweaving industry, was long ago relegated to an insignificant position in the textile industry of the country. It is true, however, that owing to the influence of the *khaddar* and hand-spinning movement sponsored by Mahatma Gandhi, there has been some resuscitation of hand-spinning, especially under the aegis of the *All-India Spinners' Association*. The estimates of the production of hand-spun yarn are very varying, but the Fact-Finding Committee has concluded that on the estimate of 5 million spinning wheels being actually in use and the number of spinners being about the same as the number of wheels, the total production would amount to 60 million lbs. (About 35 million lbs. are produced in the Punjab alone.) This estimate differs radically from the estimate of the Tariff Board (1932) which placed the production of hand-spun yarn at 24 million lbs. and the estimate of Arno-Pearse at 2,400 lbs. (It is definite that this writer made a colossal blunder.) The Fact-Finding Committee states,

however, that its estimate of production of 66 million lbs., which includes production of yarn on *taklis*, is more close to the estimate of 60 to 125 million lbs. made by Mr. M. P. Gandhi in his monograph "How to Compete with Foreign Cloth in India" (page 73) published in 1931.*

The Committee estimates the consumption of hand-spun yarn at 54 million lbs. and the quantity of cloth from hand-spun yarn at 162 million yards at the rate of 3 yards of cloth to 1 lb. of yarn in 1939. Mr. M. P. Gandhi's estimate was 180 million yards of cloth in 1931.

COUNTS OF YARN

During the past 10 years there has taken place a steady rise in the counts of yarn utilized by the handlooms. The following tables from the Report of the Fact-Finding Committee (pages 112-115) will be of great interest in this respect:—

* Also *vide* Appendix XXVI on Hand-spun Yarn of the Fact-Finding Committee Report.

COTTAGE INDUSTRIES OF INDIA

[Sec.]

**TABLE I. Annual consumption (according to counts) of cotton yarns by handlooms,
in million lbs. in various Provinces.**

| Province or State | Counts of yarn | | | | | Total |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | 1-10 | 11-20 | 21-30 | 31-40 | Above 40 | |
| Assam | 0.42 (6.25%) | 2.20 (32.74%) | 3.0 (44.61%) | 0.75 (11.16%) | 0.35 (5.21%) | 6.72 (1.87%) |
| Bengal | 0.44 (1.5%) | 2.52 (8.5%) | 14.82 (50%) | 5.93 (20%) | 5.93 (20%) | 29.64 (8.25%) |
| Bihar | 6.80 (35.88%) | 10.75 (56.73%) | 0.89 (4.70%) | 0.16 (1.37%) | 0.25 (1.32%) | 18.95 (5.28%) |
| Bombay | 2.81 (6%) | 4.67 (10%) | 14.96 (32%) | 12.62 (27%) | 11.69 (25%) | 46.75 (13.02%) |
| C. P. and Berar | 2.58 (11.83%) | 13.00 (59.71%) | 3.46 (15.87%) | 1.79 (8.29%) | 0.93 (4.39%) | 21.76 (6.06%) |
| Madras | 6.13 (7.44%) | 28.86 (15.15%) | 13.99 (17.04%) | 17.58 (21.41%) | 15.57 (18.96%) | 82.13 (22.86%) |
| Orissa | 0.47 (3.19%) | 5.79 (39.31%) | 4.33 (29.35%) | 3.03 (20.55%) | 1.11 (7.60%) | 14.73 (4.10%) |
| Punjab* | 31.25 (63.93%) | 12.81 (26.21%) | 1.88 (3.85%) | 0.94 (1.92%) | 2.00 (4.09%) | 48.88 (13.60%) |

* It is assumed that all imported mill yarn is above 40s count.

(Continued)

III]

HANDLOOM INDUSTRY IN INDIA

| | 1-10 | 11-20 | 21-30 | 31-40 | Above 40 | Total |
|----------------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
| U.P. | 14.79 (28.89%) | 28.31 (55.29%) | 4.31 (8.40%) | 2.15 (4.20%) | 1.65 (3.22%) | 51.21 (14.25%) |
| Baroda | 2.42 (80.46%) | 0.28 (9.45%) | 0.19 (6.40%) | 0.11 (3.53%) | 0.01 (0.16%) | 3.01 (0.84%) |
| Cochin | Negligible | 0.50 (34.48%) | 0.50 (34.48%) | 0.35 (24.14%) | 0.10 (6.9%) | 1.45 (0.4%) |
| Hyderabad | 3.16 (17.80%) | 8.01 (45.11%) | 2.74 (15.48%) | 2.35 (13.25%) | 1.47 (8.36%) | 17.73 (4.93%) |
| Kolhapur and Deccan States | 0.01 (0.37%) | 0.06 (2.26%) | 1.10 (41.20%) | 0.35 (13.10%) | 1.15 (43.07%) | 2.67 (0.74%) |
| Jammu and Kashmir | Negligible | 0.28 (12.01%) | 1.81 (77.68%) | 0.29 (9.45%) | 0.02 (0.86%) | 2.33 (0.65%) |
| Mysore | 0.09 (2%) | 0.09 (2%) | 2.10 (48%) | 2.16 (48%) | .. | 4.50 (1.25%) |
| Travancore | 0.34 (5%) | 5.49 (80%) | 0.34 (5%) | 0.34 (5%) | 0.34 (5%) | 6.85 (1.90%) |
| Total | 71.71 (19.95%) | 123.62 (34.43%) | 70.48 (19.62%) | 50.93 (14.16%) | 42.57 (11.84%) | 359.2 .. |

The consumption of different types of cotton yarn by the handloom according to counts is given in Table II.

TABLE II.
(In million lbs.)

| Counts | Total consumption (excluding twofolds) | Consumption of hand-spun yarn | Consumption of imported yarn | Consumption of Indian mill yarn |
|-----------------|--|-------------------------------|------------------------------|---------------------------------|
| 1-10's | .. 71.71 | 24.74 | 0.19 | 46.79 |
| 11-20's | .. 123.03 | 24.74 | 0.38 | 98.50 |
| 21-30's | .. 70.48 | .. | 0.32 | 70.16 |
| 31-40's | .. 50.03 | .. | 3.91 | 47.02 |
| Above 40's | .. 42.57 | .. | 5.73 | 36.84 |
| Two folds, etc. | .. .. | .. | 22.65 | .. |
| Total | .. 359.32 | 49.48 | 33.18 | 299.31 |

Table III shows the consumption of Indian mill yarn for different purposes classified according to counts (1937-40):—

TABLE III.
(In million lbs.)

| Counts | Production in India | Consumption by hand-looms (Average) | Exports (Average) | Powerlooms, Hosiery, Miscellaneous | Balance consumed by mills |
|------------|---------------------|-------------------------------------|-------------------|------------------------------------|---------------------------|
| 1-10's | .. 128.5 | 46.8 | 3.9 | 5.7 | 72.12 |
| 11-20's | .. 581.4 | 98.5 | 17.4 | 25.6 | 430.94 |
| 21-30's | .. 321.5 | 70.2 | 9.7 | 14.3 | 227.3 |
| 31-40's | .. 161.4 | 47.0 | 4.8 | 7.1 | 102.5 |
| Above 40's | .. 87.3 | 36.8 | 2.6 | 3.8 | 44.1 |
| Total | .. 1,280.1 | 290.3 | 38.3 | 56.5 | 886.0 |

A summary of the foregoing tables is given in Table IV which gives the percentage distribution by counts and the consumption of cotton yarn by handlooms and mills. It will be seen therefrom that the percentage distribution of the mills steeply rises in the range 11-80's, while in the case of handlooms, it is more evenly spread out. Thus, both in very low counts and in high counts, the proportion of handloom consumption of yarn is higher than that of mill consumption of yarn. Another interesting point which arises from the Table is that below 20's the mills consume 57.7 per cent. of their output, while the handlooms use up less, *viz.*, 54.4 per cent. Thus, although the Tariff Board's assertion in their 1932 Report (page 171) that "the bulk of the handloom production consists of cloth of counts 20's and below," is correct, the statement would be even more true of the mill industry.

TABLE IV. *Distribution by counts of cotton yarn consumed by handlooms and mills (1941).*

| Counts | Mills % | Handloom % |
|------------|------------|---------------|
| 1-10's | .. 8.1 | 20.0 |
| 11-30's | .. 49.6 | 34.4 |
| 21-30's | .. 25.7 | 19.6 |
| 31-40's | .. 11.6 | 14.2 |
| Above 40's | .. 5.0 | 11.8 |
| Total .. | 100.0 | 100.0 |

The position has slightly altered during the last two years, as the tendency for production of finer counts by mills is on the increase.

✓ QUALITY OF HANDLOOM FABRICS P.

Generally speaking, handloom weaving excels in the coloured styles of cloth. This is due to two factors, *viz.*,

warp of a short length can be prepared most economically by hand process and also a number of colours in the weft can be easily introduced, reducing the wastage to a minimum. The limited market for such cloth also makes their production uneconomical for the mills. Thus, the handloom's advantage is specially noted in the following types of production: (1) cloth made from extremely fine material, *e.g.*, yarn of counts above 20's, (2) cloth inter-woven with gold and silver thread, (3) cloth with multi-coloured designs, (4) cloth with embellishment in the border and headings, (5) short pieces of cloth of unique design to meet individual tastes, (6) rough cloth of very low counts such as *durris*, *niwars*, where the tensile strength of the yarn is too low for the mills.

Handloom cloth, it must also be stated, is not free from defects. The chief among them are (1) lack of uniformity in texture, (2) inexactness regarding dimensions, (3) lack of finish, etc.

The principal cloths made at present on the handloom are (1) women's clothing, *e.g.*, *sari*, *lehnga*, *susi*, *choli-khan*; (2) men's clothing, *e.g.*, *dhotis*, *lungis*, *chaddars*, *angavastrams*, *pugdies* or turbans, shirtings and coatings; (3) cloth for domestic use, *e.g.*, towels, carpets, curtain cloth, mosquito curtains, etc., and (4) longcloth.

It would be of interest to note that the *sari* is the most important line of production, in Bombay, Madras, Bengal and Central Provinces, while coarse *khadi* is produced chiefly in the United Provinces and the Punjab. Of the total cloth produced in Bombay Province, 95 per cent. consists of *saris*, while the percentage in Madras is 44, in C.P. 75, and in Bengal 40.60 per cent. of the cloth pro-

duced in the U. P. consists of coarse *khadi*, while the percentage in the Punjab is 43.

COSTS OF PRODUCTION

Any proper cost accounting of handloom cloth is at present a very difficult undertaking as the industry is not organized and the bulk of the weavers hardly keep any account. The Fact-Finding Committee, however, has arrived at some broad conclusions, from which it is found that the cost of material, namely, yarn, varies from 50 to 80 per cent. while the cost of labour varies from 15 to 23 per cent., depending upon the fabric woven. Yarn is, however, by far the largest factor entering into the cost of production. It would be of interest to note that in the manufacture of coloured *saris* (80's x 80's) the cost of yarn and other material is 64 per cent. while labour is 36 per cent. In the case of *dhotis* (120's x 110's) the cost of yarn is 36 per cent. and labour is 62 per cent. while in the case of *dhotis* (20's x 20's) the cost of yarn is 60 per cent. and labour is 40 per cent.

✓ MARKETING

At the outset, it is important to note, that it is an incorrect notion that handloom production in India is largely meant for domestic consumption in the rural areas. With the exception of two Provinces, Assam and the Punjab, the domestic consumption of handloom production, that is, by the weaver himself, is very small and in some cases negligible. The Fact-Finding Committee, on the basis of the information supplied to it by some of the Provincial and State Governments, came to the conclusion that practically everywhere, except in the Provinces of Assam and the Punjab, a very large proportion of handloom production is meant for sale in

the market, local, inter-Provincial, or foreign. In Madras, for instance, 5 to 10 per cent. is for home use, and 80 to 90 per cent. for sale in the Indian market, while 5 to 10 per cent. is for export. In the Punjab, 50 per cent. is for home use, 35 per cent. for sale in the Indian market and 15 per cent. for export. In Mysore practically no cloth is produced for home use and 100 per cent. of the production is for sale in the Indian market. In Assam 80 per cent. is for home use and 20 per cent. for sale in the Indian market. (Report, page 135.)

The handloom weaver is considerably handicapped in selling his cloth in the absence of a proper and well-organized marketing agency. He is generally at the mercy of the cloth-dealer who charges him a substantial commission for retailing the cloth. The present system of marketing handloom product is costly and impinges upon the residual income of the weaver. The prices of handloom products are, in the ultimate analysis, fixed by the entire cloth market, and the pace of these prices is set to a large extent by the prices of mill-made piecegoods. The organization for sale of cloth manufactured from handlooms compares very unfavourably with the organization set up by the mills. It has been estimated by the Fact-Finding Committee that the percentage of middlemen's profit on certain speciality fabrics varies from 5 to as high as 46 per cent. The cost of marketing being thus prohibitive, the principal problem of the handloom weaver is of reduction in the marketing costs. The handloom also seems to suffer by the differential railway charges on cloth or yarn. The present railway rates show no concession to handloom goods. It has been suggested that the railways should reduce the unit of concession from a bale to a bundle, so that the ordinary

weaver may also be benefited by the concessional rates. It has also been pointed out that the railways classify mill goods under class "F", while handloom goods are classified under class "A", and special concessions are shown to the former. Thus while the parcel rate from Ahmedabad to Madras is Rs. 9, and the goods rate is Rs. 5, the railways charge the concessional rate of Rs. 2-2 inclusive of terminals for mill goods. Further, the handloom product is not entitled to the concessional freight rates as it is transported in the unpressed condition. The difference between the rates charged on machine-pressed bales of mill products and on half-pressed or *kutchha* bales is as much as 30 per cent., that is, the charge on the latter is higher to that extent. The railways can help the handlooms by reducing the freight rates and by taking proper care of the products in railway yards so that they are not damaged by exposure to sun and rain. Another handicap of the handloom product is lack of standardization. Such standardization of prices and quality is of particular necessity in the case of fabrics intended for the inter-Provincial and foreign markets, and if achieved, would be of great help to the handloom industry.

EXPORT TRADE

The Indian handloom fabrics have considerable export markets in the countries of the African and Asian littorals, but here also the mill product has large markets. The principal countries to which handloom fabrics are exported are Burma, Federated Malay States, the Straits Settlements, Ceylon, Siam, Zanzibar; Borneo, Java; Sumatra; United Kingdom, British West Africa and French West Africa. In most of these countries, the consumers are largely Indian labourers who have settled there and have

carried with them their tastes and habits of dress. The bulk of the exports of handloom cloth is from the Madras Province; considerable quantities are also exported from other Provinces, particularly Bengal, U.P., Punjab, Sind, Bihar and Bombay.

It has been computed by the Fact-Finding Committee that the exports of handloom cloth correspond to about 25—33 per cent. of the total exports of cotton piecegoods from India. The export trade has experienced considerable fluctuations; especially in Madras handkerchiefs, the condition of the trade has been very unsatisfactory in recent years. It would be very helpful to the industry if the export trade in handloom fabrics is properly organized, and this can be done if Government were to regulate exports and license exporters who should be required to export goods conforming to particular specifications. Official agencies may also be utilized in foreign countries to develop markets by propaganda and by maintaining museums of handloom products, and arrangements may be made for providing credit facilities from banks and other agencies to exporters of handloom products.

COMPETITION WITH MILLS

Divergent views have been expressed in regard to the question of competition between mills and handlooms in India. The handloom weavers throughout the country believe that their troubles are mainly due to mill competition. On the other hand, important organizations like the Mill-owners' Associations of Bombay and Ahmedabad hold that the mills and handloom industry are complementary rather than competitive, and they deny that mills have encroached on any styles of goods produced by the handlooms. The Fact-Finding Committee examined this question in great

detail, and stated that competition between mills and handlooms cannot be denied; the contention that the two sections of the Indian textile industry are complementary is not tenable at present. The relationship, they observed, was to a great extent complementary before 1925, but things have changed since then. Even now the two are complementary in a narrow field; but there is competition, both direct and indirect, over a wide range of counts and fabrics. The Fact-Finding Committee also found that during the last decade, mills have increased their production of certain styles and types of fabrics traditionally associated with handlooms; the handlooms have also in turn tried to imitate certain styles which the mills had long adopted. The view held by many handloom weavers that all their ills are due to mill competition is even more untenable in some respects. The replacement of some of their fabrics by mill goods was due to change of fashions, and the mills produced fabrics for which there was a growing demand. It is extremely difficult, however, to draw a line between fair and unfair competition, and according to this Committee, while there exists severe competition of the legitimate kind, unfair competition is not much in evidence, and in certain cases, wherever some injury has resulted to handlooms, cloth dealers rather than mills have been largely responsible.

The question whether mills have replaced handloom cloth is not very easy to answer. The Fact-Finding Committee have examined the question in close detail and have observed that while there has been a substantial increase amounting to 706 per cent. between 1901-02 and 1936-37 in the production of mills, the increase in the production of handlooms has been only 53 per cent. The mill production in 1901-02 was 389 million

yards and in 1936-37, 3,220 million yards, while the handloom production was 827 million yards in 1901-02 and 1,265 million yards in 1936-37. A reference, however, to the percentage share of consumption enjoyed by imported cloth, mill cloth, and handloom cloth will show that the handloom industry has maintained its position at a fairly steady percentage during the period although there have been minor fluctuations. For instance, during the last war of 1914-18 the share of handlooms went down considerably, and it rose thereafter and has been more or less steady since. On the other hand the share of the mills rose enormously before and during the last war and suffered a slight decline thereafter and is rising steadily during the last decade. In the case of imports, the decline has been fairly continuous. Thus the millowners' contention that they have replaced imported cloth appears to be correct.

Table V from the Report of the Fact-Finding Committee (page 157) gives the relative consumptions of mill, handloom and imported cloth in the Indian market between 1901-02 and 1936-37:—

TABLE V.

| Year | Net imports* | Percentage of total | Retained mill production after deducting exports* | Percentage of total | Handloom production* | Percentage of total |
|---------|--------------|---------------------|---|---------------------|----------------------|---------------------|
| 1901-02 | .. 2,042 | 62.7 | 387 | 11.9 | 827 | 25.4 |
| 1906-07 | .. 2,193 | 56.5 | 588 | 15.1 | 1,102 | 28.4 |
| 1911-12 | .. 2,362 | 52.9 | 1,020 | 23.8 | 995 | 23.3 |
| 1916-17 | .. 1,771 | 48.3 | 1,297 | 35.4 | 598 | 16.3 |
| 1921-22 | .. 980 | 28.4 | 1,529 | 44.4 | 938 | 27.2 |
| 1926-27 | .. 1,750 | 34.9 | 2,068 | 41.0 | 1,217 | 24.1 |
| 1931-32 | .. 760 | 15.7 | 2,768 | 56.9 | 1,332 | 27.4 |
| 1936-37 | .. 753 | 14.4 | 3,220 | 61.5 | 1,265 | 24.1 |

* In million yards.

It is important to see the nature and extent of the competition that has been going on between handlooms and mills. The 1932 Tariff Board observed that the bulk of the handloom cloth was of count 20s and below, but the Fact-Finding Committee believed that such a statement was not correct in 1932, and that at any rate it is not quite correct at the present time (1941).

Table VI gives the annual consumption of yarn of different counts by handlooms in 1941.

TABLE VI. *Consumption in 1941*

| Province | 1-20's % | 21's-40's % | 41's-60's % | Above 60's % |
|----------------|-------------|----------------|----------------|-----------------|
| Bengal | .. 10.0 | 70.0 | 16.0 | 4.0 |
| Bombay | .. 16.0 | 59.0 | 20.0 | 5.0 |
| Madras | .. 42.6 | 38.4 | 12.4 | 6.6 |
| Orissa | .. 42.5 | 49.9 | 6.5 | 1.1 |
| Bihar | .. 92.6 | 6.1 | 1.0 | 0.3 |
| Punjab | .. 90.1 | 5.8 | 3.7 | 0.4 |
| U.P. | .. 84.2 | 12.6 | 2.7 | 0.5 |
| G.P. and Berar | .. 71.5 | 24.0 | 3.2 | 1.3 |
| Average | .. 54.4 | 33.8 | 11.8 | |

A perusal of the table will show that while 54 per cent. of the total cotton yarn consumed in India is still below 20's count the percentage of such yarn is as low as 10 per cent. and 16 per cent. respectively in such important areas as Bengal and Bombay. About 86 per cent. of the total yarn used by handlooms in Bengal and 79 per cent. in Bombay is between 20's and 60's. Madras and Orissa come next with 51 per cent. and 56 per cent. respectively. Recently Indian mills have been devoting attention to spinning yarn of high counts and to the manufacture of finer *saris* and *dhotis* from such yarn. In this way, mills entered

a new field in which competition with hand-woven goods was inevitable. It was mostly in Bengal, Bombay and Madras that *saris* and *dhotis* of fine counts were formerly produced in large quantities; and the fairly numerous middle-class population that these goods catered for are also mostly in those areas. Therefore, when mill-made *saris* and *dhotis* became popular, the result was injurious competition with the handloom industry.

Direct competition is noticeable in many parts of India in respect of hand-woven *saris* which have to compete with mill-made *saris* and *dhotis* of nearly identical counts, dimensions, colour and borders and in such dealings the consumers' choice is decided by price rather than by quality. This is a peculiar feature of Indian economy due to her extreme poverty.

CHANGES IN FASHION

Important changes which have taken place in the clothing requirements of the people throughout the country, both in the style of garments and in the type of fabrics used, are also responsible for a certain amount of competition. These changes have greatly increased the demand for mill-woven cloth and depressed the market for hand-woven cloth. The Fact-Finding Committee of 1941, after a very careful investigation, came to the conclusion that among men throughout India the use of turbans has greatly diminished, shirts and *kurtas* have come into common use and that the demand for *chaddars* and *angavastrams* has fallen. Among women, generally, the use of blouses has become common throughout India. In the North, the *sari* has largely replaced the traditional Hindu (*lehnga* or *ghaghra*, and *kurta*) and Musalman (*salwar*, *kurta* or

dupatta) forms of dress. The use of knitted goods has increased everywhere, especially among men.

Competition of a somewhat different category came to operate when middle-class people of both sexes began to prefer light mill-made *saris* and *dhotis* to the traditional heavy lace-bordered *saris* and *dhotis* previously worn.

PRICE COMPETITION

Had the competition been only indirect, *i.e.*, from one style of garment to another, the position of the handloom would not have been so materially affected. But what really happened was that side by side with such indirect competition there was also going on a much more direct competition, *i.e.*, one fabric replacing another of similar kind by being cheaper. Such a competition was greatly helped by the steady fall in the prices of piecegoods from 1926 to 1936, a factor which greatly weakened the competitive power of hand-woven cloth. Prices of mill cloth went down owing to internal and external competition, but the handlooms were not able to keep pace with this. According to the Fact-Finding Committee, it meant to them straightening their belt or closing down.

The most serious competition of the mills has been in *saris* of 20's to 40's counts. This has been so, particularly because the consumer gets the fabric that he is accustomed to use with a slightly more finished appearance and at a lower price. This naturally makes him prefer the mill fabric. In the case of *dhotis*, as in that of *saris* direct mill competition, observes the Fact-Finding Committee, is in respect of medium counts.

SMALL-SCALE POWERLOOM COMPETITION

A more serious rival to the handloom industry than mills, states the Report of the Fact-Finding Committee,

has risen in the small-scale powerloom factories. This rival combines in itself, owing to the medium-scale production, the advantages of both mills and handlooms. It can utilize cheap electrical power and avail itself of the modern appliances in weaving. The competition of powerlooms is a growing phenomenon of recent times. About 15 years ago, the handlooms has nothing to fear from them. Powerlooms are not subject to any irksome restrictions such as the Factories Act or special taxes. This being so, they are a source of competition in important lines to the mills as well. The cost of production in powerlooms is comparatively low owing to small overhead charges and economies of mechanical production. Thus, the contest has now become a three-corner one. There is a serious competition of the powerlooms in Surat, Sholapur, Dhulia, etc., with the hand-made coloured *saris* of Navsari, Gandari and Sholapur. The powerlooms in Bombay-Deccan have specialized in *saris* produced from mercerized and doubled cotton yarn. A large number of handloom weavers in areas where such small-scale powerlooms operate have lost their hold on the market. In the future also, the small-scale powerloom is likely to be a greater menace to the handlooms.

It is extremely difficult to assess statistically the consequences of mill competition on the hand-weaving industry. The Fact-Finding Committee after a detailed inquiry states, however, that it is possible to get a general idea of the trend. The competition has been keenest in areas like Bengal, where white clothing has been in vogue. On the other hand, where coloured clothing is used, mill cloth has not made much headway.

THE HANDLOOM'S SPHERE

While a certain amount of adjustment has been taking place by the handloom weavers changing their line of production, when faced with the loss of markets for particular kinds of goods, it would be incorrect to assume that all the weavers affected by competition would have been re-employed by the shift to the new lines of production. On the basis of the information available to it, the Fact-Finding Committee states that unemployment and under-employment have increased among weavers. It also observes that handlooms have an advantage over the mills in weaving multi-coloured varieties of cloths which could not be economically produced in the mills, "solid-bordered" *saris*, striped and checked *saris* with various colours and designed borders, extra-weft figured *saris* (like Benares *saris*), with gold-laced border striped and checked, cotton and silk-mixed *saris*, silk-bordered cotton *saris*, loom-embroidered allovers (swivel effect), check *lungis*, *sarongs*, Madras handkerchiefs and coloured woven *chaddars*, etc.

Mills, according to the Fact-Finding Committee, have a greater advantage in making grey goods of plain weave, twills, drills, jeans, satin, *saris* without stripes or checks, grey or dyed *chaddars*, *dhotis*, ordinary shirtings and coatings, because these are all suitable for mass production. Ordinarily, therefore, it will not be advisable for handlooms to take up such production.

There appear to be new prospects in the field of shirtings and coatings, the demand for which has been growing and is bound to grow in future. Handlooms have been able to produce striped shirtings and coatings at competitive prices in Madras, United Provinces and elsewhere.

STATE AID THROUGH CO-OPERATIVE SOCIETIES

The Fact-Finding Committee observes that since 1935, the agency of the co-operative societies has been made use of in utilizing grants made available by the Government of India for financing and marketing facilities to the handloom weavers working in their own homes. Co-operative societies of weavers were started in many parts of India chiefly for providing credit, but unfortunately all these societies fared badly. The Committee observes that in spite of the efforts for over three decades, the co-operative movement was a failure in most parts of India, and even where it had not altogether failed, the scope of its work was limited.

The real problem of the weaver was not capital but lack of marketing facilities, which forced weavers to continue in their pathetic dependence on *sowcar*-weavers and merchants for supply of yarn and for the sale of finished goods.

An annual grant of over Rs. 5 lakhs was distributed among various Provinces since 1935 and the amount has been spent on various approved schemes, *e.g.*, (1) improvements in the marketing of cloth, (2) facilities for the supply of yarn, dyeing materials and accessories to weavers at reasonable prices, (3) improvements in productive technique and training by the appointment of experts in weaving, designing, dyeing and printing so that the cost of production may be lowered and goods of new patterns and qualities likely to command an easy sale may be produced, and (4) facilities for the proper finishing of handloom products.

The Fact-Finding Committee Report observes, however, that the utilization of this amount through co-opera-

tive societies has not been very helpful. The disappointing results may have been due rather to the way the societies have been constituted or conducted. The co-operative principle cannot be blamed for the faults resulting from its misapplication. The Committee also suggests that the work of rendering help to the handloom industry must be done on a strictly businesslike and commercial basis. They have also expressed the opinion that ordinarily Governments have neither the time nor the equipment for business, and have suggested, therefore, that what is needed at present is the active association of business men of proved ability and character.

PRESENT POSITION AND PROSPECTS

It has often been argued that as production of handloom cloth has increased, handweaving industry must be considered to have prospered. This view needs a very careful examination. The increase in the handloom production has been from 906 million yards in 1901-02 to 1905-06 to 948 million yards in 1921-22 to 1925-26, and 1,394 million yards in 1934-35 to 1938-39, to about 1,500 million yards in 1941. The increase is fairly large. The proportion of total cloth available for consumption supplied by handlooms has remained nearly the same, *i.e.*, 25 per cent. during the last 40 years. In 1942-43, it has increased to over 30 per cent. It will be necessary to explain, however, that while handloom production has increased in some areas, especially in South India, there has been a decline in production in other areas like Bombay and Bengal. In areas where production has increased, it has been due largely to the substitution of fly-shuttle looms for throw-shuttle looms, which has been going on in all the prominent handloom areas. As the average production of fly-shuttle looms has increased to

7 yards as against 4 yards on throw-shuttle, production per loom has increased by 75 per cent. by this change alone. This increase in production is due largely to the change in technique and has led to no improvement in the economic condition of the weavers. Besides, the increase in production is no proper test of the prosperity of the industry. Hand-weaving is more allied to agriculture than an organized industry. If a mill does not pay a reasonable dividend it will be sold or scrapped and the millowner will put his money into some other more profitable industry. But if the handloom weaver does not get a reasonable return from his loom, he may work harder and longer to make up by quantity what he loses in value. In fact, most hand-weavers will continue to ply the loom (as a mode of living) even though they get barely the price of yarn used in the making of cloth.

The cotton mill industry has increased its production by leaps and bounds during the last 40 years, and yet it was faced with serious financial crises from time to time and had to seek tariff protection. As compared to the increase of 479 per cent. in mill production between 1901-02 to 1938-39, the handloom production underwent an increase of 54 per cent. only. If the mills had still to supplicate for protection, the case of the handlooms for protection is much stronger.

The Fact-Finding Committee concludes that there is a large increase in unemployment among weavers. Generally, they have no work for more than about six months in a year, and even during these months employment is unsteady and irregular. They have also come to the conclusion that there has been a drastic fall in the earnings of hand-weavers throughout the country during the last 10 or 12 years, and the fall in some cases is as high as 70 per

cent. or 80 per cent. Their present earnings are also found to be extremely low and indicate that employment is far from adequate and that the remuneration received is meagre.

NUMBER OF WORKERS EMPLOYED ✓ E.

In spite of the unsatisfactory condition of hand-weavers in many parts of the country, the Fact-Finding Committee Report observes that it is not correct to consider hand-weaving as a decaying industry. This can be seen by an examination of the numbers engaged in the industry, by the substantial improvements in production and by the profitable business pursued by certain sections of the industry which are properly organized. In spite of the decline in the numbers employed in the industry there are to-day more than 2½ million workers engaged in handloom weaving and this cannot be an over-estimate seeing that there are as many as 2 million looms in the country. It is also estimated that a population amounting to 10 million are still depending on this industry. The cotton textile industry employs only 5 lakhs workers of whom a considerable number are working in spinning mills producing yarn for the handloom. Thus, although to-day mills are producing about 68 per cent. of the total cloth consumed in the country, they employ only a fifth of the total number of workers in the cotton textile industry. The remaining four-fifths are employed in the hand-weaving industry.

The 2½ million workers engaged in handweaving maintain (including themselves) a population of about 10 million. If after a hundred years of mill competition, the handloom industry is still able to employ such large numbers, it is an undoubted indication of the fact that the Indian hand-loom industry has a unique capacity for survival.

WILL THE HANDLOOMS SURVIVE?

Sir Alfred Chatterton observed over 25 years ago: "the handloom weaver still survives to-day because there is

no alternative open to him. . . . He can easily hold his own for a long time to come. . . . since he is content to exist on but little more than the bare necessities of life." It may be seen that it has not been so much a question of the handloom industry surviving as of the handloom weaver himself surviving. The margin between the price of raw material and the price of finished products in the case of the independent weaver and the earnings received by the weaver-labourer, has fallen so low that it is doubtful whether even the bare necessities of existence are available to the weavers anywhere.

The Fact-Finding Committee came to the conclusion that in spite of some increase in production, employment among weavers has been falling. Left to itself, the industry will perhaps dwindle down to the position of a small handicraft concentrating on production of a few speciality cloths.

It should be remembered that the handloom industry is, next to agriculture, the largest single industry of the country. It is the main occupation of several millions of people and for most of them there is no subsidiary occupation. Nor is hand-weaving a handmaid to agriculture, but the sole occupation of a large class of people. It is the mainstay of many towns and numerous villages scattered all over the country. Although this industry is only responsible for about 25 or 30 per cent. of the total cloth consumed in the country, it employs over 85 per cent. of the textile workers. If for any reason the handloom industry collapses, the resultant misery is bound to be serious, as it will involve the pauperization of a large population and this will become a heavy burden on the State. Many flourishing towns and extensive rural areas would thus be deprived of their bread and this may have ugly social and economic consequences.

Secondly, one of India's principal economic problems is the unemployment and under-employment of large masses of people. As a means of solving this problem, large-scale industrialization in India has so far been conspicuously ineffective. Although this country to-day produces all our sugar, a large part of our requirements in cloth, iron and steel, cement and jute bags in power-using factories, only about $1\frac{1}{4}$ million labourers have been absorbed in all industrial establishments coming under the Factories Act. Had a good many alternative occupations been available in India, large-scale production of cloth would not have caused any great dislocation, but in the present state of the peculiar economy of the country, we have to concentrate largely on occupations which call for a plentiful supply of labour while economizing on capital.

Thirdly, a fundamental cause of India's poverty is the tendency to an unequal diffusion of purchasing power. This defect cannot be rectified by the expansion of factory industries, unless large social and economic changes also take place simultaneously. While the proportion of the wage bill to the total cost of production in mills is at the most 25 per cent., it forms about 40 per cent. in hand-weaving with mill yarn and nearly 75 per cent. in hand-weaving with hand-spun yarn.

CONCLUSION

We have shown the important role which the Indian handloom industry has played in the national economy of the country from the date of its birth till the present time. While it is difficult to prophesy in regard to the further developments and changes which will occur in its size and importance in the future, it seems to be fairly certain that in the peculiar conditions of India where there is a lot of

spare labour awaiting engagement in some occupation, it will continue to hold its own, in spite of the advent of machine-made cloth from India or from other countries. One of the chief handicaps to the industry at the present time has been the lack of supply of suitable quantity and quality of handspun yarn, which throws the industry at the mercy of the mill and makes it greatly dependent upon it for the supply of this principal raw material. On the other hand, the industry, as it is now equipped, can hold its own against the mills if a very fair chance is given. On no reasonable ground can the industry be denied the little aid it asks for, namely, suitable arrangement for an uninterrupted supply of yarn direct to the weavers by the mills at fair prices, formation of a dependable and efficient organization for sale of its finished products, publicity and propaganda for making the lasting and superior qualities of handloom cloth known to the people of India as well as other countries which have patronized such products in the past, reduction of the dependence of the industry on a host of middlemen who only help in increasing the cost of production, employment of artificers for furnishing new designs for handloom weaving, exemption of handloom cloth from taxes and tolls like octroi, etc.*

The social advantages of employment of a large number of people in the manufacture of cloth in towns and villages far removed from factory conditions are such as cannot be ignored, and it would be the duty of the State as well as the people to offer their patronage to cloth thus manufactured on the handlooms, even at a sacrifice.

* *Vide* "The Future of Handloom Weaving in India". By M. P. Gandhi, 1947, and the India Cotton Textile Industry Annual for 1946-47 by M. P. Gandhi.

VII. THE WEAVER SPEAKS

V. V. RAMAN

India, ancient in culture, excelled others in the weaving art. Her handloom weavers produced the famous Dacca muslins and the Bunder Calico Prints.

But under the alien rule this cottage industry, the pride of our craftsmen, gradually decayed. Yet symbolic of the immortal spirit of our people, the handloom weaver survived all the onslaughts.

The recently he was employing primitive methods in his production. The 'throw shuttle' and 'hand warping' were in use. It was in the year 1908 that 'fly shuttle' and 'machine warping' had been introduced and the weaver greatly benefited by adopting them.

Madras province has the largest number of looms, 5,00,000 out of nearly 20,00,000 looms all over the country. The handloom weaver of Madras produces all kinds of cloth, from 1 count to 200 counts, from *Sarees* to "Kuppan" seamless quilts.

In the pre-war days the crux of their problem was marketing. The handloom cloth had to face the competition of foreign imports and Indian Mills. The *Swadeshi* movement of Mahatma Gandhi gave a fillip to handloom industry in the early twenties, but later on when Ahmedabad Mill-owners monopolised patriotism, no Indian seriously bothered to buy handloom cloths, which were a bit costly though durable. People either wore *khadi* or mill-cloth. It was at this period that the weaver faced his greatest crisis.

There was a big awakening among the weavers and they demanded State protection. It was then that the Fact-Finding Committee of Dr. P. J. Thomas was constituted to study the handloom industry and advise measures for re-vitalising this industry. The Fact-Finding Committee collected a good deal of data and made many recommendations. Before these recommendations could be implemented, War broke out.

During the first half of the war period, even though handloom cloth prices went up, the real labourer got very little. Speculative yarn dealers, greedy master-weavers and middlemen had the upperhand. It was only after 1943 that the wages of the workers steadily went up. More than any other factor this betterment of the position of the individual weaver could be traced to the growing co-operative movement. Thanks to the subvention scheme of the Government of India, enterprising men of this province, started the Madras Handloom Weavers' Provincial Co-operative Society Ltd., and slowly but surely, all over the province primary handloom weavers' co-operative societies sprang up and to-day the weaver is the master of himself. He has learned thrift and is a stabilising factor in the social structure of our villages.

But for the acute yarn scarcity confronting the weaver since 1944, the handloom weaver of to-day could lead a contented life and also clothe his brethren cheaply.

To-day the handloom weaver is at the cross-roads. For no fault of his, he is losing popularity on account of the high prices of his goods. With all his "so called" high wages, he is now hardly employed for a week in the month and is scarcely earning one square meal a day.

The day is not far off when Indian mills will bring out cheap cloths and foreign imports will compete with hand-looms. The world is moving fast and we are in the Atomic Age. Will the weaver rise to the occasion or will he be extinguished? He can yet hold his own provided he too keeps pace with the times. He must devise speedier appliances and produce more yards and better quality per hour. This he can do only through co-operative societies and State aid. The Government should institute research course in the Textile Institute and offer scholarships to promising weavers. A vigorous plan for developing electricity schemes should be put on hand and each village must be electrified. The weaver provided with cheap electricity can through co-operatives instal in his house power-looms and this will help a great deal in increasing the *per capita* income of the weaver as well as solving the present acute cloth scarcity. This is in consonance with the decentralisation of Industry, now advocated by some eminent authorities.

VIII. DOLL AND TOY MAKING

V. R. CHITRA

The origin of dolls and toys in any country, not excluding Japan which was till recently the world's toy land is so ancient that it is very difficult to determine exactly at what time and where they first originated. It is so shrouded in the mists of the past, that at the present day, their existence can be traced in almost every excavation of prehistoric times. Among the ancients, the Egyptians were found to have made excellent toys, and even in the recent excavations of Tutankaman's tomb wonderfully preserved specimens of dolls and toys, some in terracotta, and a few others in precious metals set with precious stones were found. Equally ancient is the Indian toy, and the Mohenjo Daro discoveries have revealed their existence in large varieties. In union with their traditions, Japan also holds a unique place in the development of dolls and toys. Her contributions form a special variety, and this can be attributed to the geographical isolation by which she was shut out from the other cultural centres of the world. Further, the influence of religion—Buddhism and Shintoism—was responsible for this peculiarity. As is the case with other ancient nations the Japanese, at the outset, considered dolls and toys as a form of expression to represent their religious deities and conventional forms of worship connected with this religious belief. In fact, to-day, in Japan, the statues of Gautama Buddha and other deities in the innumerable temples are nothing else than well-made toys, gorgeously

draped and brilliantly coloured. However, it would be interesting to know what psychological effects these dolls and toys have, especially on the child's mind.

It is necessary, now, to define what exactly the terms "dolls" and "toys" mean. A doll is usually understood to be a miniature human figure representing a phase of life or character. On the other hand, a toy is to represent in miniature any object or article, that is either in daily use or used by adults as a necessity or luxury of life. To-day, a doll or a toy is considered more as an object for children's play and intended to give the growing child a means to develop its racial consciousness inherent in its national or domestic traditions and conventions. In fact, in India this carried a step further in the sense that they connote even the superstitions current in the communities.

The child's first impression on the world is a festival of colours. It lives for a long time in wonderment of the blaze of a myriad colours. Its quick sense responds to the richness of their tones. The mother, the father and every thing around is nothing but appealing colours to it till in course of time it begins by constant watch and close study to gain the other sense, the sense of form. It is these two things, colour and form, that help the memory of the child to gain the power of recognising persons, objects and toys which it is constantly allowed to see. Thus, the child's first start in the acquiring of knowledge is with a study of the artistic coloration in creation, till other interests are brought in gradually to obliterate this primary impression.

Later on, when the child is old enough to distinguish between the different objects, the toys help them to get acquainted with the various articles with which it is expected to come in contact. In fact, children of to-day can easily

distinguish an aeroplane from a flying vulture or an eagle, but the same would be hardly possible, say some twenty years ago. Again, given a variety of toys, a child will easily name them as railway train, steam-ship, etc., and when it gets an opportunity to see them in reality, it often happens that the child makes every attempt to enlarge its knowledge by questioning its parents. Thus what was thought a matter to be got from books is now made available in concrete objects. In fact, toys accelerate the healthy growth of a child's mental faculty as it comes in direct contact with the miniature of the realities of nature and thus develop in its infant mind a sense of art, a sense of harmony, colour and beauty of form.

If we really realise the importance of toys in the mental growth of the child, we would consider thrice before we place *any* toy in the hands especially when it is going to be impressed for life by a study of it. We know that the child's toys create a world of its own and reveal to it the real world into which it has to enter immediately and at the same time should not be mere play things that merely attract but do not educate.

In addition to the utility as an article of play for children, dolls and toys have another aspect. They are intended to give in a definite form and shape, the varieties of a single object. To make this clear, an instance may be cited: In the Prince of Wales Museum, Bombay, we have a remarkable collection showing the sets representing the various craftsmen in India, the persons belonging to the various religious communities and castes in India, various types of beggars, the varieties of dress worn by women in India and so on. Such collections have importance in as much as they are able to convey even to a lay man, ethnological matters, which ordinarily form subjects of specialised

interest. If by any scheme this idea of art can be developed in our Province, where there is much scope, I am sure a very good and steady market can be created for these productions.

To my surprise, I have never seen a Japanese child play with a celluloid doll or a tin toy. Children of Japan play with the most beautiful dolls and toys very characteristic of their social life especially made to educate and make them worthy citizens. From their childhood, they are trained to see beautiful things, understand their uses, their traditions and so forth, so that when they grow up, they have all the background necessary to behave as patriotic citizens. Realising this great importance in developing personality, the educational authorities have introduced in the primary education, a course to teach children of both sexes "Doll Making". Of course, doll ceremony has now become a national festival and doll making, a great tradition and a big industry.

Japanese dolls are mostly made of wood pulp and porcelain and the toys are made chiefly in wood and bamboo. But, for the export purposes, they are manufactured in rubber, celluloid, wood, stuffed in cloth, porcelain, etc. Most of these are copies of foreign toys and dolls. These cheap toys and dolls are exported to almost every corner of the world. Japan before the War had made such rapid progress in this industry that countries like England and America were unable to check the Japanese imports into their countries.

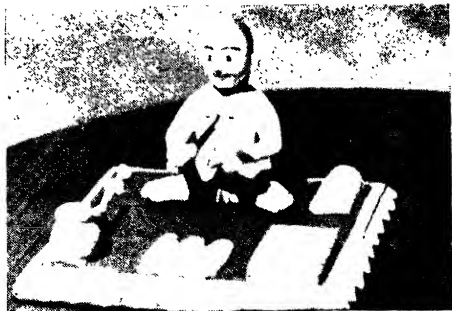
Wooden toy industry of Japan, like any other small scale industry, was very progressive till before the War. Though I was unable to get the actual figures of their exports, I was assured that it was on the ascent. There

were several towns chiefly engaged in the manufacture of export of toys and dolls. Nagoya was one of them. I visited several factories in this city and these factories were in no way different from those of other smaller establishments. The space required for a toy-making factory was much less and the number of people at work was also small. As in the enamelling units, these toy-making factories confined themselves to a few specimens of toys. There was no separate unit system, since from the first stage to the finished article, it was done by one and the same factory as the raw materials required and the process of manufacture were few and simple. These toy-making establishments were managed chiefly by designers or artists as a side line. The factory consisted of a couple of lathes, a circular saw machine, an electric motor to run the above and a spray gun with an air compressor outfit. Besides the designer, rather, the owner of the factory, there would be at the most two skilled workmen to assist him along with his family members. Raw materials required are wooden planks and scantings, various colour paints and small metal hinges, springs, wires, etc., which were all easily available in the locality. Besides the above, the worker required some specimens of dolls of other countries. These specimens were supplied by the wholesalers' or the exporters' associations. The exporters' associations maintained a large collection of toys of foreign origin and some specimens of original toys were made for their benefit by the Industrial Art Research Institutions and similar organisations. These specimens along with their respective quotas for each were distributed among the small establishments. Thus, these small establishments had been successfully carrying on their trade for the last two decades. This did not apply to toys

KONDAPALLI TOY MAKING
(Andhra)



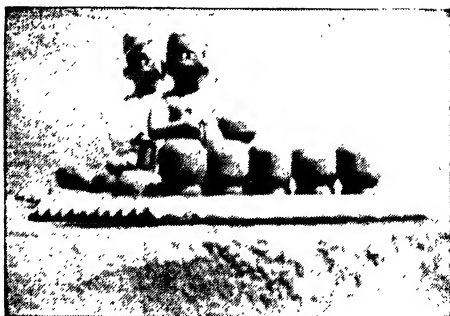
Craftsman at Work



Sweet-Meat Shop



Toddy-drawer



The Potter and His
Ware

and dolls only but to all small handicrafts which became profitable industries.

It is beyond the scope of this note to deal with this industry in greater detail. It requires volumes to write on this particular industry not only from the industrial point of view but from artistic and other points of view.

The methods by which these small handicrafts have been developed into paying concerns without loss of any of the traditional characteristics is itself a subject for research and study. This aspect of Japanese industry had attracted me in my first visit and since my return to India, I have been able to change the view point of the craftsmen as well as the public.

By way of suggestion for immediate action in this matter, I desire to point out that some arrangements should be made to get a statistical record of the productions of the various toy manufacturing centres in our Province. For instance, so far as I know, we have the wooden dolls and toys made at Kondapalli, Tirupathi and other places, the clay models of Panruti and Pondicherry, metal productions of Kumbakonam and Madura, ivory and horn varieties of the west coast. In fact, many of these places are isolated centres and at present have no co-ordination with one another. Further, the Industrial Schools and other like institutions are not taking any keen interest in the development of this indigenous craft and hence the lay workmen, who are responsible for the production of these toys and dolls, are solely guided by time-worn traditional methods. Further, most of these places have till now specialised only in the production of mythological images. I wish to suggest that some arrangements be made by which this industry can be introduced with profit in our schools and also the students may

be trained to make toys like animals, birds, various forms of conveyances and other items of popular interest. In this connection, I am reminded of the famous Lucknow toys, which are made in terracotta in natural colours. There is also much scope for introducing this colouring scheme and it would not be surprising if I should forecast that this industry besides preventing the drain of our wealth to foreign markets, will command a very good international market and thus will enable us to revive the ancient traditions of our country.

Moreover, it should be impressed on the Government as well as the industrialists that we should devote more time and thought to developing these small indigenous handicrafts and organise them on sound business principles so that these handicraft industries may not only cater to the needs of our people but also be a source of inspiration and joy to others.

The process of doll and toy making is simple and requires very little finance and technical skill. We have in this province hereditary and talented craftsmen to make any sort of dolls or toys, and we have got suitable raw materials. But what is required at present is, a proper organisation to guide these traditional craftsmen and to market their products. No general scheme will do any good to help these craftsmen. Every centre differs from the others in several respects; so, what is good and helpful to lacquer toy makers of Etikoppaka might not be good to Kondapalli doll makers. Similarly, what is good and helpful to Kumbakonam image makers might not be beneficial to Panruti doll makers. So each of these centres should be individually tackled by experts by giving them different schemes to suit their local conditions. For in-

stance, let us take the lacquered toys of Etikoppaka. There is no change either in the designs or colour combinations from the time the industry was started there. To add to this, the work is gradually getting cruder and cruder due to the pressure brought on them by the merchants for the sake of cheapness. The average output of a "turner" is 200 articles for a 9-hour day work, and it hardly paid him 12 annas at pre-war rates for the whole day's labour and this too is not always assured. If, by any misfortune, he falls ill and is unable to work, he runs into debt and then is ruined. Thus all the 150 families working in Etikoppaka are under the mercy of a few merchants, who neither take interest in the worker nor in the improvement of the industry. Their idea of improvement is only in reducing the prices when paying to the worker and making more profits when selling the toys. This has made several workers to migrate to other places or to other professions and thus ruined the industry. The same is the case with Kondapalli dolls, which were once very famous. Now there are hardly five families working. Even these workers are not able to make both ends meet. They have started a co-operative society in Kondapalli to give assistance to these workers, but this society has not been able to render any help except advancing money to these workers. No technical advice was rendered to them, which was more essential to improve their quality and design. Likewise, every one of these indigenous handicrafts deteriorated for lack of technical guidance. The Government may establish with advantage small institutions in each of these centres, and these institutions should be run on sound business principles with less of the usual departmental routine. The institutions should be able to guide the local artisans in designing, application of modern methods and

the use of labour-saving appliances, and the introduction of raw materials and technique. All these institutions should be under the direct supervision of a central organisation like that of the Industrial Art Research Institute at Sendai in Japan, where research into various possibilities of improvements in these handicrafts should be undertaken. It is also necessary to reorganise the School of Arts and Crafts Museum and to convert it into a "Museum-cum Emporium" for handicrafts. If that scheme is given effect to and small industrial schools are established in each of the centres where toys and dolls are at present made, we can bring about a great revolution in this field. At the outset, these institutions will cost the Government a substantial sum, but in the course of a few years, they would show very good returns to the Government besides promoting the industry and stemming foreign competition.

It will not be possible to give a general scheme, which can be adopted to all these centres. Each centre has to be individually considered after studying the local conditions, the possibilities and the nature of help that are required and then a suitable scheme has to be evolved for adoption. I have seen two centres Etikoppaka and Kondapalli. I suggest two schemes, one for Etikoppaka and the other for Kondapalli. As for the other centres, schemes may be made for individual centres after close inspection of their position.

Etikoppaka:—I have suggested that a skilled workman may be recruited to the Lacquer Work Section of the School of Arts and Crafts, Madras, so that some experiments may be conducted in the School for the benefit of the workers at Etikoppaka. This has been given effect to and the School has conducted several experiments with new

materials, such as bamboo and other jungle woods and introduced new designs and more pleasing colour combinations. This workman, in his turn, taught his brother-workmen at Etikoppaka when he went there for vacation. I understand that some of them are very anxious to come to the School to learn all these improvements. So, if a small institution is established at Etikoppaka and all these new methods and designs are introduced, the industry will rapidly develop enabling them to get better wages.

Cost to the Government to establish a small institution at Etikoppaka:—(at Prewar rates)

Recurring:—

| | | |
|--|----|---------|
| One Instructor trained at the School of Arts and Crafts on Rs. 35 p.m. | .. | Rs. 420 |
| One workman on daily wages of Rs. 1-4 | .. | 375 |
| One unskilled workman on daily wages of 12 annas | .. | 225 |
| Materials, wood, lac and colours | .. | 500 |
| Rent for a small house and the upkeep | .. | 150 |
| | | <hr/> |
| Total | .. | 1,670 |
| | | <hr/> |

Non-recurring:—

| | | |
|----------------------------|----|-----|
| Furniture, equipment, etc. | .. | 320 |
|----------------------------|----|-----|

From the very first month of its establishment, the institution will be able to show good returns and without much exaggeration, I may estimate Rs. 2,000 as a minimum receipt per annum at prewar prices. One set of articles made at the institution will be put on show for the benefit of the local workers and they may be given facilities to see the new processes, designs and colour combinations. The

articles made at the institution may be sent for sale to Madras and other important cities and when the demand grows more and more for these toys, the institution may organise an association by which it can bring all the workers under its fold, distribute work evenly to all its members and control production, price and quality. This is the only way by which this industry can be helped and developed.

Kondapalli :—

I visited this place in 1938 and found very few homes working. I also visited the Co-operative Society and made enquiries as to how it was working. I was not at all impressed by the nature of help it was rendering to its members, and to my surprise, I found that only a few of the workers had joined the society. The society was not able to attract all the workers in the village, because it was not in a position to guide them or render any technical assistance. The articles exhibited at the society were much worse than what I saw in the homes of some of the non-members. I also understand from the Victoria Technical Institute that these dolls are not in great demand as they used to be in the past and they are gradually losing their popularity.

Kondapalli is situated at the foot of a small mountain and a thick forest. It has an abundant supply of jungle wood soft and suitable for making dolls. There are about a dozen families engaged in this work. Most of these families are in a deplorable condition. The annual output of the village is on the decrease and the standard is falling every year. There is a great scope for developing this industry and the only way is to establish an institution on the same lines as the one suggested for Etikoppaka. Since

the present condition of the industry at Kondapalli is very deplorable, the Government should provide the necessary amount for equipping the institute with a good range of old samples of Kondapalli dolls and modern dolls so that the workmen might draw their inspiration from them and gradually raise the present low standard. I may also suggest that one skilled workman from Kondapalli may be employed in the School of Arts and Crafts, Madras, where new designs and experiments along new lines may be made and later on may be sent to the institution for being copied and popularised. After working these two institutions at these centres, the Government will be in a better position to judge how far these schemes are beneficial to the workers and the industry in general. When these institutions prove a success, the Government may take up other centres in the Province.

With regard to the modern wooden toy manufacture, I do not propose to submit any scheme as it does not require a separate one. Some of the Industrial Schools are making these toys though crudely. All that is required to do now is to supply to all the Industrial Schools where carpentry is taught, a good range of foreign toys that are popular in the local markets and get them copied with the help of modern equipment, such as fret saw to cut out from thin planks various shapes of these toys and spray on them colours by using stencils and spray gun, etc. It does not require much skill but requires proper supervision and artistic sense. This can be acquired only by working under qualified masters. It is necessary to open post-graduate course in the School of Arts and Crafts for training qualified designers. If this is given effect to, the students that are trained in that section and the research work they conduct could be, with great advantage, applied

to the toy making, and these graduates may be employed in the Industrial Schools. I may conclude here that the doll and toy making industries do not call for technical skill as much as artistic sense. So, it is desirable that these industries should be supervised by well qualified artists.

Playthings or toys made in Japan are (1939) exported to more than one hundred foreign countries. Pretty dolls, toy electric trains and automobiles and the like are played with and admired by children in all parts of the world. The annual value of Japanese toys exported abroad amounts to approximately \$10,000,000.

—THE EAST ASIA ECONOMIC NEWS

IX. THE HAND-MADE PAPER INDUSTRY*

T. VENKAJEE

The hand-made paper industry is one of the very few industries that should appeal to industrialists not only on account of its utility but also by its great economic and cultural value. Many waste materials could be utilized in this industry for conversion into pulp and then into paper. The industry would also utilize the idle moments of the villagers if it were carried on as a small-scale industry. Further the processes followed in the industry are so simple and easy that everyone, young or old, man or woman, may engage in one or the other of the processes. It is therefore, desirable that this industry should be revived as far as possible employing modern methods, so that it might increase the individual and national wealth as well as the culture of the country, in however small a degree.

The various methods of manufacturing hand-made paper are to a great extent based on the principles known in ancient days in India. All the suitable materials of whatever quality are collected, sorted, and stored according to quality, colour and shade. The material is afterwards freed from any adhering foreign matter and then cut into small pieces and allowed to soak in water for a number of days. Later, these are subjected to the process of boiling with chemicals. Rags are the main and the most important raw material for the industry. Sometimes paddy-straw, bamboo, and some varieties of reeds are used. The main purpose of pulp-making is to eliminate non-

* By courtesy Ind. Com. Journal, Dec., 1946, Madras.

cellulose matter. Every material or fibre that is used for paper-making has the following constituents which form different groups:—

- (1) Moisture, (2) Starches, (3) Pectous matter;
- (4) Waxes and resins, (5) Lignin or colouring matter,
- (6) Cellulose.

It would thus be seen that non-cellulose matters are to be isolated from cellulose which is the basis for paper. Some of these groups like starches get into the solution when the material is boiled with water. Pectous matter is eliminated by boiling with very dilute caustic soda solution. Lignin requires drastic treatment and has to be removed by a strong solution of caustic soda. The accompanying list of raw materials generally used in paper-making shows the yield of cellulose.

TABLE OF RAW MATERIALS SHOWING YIELDS OF CELLULOSE

| Raw Materials. | Cellulose | Ash. |
|------------------------|-----------|------|
| Cotton, linen and rags | 91.15 | 0.11 |
| Flax | 70.75 | 1.32 |
| Hemp | 77.13 | 0.82 |
| Sunnhemp | 80.01 | 0.61 |
| Ramie grass | 62.50 | 5.63 |
| Jute | 60.89 | 1.40 |
| Bast Tissue | 49.35 | 6.19 |
| Esparto | 40.80 | 3.67 |
| Straw | 46.60 | 5.50 |
| Eeta reed (bamboo) | 48.00 | |
| Strictus bamboo | 44.00 | |
| Arundanaecia | 42.00 | |
| Botha grass | 39.00 | |
| Koppera gaddi | 35.00 | |
| Paddy straw | 33.00 | |
| Jammu grass for boards | 42.00 | |
| Waste paper | 75.00 | |

From the list shown above it would be found that cotton, linen, rags and flax contain the highest amount of cellulose. The less the non-cellulose matter in it, the greater is the ease with which a material is converted into pulp. In the case of materials like paddy-straw and other grasses whose yield of cellulose ranges from 25 to 30 per cent. non-cellulose matter to the extent of 70 to 75 per cent. has to be eliminated or brought into solution isolating or separating these from cellulose.

As soon as the pulp is washed free from chemicals, it is subjected to the process of "beating", which is a process of maceration converting pulp into a homogeneous mass. The long and short fibres are made uniform. The old process of trampling it under the feet of the worker is still followed in many of the factories. In some parts of the country dhenkies are used. Fig. 1 annexed is that of a beater under operation. This consists of a roller with blunt knives placed equidistant in its circumference and projecting about half an inch out. This rotates at high speed against a stationary bedplate containing knives projecting out and fitted slightly angular to the rotating knives. The clearance between the knives in the roller and those in the bedplate is brought to the minimum so that the knives will slowly bruise the fibres of the material that is subjected to beating. The stuff is thus slowly made homogeneous.

When white paper is manufactured, this pulp is subjected to the action of bleaching liquor at a particular consistency and concentration. Bleach liquor is manufactured by carefully bringing bleaching powder into solution with water in proper proportions so that the resulting supernatant clear bleach is at a strength of 4.5 T. W.

liquor. Bleached pulp is washed free from bleached liquor and stored.

Fig. 2 is that of a vat from which paper is lifted. It has sloping sides to enable any foreign matter like sand and grit in pulp to separate and deposit itself down. It is also fitted with an agitator which may be worked by power in larger institutions or by hand, or by a treadle arrangement. This keeps the solution of pulp and water in the vat in a uniform consistency. The greatest difficulty in producing hand-made paper is the difficulty of lifting the sheets of uniform thickness. It is due to the fact that when the paper-lifting frame or mould (as illustrated in Fig. 3) is dipped in the solution of pulp and water in the vat, pulp at different consistencies gets attached to the frame and hence sheets of different thickness result. The agitator in the vat prevents the formation of sheets of unequal thickness. The paper-lifting wire (vide the details given in Fig. 3) is the most important implement in the manufacture of hand-made paper as well as of machine-made paper. In the manufacture of hand-made paper the paper-lifter dips the frame holding it in both hands widthwise and in a slanting position. When the frame is nearly three-fourths down into the solution of pulp and water, he turns the frame horizontally so that the whole frame is under the surface of the pulp solution. He lifts it up in a level position and slowly upwards, and when half the thickness of the frame is above the surface of the water the paper maker moves the frame forward and backwards and sideways in order to give a thorough interweaving of fibres. At this stage he lifts the frame above the level of the pulp and water in the vat. He keeps the frame in that position for a few seconds to allow water to be drained completely.

The deckle is then removed and the frame with the wet sheet on is raised and handed over to the coucher boys who invert it against a soft and absorbent napkin laid flat on a table. By the application of uniform pressure, the wet sheet is pressed on to the napkin below. The frame is next removed and washed free from any adhering particles of pulp before being used again. The last process is known as 'couching'. The processes of lifting and couching are illustrated in Fig. 4.

It may be briefly remarked here that the possibility, in the case of the hand-made industry, of giving a double shake to fibres in the wet sheets and thus strengthening the texture of the sheet, gives an advantage to hand-made paper over machine-made paper. This advantage is particularly noticeable in the production of ledger, parchment, paper, etc., which require a large degree of strength and resistance.

The strength of paper is seen in the rattling noise it gives when it is tested. Strength is imparted to paper by heavy pressure given, when the sheets are wet, preferably by a hydraulic press. In the absence of this press, heavy-screw presses are used. (Fig. 5). The pressure is applied slowly and when no more water is coming out of the wet sheets, the pressure is maintained steadily for about half-an-hour and then continued at intervals of every five minutes till no further particles of water come out of the wet sheets. The wet sheets are then removed and interchanged and again subjected to pressure overnight. An attempt may now be made to separate the wet sheet from the napkin and if it does not come out freely, it is an indication of moisture still left.

It is again subjected to heavy pressure till the wet sheet is easily peeled off from the napkin. The wet sheets thus removed are placed one over the other in a systematic manner so that the sheets touch each other uniformly. This pile of sheets is then subjected to slow pressure for some time and to heavy pressure later, for the second night. The third day the sheets are separated from one another and interchanged. This operation is called "exchanging and parting". If wet sheets are thus interchanged and their surfaces allowed to touch each other under heavy pressure, natural smoothness results. This is a fundamental principle which gives importance and individuality to the hand-made paper. This reversing and interchanging is carried out twice or thrice; and on the fifth day spurs of 4 or 5 wet sheets are removed and allowed to dry on round wooden rollers. After a few hours, the ends of the wet sheets separate themselves, indicating that the paper is nearly dried. The position of the wet sheets in contact with the wooden rollers is altered frequently during the process of drying so as to eliminate the formation of "hunchback" or "stretch" in paper at places where it is touching the roller due to the weight of the wet sheets on either side of the point of contact.

The sheets thus separated are placed flat in a corner of a cool room. This pile of paper is allowed to lie in that position in order to get flat by its own weight and also to eliminate crease as far as possible. This process is called 'maturing'.

Papers are then sorted out, eliminating bad edges, tearings, etc., and are then all polished in a calendaring machine. (Fig. 6). The calendaring machine has two bowls (rollers) operated by hand. It may also be operated

mechanically and with power, if it is available, and when the outturn warrants its use. Sheets of zinc, brass, or copper of 24 G to 30 G are used in the calendaring machine. Between each sheet, one sheet of paper is placed and the whole lot is allowed to pass to and fro through the rollers. This operation is continued till the desired polish is obtained. The papers are thus ready for packing, reaming or for sale. These are then cut to different sizes in a table-cutting machine. (Fig. 7). Hand-made paper thus reamed and baled is ready for despatch. (Fig. 8).

Hand-made paper has a utility and a market of its own and is not a rival to machine-made paper, as is commonly supposed. If machine-made paper is suitable for general use in writing and printing, hand-made paper is useful for special purposes such as Share Certificates, Insurance Policy Papers and other documents that have to withstand the ravages of time. The characteristic differences between the two kinds of paper are shown below:—

(1) Hand-made paper is necessarily strong for the double shake it gets during the time it is lifted from the vat. This double shake is not possible, as mentioned already, in the case of machine-made paper as it is made in a continuous sheet and is even stretched when it is being reeled on.

(2) The strength of hand-made paper is further increased by being allowed to shrink to a maximum which is nearly 8 per cent. This shrinkage is possible in the case of hand-made papers, as they are dried slowly under ordinary temperature and that in a period of nearly six days. This is not possible in a paper machine, for the sheet is dried in a maximum period of six minutes due to the speed of the paper machine.

(3) Most of the hand-made papers that are necessary for special purposes are sized twice. The base paper is made and dipped in a bath of gelatine. It is dried and calendared. This paper is like a photo enclosed in a glass frame, absolutely immune from bacterial or atmospheric action from outside.

(4) The time given for wet sheets to get into touch with the water marking design which is embossed on the paper-lifting frame (or on the "dandy roll" of the paper machine) is sufficiently long in the case of hand-made paper. This is an important factor that contributes to the well defined water-mark on hand-made paper. Hence its suitability for currency notes of higher denominations. But the time that is given for water-marking is only a fraction of a minute in the case of machine-made paper.

Thus it would be seen that hand-made paper and machine-made papers have different classes of consumers to cater for and that there need not be any competition between the two kinds of paper. Hand-made paper units cannot manufacture ordinary writing, printing and other varieties of paper on a mass production scale and therefore cannot afford to sell their products at very cheap prices, since 60 to 70 per cent. of the processes are carried out by hand. On the other hand, paper mills (i.e., factories producing machine-made paper) cannot slow down production in order to manufacture such high-class papers, as mentioned above, which are the specialised products of the hand-made paper industry, unless they pay very heavy overheads.

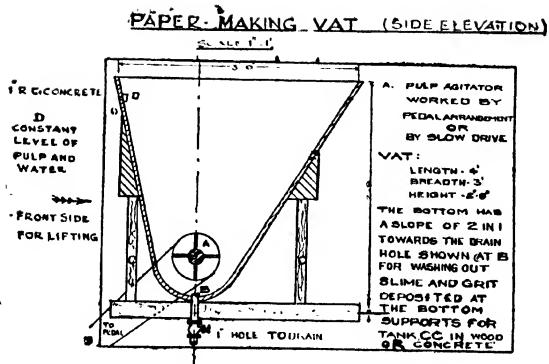
Finally, some mention may be made of the great bearing of the paper industry (both hand-made and machine-made paper) on national progress and culture. Paper is the index of civilization. When it is written or printed

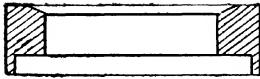
HANDMADE PAPER INDUSTRY

(By the courtesy of the Government of Madras.)

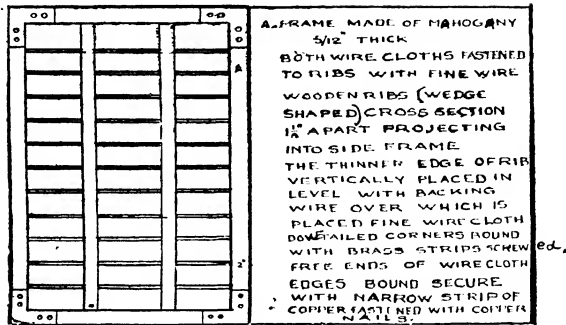


A. beater under operation.





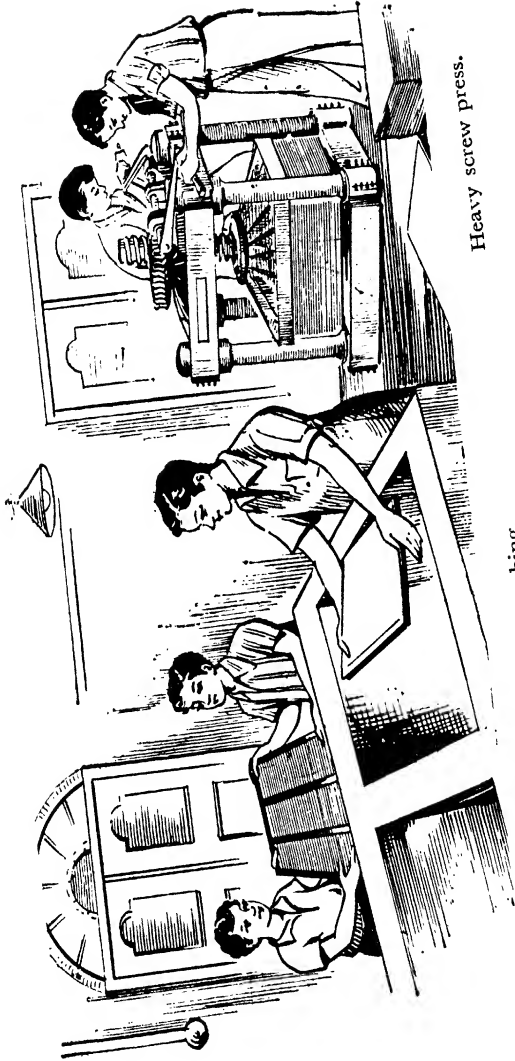
PAPER-LIFTING MOULD



Paper-lifting mould.



Demonstration of holding the frame.



Heavy screw press.

Processes of lifting and couching.



Calendering machine.

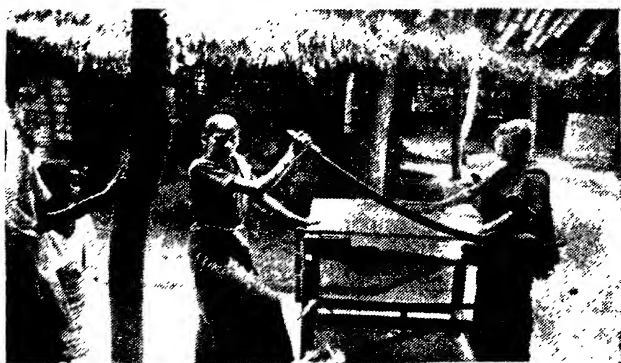


Table cutting machine.

on, it is the visible embodiment of thought. If a country wishes to rise in the scale of nations it should have primarily a high standard of literacy, besides progress in other lines. Now it is obvious that an important medium of spreading literacy is books which are printed on paper. And thus the literacy of a country is indicated by its consumption of paper per head per annum. The following table shows clearly the lamentable standard of literacy in India to-day. It may also be pointed out that a small country like Holland, which is not as big as the Northern Circars, has a literacy of 99 per cent. India can scarcely hope to occupy a high place among the nations with its literacy of only 16 per cent. as at present.

CONSUMPTION OF PAPER PER HEAD PER
ANNUM

| Name of Country. | Quantity Consumed. |
|-----------------------------|-----------------------|
| 1. United States of America | 248 lbs. |
| 2. Canada | 175 " |
| 3. United Kingdom | 153 " |
| 4. Germany | 103 " |
| 5. Belgium | 85 " |
| 6. France | 36 " |
| 7. Italy | 26 " |
| 8. Russia | 12 " |
| 9. India | 0.5 " |

It is, therefore, quite imperative that there should be a marked increase in the production of paper in India, be it machine-made or hand-made, so that every sheet of paper lifted might contribute its quota, however insignificant, towards the development of literacy and knowledge in the country.

APPENDIX.

Fig. 1.—A Beater under operation.

Fig. 2.—Caption given above.

Fig. 3.—Caption given above.

Fig. 4.—The processes of "Lifting" and "Couching"

Fig. 5.—A Heavy-Screw Press.

Fig. 6.—A Calendaring Machine.

Fig. 7.—A Table-Cutting Machine.

Fig. 8.—Papers ready for despatch.

III. RURAL CREDITS AND DEBITS

T. N. SRINIVASAN

“Why is India so poor?” is the baffling question that confronts almost every economist and industrialist who attempts to analyse the low economic conditions that had persisted for long in our country. The usual answer that is given is that since our country is mainly agricultural, production is low as compared with the countries which are more advanced industrially. If it is further questioned, why the production is low, it is answered by saying that man power in our country is untrained and unorganised and also that the Government of the country had been unprogressive, as their method of approach to elevate the condition of the country was all along parochial.

But it is essential to investigate more minutely the structure of our rural wealth which forms the nucleus on which the entire economic system of our country is built up. Economics are not uniform in the preparation of wealth: Why?—Professor Gidy uses this term particularly to mean “anything of the nature to satisfy an economic desire” and others like J. S. Mill employ the term in a narrower sense, while others like Marshal and Ely use the term in two different senses, one to mean personal wealth and other to connote social wealth. According to Seligman “wealth is now-a-days anything that can be exchanged”; and so personal wealth may be anything which can be bartered or can be converted into private property. To estimate correctly the prosperity of the village, it is enough if the property of the ordinary rural man is critically examined.

The property of a rural man may be said to consist of

all or any of the following items: (i) Some lands; (ii) Livestock; (iii) Immoveable property in the shape of house or other constructions; (iv) Domestic and agricultural implements and utensils; and (v) Savings, if any.

To a person in rural areas land is perhaps his most valuable asset that he can claim. In villages a family takes its social position according to its relation to land, for it is believed that possession of lands lends both social status and economic credit to the family. Moreover, it is believed that investment in land is comparatively safer and steadier and considered to be more paying in the long run than anything else. So, as a rule, all the rural classes attempt to invest all that they can spare in land and strive on to buy more and more lands. For a labourer his life's ambition would be to become a land owner and settle down in his village with his family. Investment in immoveable property being the chief aim of the rural population, it has been estimated that the average amount of total wealth per family invested in this kind is nearly 60 per cent. The possession of land by the rural man also gives him certain advantages, as in very many villages it is the richest landholder that is entrusted with such a job as *Karnam*, or village *Munsiff*; it is even considered a matter of prestige all along to occupy this status which is believed to be a direct representation of the Crown.

Next in importance comes the possession of livestock in the form of wealth by the rural man. There are very many advantages in the possession of livestock and it is found that as much as 80 per cent. of the families possess some kind of livestock which forms nearly 20 per cent. of the rural wealth. As the livestock is protected, it helps the cultivator to raise the crop. In villages the status of an individual is commonly measured by the number of

bullocks and other animals that he owns, and hence the possession of livestock has become very important. Moreover, they are nutritory, as the animals like cow, she-buffalo and others are employed for purposes of extracting milk and other products. If the amount of this livestock is considerable, it is lucrative also, as a rural family makes it a side profession to sell the surplus milk and its products. In villages, livestock constitutes a sort of reserve fund to the cultivator, as he can raise a small amount of cash whenever he is in need by either selling the cattle to others or in the weekly markets; and hence the common villager finds it more profitable to invest his surplus money in cattle rather than deposit it elsewhere.

House is almost a necessity for many reasons: Primarily, it is essential for anyone to have a safe and protective place to live in and hence construction of houses in villages is almost essential. The larger the house one possesses, the higher the social status that is usually conferred on him. None can acquire a *locus standi* in village matters unless he is the possessor of a house. So, wealth in the form of immoveable property primarily consists of building (i) for dwelling (ii) for housing the cattle and (iii) for storing the produce and agricultural implements. In many cases a single building satisfies all the above needs, but in some big families three or more separate buildings are held by the landlord. In some families the dwelling house may be small consisting of only a couple of rooms, while in other places, it is known that luxurious buildings have been built for the use of the rich owners.

Utensils form a small percentage of the rural wealth, as it is observed that very many families, in spite of their

social status, do not possess much of vessels made of metal. They use good earthenware, as they are cheap and hygienic. It is rare to come across instances where there had been hoarding or segregation of wealth in the form of savings. It has been found very difficult to persuade ordinary rural men to keep their savings in a bank or with any other person, as they are doubtful about the return of their investments. In fact, they prefer to invest their savings in the shape of ornaments in gold or silver; and as it is necessary, even the poorest woman will wear a few ornaments or jewels like *Thali*, ear and nose ornaments and waist belt. Most of the savings of a rural man is invested in jewellery. Even women of the richer classes wear many ornaments just to show their economic and social superiority over their servants.

It is now essential to study the mode by which the family income is acquired. Family income is usually taken as the net income of the entire family. But it is still not clear how to trace the lines that determine the net income from the gross income of the family. There are many factors which constitute the family income, the chief among which are (i) wages for the labour of the family; (ii) rent of his land, if he is a cultivating owner; (iii) interest for the capital invested in livestock and other things; (iv) remuneration from his organisational ability.

To appraise family income: capital plays a very important role in increasing the production and simultaneously the total income. But it cannot be surmised that all wealth can be taken as capital. Only that portion of the wealth which is actually used in production constitutes rural capital and only land, livestock and that part of the savings which is actually used for purposes of purchasing implements and seeds during the seasons, can be taken as capital.

In villages, the capital does not increase so rapidly as in the case of a trader in a big town, as the latter can, on account of his greater intelligence, rotate the capital more freely and earn much more. But investment in land by an agriculturist is supposed to be more steady and to yield more permanently than any speculative ventures in which the capital is bound to increase or vanish more quickly. Land is the most important source of income with most of the economic classes and forms a nucleus round which rural wealth is built and enlarged. Next to land, livestock is the more permanent and perennial source of income. Income from livestock is got in very many ways; for instance, by selling the milk, curd, butter, manure, eggs, kids and so on; and a shrewd housewife makes a considerable income from the dairy products. It is found that she is able to run the family on this income, not depending on the income which her husband may get from the sale of the products of the land.

The next source of income is through labour. Agricultural operations involve various forms of labour which cannot be coped with by the owner of the land and so labourers are employed either on permanent basis or on daily payment. Usually in the case of the latter, the payment to the labourer is in kind, while in case of permanent labourers, it is in cash as well as in kind. There is no great scope for non-agricultural employment in rural areas and hence the main source of income by labour is only through agricultural services. In some cases, non-agricultural labour like house building, tree felling and maintaining the sanitation and other subsidiary jobs of the village, offer a small income to the rural man.

Trade is a source of income that occupies a very minor position, as most of the villagers do not interest

themselves in trade, as in each village a group of persons follow the occupation of traders by selling the sundry requirements, conducting tea shops and other small shops and acting as commission agents by selling or buying cattle. The margin of profit earned by a trader in rural areas is just sufficient to keep him going. In villages cart rent is a source of good income, as cart as a passenger conveyance is still in vogue in almost all the villages of our country, primarily because the roads are not motorable. In very many villages the landholders keep a number of carts which are used both as conveyance for the people and for carrying grain and other products to neighbouring markets for sale.

Service in village occupies an insignificant position and is usually of three kinds (1) Government service, (2) Service in mill or other institutions and (3) Private service. In case of Government service it is usually given to the most respectable rural man and in many cases the service of a village *munsif* or *karnam* is only honorary. In other cases a small emolument is given. In villages, if there are mills, servants are employed on a definite salary basis. Private services in villages consist of boys employed for herding the cows, buffaloes and also to watch the crops during the harvest season.

Among other forms of sources of income of a villager are the various handicrafts which the particular village develops as a result of its economic situation. Village industries like weaving, carpentry, shoe-making and pottery are some of the many handicrafts which form a good source of income to the non-agricultural section of the rural population. In certain cases these village industries have been developed on sound lines and form substantial assets of the villages.

Minor sources of income for certain families are services in the local temple, acting as the village physician, acting as the local astrologer, custom of drum beating and keeping watch over the village during night time. These constitute the main lines along which the rural income is built up.

Side by side with the income it is essential to examine rural consumption in order to know and evaluate the rural expenditure. The most important item under this head is consumption of staple food. In most cases, unless and otherwise indicated, the land owner, cultivator, labourer or the village artisan usually consumes the product of his own lands, though in some cases there is necessity to bring in some extra food material from outside. In addition to the individual members of a family consuming the staple grain, it is necessary also to allot a portion for the use of animals as fodder and also to distribute to others who are in need. Next to staple food, the cultivator uses cereals and vegetables most of which he produces in his own field. It is rare that this variety of food stuff is imported into villages. Condiments and spices and materials like salt, oils and other things form the third item of rural consumption. Of minor importance are stimulants and intoxicants, snuff, tobacco, opium, etc., which many of the villagers use. The next item of consumption of a rural family consists in dress. But in most cases, it is found that a very small percentage of the income is allotted for this purpose, as the dress of an ordinary villager is very simple. Miscellaneous expenses like religious expenses, performances, festivals and fairs, purchase of semi-luxury articles like shoes, bangles, combs, etc., form other items of rural consumption.

To meet these requirements, an average rural man spends from out of the earnings which he makes through

lands, livestock and services. The average percentage of expenditure on staple food is nearly 50 per cent. of the income, while the bazaar expenses on stimulants and intoxicants reign next forming 15 to 20 per cent. Expenditure on clothes does not exceed usually 15 per cent., and the remaining portion of the rural income is spent for such occasional expenses like the marriage expenses, expenses on buildings or expanding the existing houses, expenses on agricultural tools, implements or livestock, domestic expenses like maternity or ceremony charges. Taking the figures of income and expenditure as per average rural family, it has been found that in most cases nearly 35 to 40 per cent. of the families have a deficit budget. Except in the case of well-to-do land owners and tenants, it is almost true that the labourers and servant class are almost in an eternal state of indebtedness.

Rural debts can be classified into various varieties according to the duration of the loan and the purpose for which they are borrowed:

(1) *Borrowings*: Small debts are contracted by the average villager to meet the day-to-day needs of his family, especially in off-seasons, when he cannot expect any remuneration from his employer. These are considered as hand-loans taken from a friend or a relative or master and returned within a few days for which no interest is usually charged. In case of default, it is adjusted from the next payment due to the labourer by the master.

(2) *Seasonal debts*: This consists of amounts borrowed for the purpose of financing agricultural operations during the harvest season or for maintaining the family during the off-season. It is usually taken in the form of a mortgage of the next year's produce and is often repaid

from the yield during the harvest season. Small interest is charged for this, but the cultivator does not trouble himself to pay the same in cash, as he adjusts the entire amount in the form of grain.

(3) *Short term debts*: These are usually contracted occasionally to meet the expenses incurred for conducting social ceremonies or for building of new premises by the landholder. Those who have credits in land obtain this from the co-operative societies of the locality. In some cases it is obtained on the security of the land or by pledging gold jewels that one may possess. Usually these are returned from out of sale proceeds of the produce and adjusted quickly.

(4) *Long term debts*: These are rare as they are taken only by rich land owners where the amount borrowed is rather large and cannot be paid off from the proceeds of one harvest season. In some cases the landholder having a number of small old debts borrows a lump sum from one source to pay off these debts and makes long term arrangements to clear off the amount by part payments.

The agencies that contribute to the rural finances are many. The foremost among them are the Co-operative Credit Societies which are now established in almost all the important villages in our country. The members of these societies are entitled to get small credits; and credit societies are rendering useful service and are becoming increasingly popular. Next to this, many landlords finance the villagers on personal security or on the pledge of valuables or other moveable or immoveable properties. Villagers also borrow from their friends and relatives on a small scale for a short period. It has been found that most of the debts get repaid

by paying the surplus of income over the expenditure or by portion of the capital resources.

The problem of increasing the income of the rural areas is very complex and is almost difficult to solve. At present agriculture is a gamble with Nature and in money; and no amount of patch work as has been done at the present time can give substantial relief to the rural people. Unless our rural economy is rightly planned and sincerely carried out, there cannot be appreciable improvement in the conditions of the rural people in the near future; and there will be always a tendency to discard the land and migrate to the cities in search of food.

Comparing the rural debt per capita in 1939 and in 1945, that of

- (i) *Big landholders (of over 25 acres each) fell from Rs. 188.5 to Rs. 113.3 (by 39.9 per cent.);*
- (ii) *Medium landholders (of 5 to 20 acres each) fell from Rs. 78.8 to Rs. 59.4 (by 24.6 per cent.);*
- (iii) *Small landholders (of below 5 acres each) fell from Rs. 42.8 to Rs. 31.6 (by 12.3 per cent.);*
- (iv) *Tenants rose from Rs. 20.5 to Rs. 21.3 (by 4.1 per cent.);*
- (v) *Labourers rose from Rs. 5.7 to Rs. 8.3 (by 45.6 per cent.).*

*—Report on Rural Indebtedness in Madras
Presidency, 1946.*

XI. SCIENCE AND THE ARTISAN

T. S. DANDAPANY

Many enthusiasts are intolerant of suggestions that may be made to improve or modify cottage industries. They seem to imagine that the pristine beauty of these industries should be preserved and not spoiled by new fangled ideas. This attitude is entirely mistaken and has been responsible for the general stagnation and lack of enthusiasm for cottage products. This stay-put mentality is usually found in people who refuse to think progressively or comprehend things in a larger sphere. Their ideas would have fitted in with a society which had not developed beyond the primitive stage and had not come into contact with modern culture or civilisation.

We in India have been particularly fortunate in having most of our cottage crafts preserved through all these centuries in spite of the many conflicts and vicissitudes which our country had to pass through. This is due to a great extent to the simplicity of our own wants and to a greater degree to the tenacity of our national character and the religious and social customs that have helped to maintain a continuity in all our crafts and industries. But cataclysmal changes are taking place in the world and transformations of state and society almost magical in effect are revolutionising life in many countries. Old theories are thrown overboard and new ones are coming into their place. Science and organised industry have affected human activities and human wants to an incomprehensible degree and society to-day is not what it was, even a decade ago. In such a world, if cottage industries have

to remain alive they must march with the times and must be organised on a progressive and flexible basis. There is no reason why cottage industries should not play a leading part in the modern world beset as it is by big business and vested interests. Luckily India has not been very much affected by these two vicious systems, and if only we could devote a little clear thinking and careful planning we could organise our cottage industries to take a more useful and a larger part in the social economy and the national welfare of our country and thus set an example to other countries which are undecided whether to choose the path to the factory or the road to the villages.

Cottage industries could be organised along two main lines of work. The first would content itself with the village economy and the second would cover a larger field meeting the demands of the urbanite and perhaps of the State also. In the first group would be included such items as carts and cart wheels, plough shares and other farm implements, water lifts, bricks, roofing materials, storage bins and similar products to meet the villagers' needs. In the second group could be included fabrics and dress materials, paper, toilet articles, leather goods, woollen textiles, utensils, pottery, glass and metal ware. Among the needs of the State which the cottage worker could help to meet, would be standard brick and other construction material, woodwork and joinery, and other articles for the services both civil and military. In these days when so much is made of total warfare and total defence, when defence in depth is favoured in preference to the localised methods, cottage and village organisations seem to be the ideal means of achieving the purpose. China is an outstanding example of how organised co-operative working has made rural centres the backbone of the State's armoury

and the country's manufactory. Our country occupies a front rank position among the nations of the world, for the skill of its craftsmen and the great range of hand-made articles used by its people.

A rural craftsman in our country has in consequence an important place in the country's productive organisation. But to-day he has to face modern methods of mass production and competition and if he has to combat these successfully he has to seek the help of the scientist and the research worker. It is in this way that science will have to play a large part in the re-organisation of our village industries. I have already referred to the rural and urban needs which cottage industries could satisfy. The farm implements and tools, brick and roofing, leather-craft, and so on which are manufactured in the village itself to satisfy the needs of its inhabitants are carried on on primitive lines, almost in the same style and manner in which they were thousands of years ago. There has been hardly a change in the processes of materials. Whatever merits they may have had in the olden days they are definitely uneconomical and unprofitable in these days of mass-produced articles.

Government could organise a central bureau controlling a number of district units. The network of Rural Industries Bureau could conduct research into rural crafts and manufactures, collect methods and materials from various centres, discover new dyes and new materials, make comprehensive tests, formulate working and technical data, and make itself useful to the village craftsman through its various affiliated regional units. In this manner much experience and knowledge may be exchanged and the latest scientific methods and materials placed within reach of even the sim-

plest of village artisans. To cite just one example in which research could be carried on and improvements effected, we may state the cart wheel or the plough head. A good deal of research has gone into the designing of these simple articles in England and elsewhere. Similar work may benefit Indian farmers.

The men who man these research organisations, both central and local, should not be merely academicians having experience of laboratory technique only but should also be practical men having thorough working knowledge of the various crafts for which they design. There should be a close liaison between the men of research and the village craftsmen. The laboratory people should go out periodically to the villages and see for themselves, how the new technique or the improved models which they have offered to the villager, are actually used by him, whether he finds them better than his traditional ways, what difficulties he has and what suggestions he has to offer. The villager may not be very eager or willing to change over to the newer methods. Much tact and persuasion is needed. The villager is one who resents superiority and shrinks from it. Therefore he should be handled in a sympathetic manner and the benefits he will derive should be demonstrated to him. Handled in this manner there may be very little opposition and in fact much willing co-operation to follow the advices offered.

I have adopted a wider concept of cottage industries not only in their scope but also in their range. There is no reason why cottage industries should be confined to traditional ways and methods and there is no reason why they should be confined to the villages. The newer materials and methods like plastics, the new synthetic fibres, the

new alloys, newer methods of textile printing and dyeing, should all be brought within the village artisan's scope of work. Also young men and youths who could not, for some reason or other, pursue an academic career could be trained in the central or regional laboratories so that when they settle later in the villages they will infuse the newer technique and keep it alive.

By all this one should not understand that revolutionary changes are meant or are advocated. That way would lie disappointment and failure. Factory methods of production should not be aimed at and in fact cannot be achieved. On the other hand, the research council should devote its attention to finding out ways by which the latest discoveries in material and technique could be modified to suit the village craftsman's skill and equipment. As an example, let us take the case of the village weaver. One of the processes involved in his work is the sizing of yarn. His method of going about this work is highly wasteful of time and material. Simple machines have been devised which would do this work not only in a much shorter time but with a greater saving of sizing material. The weaver could thus turn out more work or enjoy the leisure at his disposal. It will be one of the principal duties of the research council to bring home to the villager the merits of such machines. In many cases the villager may not have the necessary funds to take advantage of modern methods or machinery and in all such instances, co-operative credit societies should afford easy and quick help. Steps may however be taken to see that the villager uses the newly acquired processes profitably and is enabled to discharge his debts conveniently.

In this short article I have just indicated the possible lines on which science could help the craftsman. With in-

telligent and careful planning even complex products involving complicated processes could be split up into easy stages of uniform and standardised work which could be entrusted to village craftsmen. The whole work could be streamlined and the units could be collected and assembled in organised factories. This would ease production and find work for the artisan and the factory hand. Though the one may live in the village and the other in the town their work is co-ordinated. No work will be too large and no product too complicated. Prefabricated houses and other similar standardised products could be handled in this manner much to the benefit of the nation's wealth and the individual worker.

The accumulated experience of the village artisan when backed by the scientists' aid should help in the regeneration of our rural districts and help them to take their due place in the country's progress. Villages will no longer be isolated and forgotten areas. The farmer and the craftsman will find a new stimulus and life would once again be throbbing and pulsating in the villagers. India expects that her statesmen and her scientists will do this duty to help this regeneration.

XII. CO-OPERATION AND DEVELOPMENT OF COTTAGE INDUSTRIES.

VISWANATHAN TEKUMALLA

The nineties of the last century marked a great crisis for industrial crafts in India; for in 1891 the great industrial scientist, P. N. Bose, voiced the opinion of the educated men of the period when he declared in his Presidential Address at the Indian Industrial Conference, held at Calcutta, that "the day of mere manual skill is gone by, and, rest assured, will never return." These crafts owing to their inherent vitality, tided over the crisis, and fifteen years later, in 1906, the same scientist was obliged to admit in his Welcome Address to the delegates of the Indian Industrial Conference held in that very city, that "that the possibilities of such (petty) industries should be developed to the fullest extent goes without saying." The forbidding by the Secretary of State in 1910 of State-managed commercial enterprises, the banking crisis and the failure of industrial enterprises about 1913 and the Great War of 1914—18 which made it impossible for India to import foreign goods as well as to start large scale industries in the country proved to be blessings in disguise for the indigenous crafts of India, because the country was obliged to depend more and more on the products of craftsmen. The Co-operative Societies Act of 1912 also came in good time and gave facilities to the artisans to improve themselves and their art by co-operative effort. The campaign against foreign imports launched by the Con-

gress in 1921 and 1931 acted as a great stimulus for these small industries, while the self-determination granted by the 1919 Reforms to provinces in the field of co-operation made it possible for the provinces like Bombay and Madras to enable their small industries to develop on co-operative lines in conformity with local conditions. But by far the greatest opportunity occurred in 1935 when the new Government of India Act enabled the Congress to contest for power. The question of cottage industries was brought into limelight during the election campaign and was pursued vigorously by the Congress Ministries till their termination in 1940. And the outbreak of the recent World War even earlier than the end of the Congress regime, obliged the Governments to continue without any break the policy of Congress ministers towards cottage industries. Some progress in the development of cottage industries in general and on co-operative lines in particular has been reported from time to time in every province; but the lines of progress appear to indicate a lack of clear ideology: Cottage industries and co-operation are still understood in their narrow obsolete sense which is incompatible with modern conditions. Hence before proceeding to estimate critically the progress of cottage industries on co-operative lines and suggest further and more correct lines of development, I propose to point out the exact connotation and denotation of the two terms under present day conditions.

The term *cottage industries* has been understood and defined by many individuals and committees in a loose and incomplete manner. Importance has been given only to secondary questions like capital and place of work and not to the human aspect—the point of human labour, pure

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and as relating to the machine. In capitalistic industry capital is more important; in co-operative industry labour is more important. I suggest here that, by *cottage industries*, should be understood those industries where artisans not exceeding nine per industrial unit, find employment either as independent workers or apprentices or assistants in or at their own or their employers' homes, or as wage-earners in small *karkhanas*, and work with capital, limited in practice (but not in theory), adopting at times a simple but harmless division of labour, and employing such hand or power-driven machinery as does not interfere with the utility and art values of the products whose market is by no means merely local.

And now of co-operation: Unfortunately it is often forgotten that Indian Co-operation is different from European Co-operation in the same sense as Indian Economics is different from European Economics; and the Indian system is viewed through European spectacles. That co-operation is a form of organisation for all-round progress on an economic basis is true; but in devising the means of achieving it, it must be noted that European Co-operation was the outcome of popular effort while Indian Co-operation was the result of Government initiative. It follows that in India, if co-operation should be successful, the Government through its local self-governing bodies must associate itself with the people not merely in a patronising way but in actual co-partnership. Hence co-operation in India should be taken to mean a form of organisation wherein persons associate together under State (Government) auspices on a basis of equality for the promotion of their economic and other interests.

A critical estimate of the progress of cottage industries on co-operative lines to recent times will facilitate a correct appreciation of the problems that now confront the co-operation-minded industrial enthusiasts; I shall here confine my attention to the Madras Province, since it is easier for us to comprehend our own conditions. The number of co-operative societies for weavers who constitute the largest single artisan group in the country grew from 1 in 1905 to 21 in 1919-20, 52 in 1927, 174 in 1939-40, 215 in 1942, 336 in 1946. Almost all these societies deal in mill-yarn products. *Khaddar* is still run almost on capitalistic lines; for in 1939-40 there were only 5 spinners' societies, 3 weavers' societies and 2 sale societies for *khaddar*. The number of co-operative milk supply societies and dairies rose from 12 in 1927 to 121 in 1940-41. The following figures show the number of and the business done by societies for cottage industries in 1940-41 in the Madras Province :*

| | No. of Societies. | Business done Rs. |
|---|-------------------|-------------------|
| Milk Supply Societies .. | 104 | 6,44,129 |
| Milk Unions .. | 17 | 6,88,650 |
| Weavers' Societies .. | 194 | 14,06,000 |
| Madras H. L. Weavers' Society .. | 1 | 25,31,000 |
| Egg Marketing Societies .. | 3 | 8,750 |
| Hand pounded Rice Societies .. | 2 | 4,045 |
| Cottage Industries Societies exclusively for women .. | 21 | Little work. |
| Other Cottage Industries Societies. | 63 | do. |
| Fishermen's non-credit Societies .. | 34 | do. |

This slow progress of the co-operative movement in relation to cottage industries was pointed out by responsible bodies from time to time. In 1927-28 the Townsend Com-

* On 30-6-'46, there were 336 Weavers' Co-operatives and 222 other Societies; but how far they indicate *real* progress is still to be seen.

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mittee wrote: "the help given by the co-operative movement to weavers so far is negligible; most of the weavers' societies are doing little, if any, work". Over a decade later, in 1939-40, the Madras Committee on Co-operation recorded that "these societies (weavers') have not met with much success.... The societies have had a chequered career. There have been deaths, and new births from time to time." And in regard to cottage industries in general, the Registrar of Co-operative Societies, Madras, wrote in his administration report for 1938-39: "I must confess that very little has been done so far to form co-operative societies for the promotion of cottage industries".

This slow progress of cottage industries in general and this chequered career, characterised by deaths and births of societies, during a quarter of a century when many opportunities, as mentioned above, occurred for cottage industries to develop themselves, is certainly indicative of some vital defects in their organisation and management, the diagnosis and elimination of which is a *sine qua non* of cottage industrial development in the country. With a view to find out these vital defects which caused either failure or averted crises of some of the co-operative societies, I toured the Coastal Andhra districts extensively in 1942 and '43; and I give below the circumstances which led to the failure or some crises of some important co-operative societies of representative industries.

1. *Cotton Handloom Weavers' Society of a West Godavari village.*—The secretary was a mere boy who was under the influence of the president. Work was irregularly given to members. Only about 10 looms were employed whereas about 40 looms could be provided with work. The secretary and the president utilised the society's

funds and showed some private producers' cloth as stock at the time of audit. This mischief was detected by the authorities; many members withdrew their share capital. Consequently the society had to be wound up.

2. *Cotton Handloom Weavers' Society of a Krishna village.*—The capital was inadequate. Loans and some times even wages could not be given due to non-selling of stock. Moreover the Provincial Co-operative Society gave only 40 per cent of the yarn requirements of the society, and even that after much delay and correspondence. At that time the local sowcars used to advance money with a view to attract weavers. The cloth woven was according to the instructions of the Provincial Weavers' Society of Madras but not according to local tastes. The cost of production was higher than that of the local private weavers by at least 20 per cent. Since local merchants cared for cheapness of cloth and not for quality, the superior cloth of the society could not stand competition. This cloth was sent to distant markets in the Province. After some months part of the stock was returned as unsold. Since the unsold stock was in a spoiled condition it had to be sold at 60 per cent of the original price. The finances and membership gradually dwindled and the society was wound up.

3. *Woollen Weavers' Society of a West Godavari village.*—There were factions among the members. The president of the society was alleged to have borrowed much money from the society through the members under his influence, with a view to meet a Government contract for rugs on his own account. Subsequently the contract was cancelled. He sold away a part of the raw material, but, without crediting it to the society, he started private business

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with the capital on hand. The society's finances having suffered, the other members protested. The president and his party resented this action and decided to wind up the society, so that they might carry on their business freely. It was also alleged that a certain Co-operative Inspector was more interested in the Ellore Pile Carpet Weavers' Society than in the other society and that the spinners of wool of the latter were induced to spin woollen yarn for the carpet weavers' society.

4. *Co-operative Milk Supply Society of a Krishna town.*—At first the society used to buy all the milk supplied by the members. The same members used to buy milk cheaply outside and sell it privately in the town at competitive rates, thus harming their own society. Consequently the society had to turn the surplus milk into curds. It lost heavily in this curd business since it could not compete with the inferior stuff sold locally. Then again in winter the members could supply milk but in summer could not supply it in adequate quantities. There was a crisis but it was averted by the timely interference of the supervising officials.

5. *Fishermen's Society of a West Godavari village.*—It had not enough capital. It undertook to sell fish at favourable rates. But transactions took at least one week. Meanwhile the members were hard pressed for money. Hence they were obliged to sell away their catches to private merchants at low rates. Thus the society became virtually a non-entity.

6. *Co-operative Credit Society of a West Godavari village.*—The story of the failure of a credit society cannot be out of place since as the Madras Committee on Co-operation in 1939-40 stated "there were 64 societies in the

Province in which more than 60 per cent of the members were weavers”.

At first the president took much interest in the society. But when between 1925 and 1932 the Panchayat Board, Panchayat Court and Forest Panchayat were opened, he began to utilise the society as a source of finance and influence to achieve his own personal ambitions. Any person was enrolled as a member and allowed to borrow indiscreetly from the society. The president and his party were backed by some responsible co-operative officials and no notice was taken of the corruption even when pointed out! Soon bad debts accumulated and the membership dwindled. The society was wound up.

From these brief accounts and relevant details, the following causes of the failure or crises of co-operative societies of artisans may be inferred:—

(i) *Lack of adequate capital.*—Societies had not enough capital either to give full time work to members or to enable them to manage until the products were sold. Consequently the members were obliged to produce for the local market or for the local *soucar*.

(ii) *Lack of good faith among the members:*—The limited benefits conferred by the societies made the members disloyal. Hence some members used to do private business during the brisk season and depend on their respective societies during the slack one. Some members even considered the societies as a third party which aimed at gaining by their labour and so did not scruple to play duplicity by competing in their individual capacity with their own body corporate.

(iii) *Personal interests of office bearers:*—Some influential members as office bearers utilised the societies'

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funds to further their own personal ends. In one case attempts were made to run the society as a capitalistic concern for personal economic gain. This led to factions which resulted in the winding up of societies.

(iv) *Improper public taste.*—The consumers not having been accustomed to care more for quality than for price the non-member artisans competed keenly with the members of societies by producing inferior stuff for the market. The societies could not cope with the situation.

(v) *Lack of co-operation among Departmental and non-official staff:*—Instead of obtaining the co-operation of the supervising officials, the office-bearers of some societies actually betrayed their own cause by hoodwinking them.

These causes may be said to hold good for the whole province since as can be seen from the following figures of 1940-41 the average percentage of defective and bad societies of the Coastal Andhra districts was almost the same for the whole province:—

| | Thoroughly good Societies. | Defective and bad Societies. | All other Societies. | Total. |
|---|----------------------------|------------------------------|----------------------|--------|
| Average per district in the Province .. | 4.0 | 26 | 69.3 | 100 |
| Average per district in the Coastal Andhra .. | 4.4 | 29 | 68.0 | 100 |

It will thus be seen that the handicaps of the co-operative movement were two—psychological and material: Time was when, besides the virtual co-operative institutions like the *nidhis*, the joint family system helped to knit together the members of large families in mutual trust and good faith. Now due to several causes the joint family system yielded place to individualism which brought with it mutual suspicion and ill-will. The co-operative movement which is essentially a nation-wide endeavour to

combine judiciously the virtues of the two mutually-opposed forces, has been trying to eliminate the undesirable elements in them, like suspicion and distrust. The measure of success achieved so far has not been very appreciable. It was unfortunate that this psychological handicap should synchronise with the Economic Depression, for during the decade following the Depression, several artisans, finding it hard to run their trades independently, chose to take service under some capitalists. The rising prices of raw materials during the early part of the recent war were as detrimental to the interests of the artisans, as the falling prices of finished products during the preceding decade.

Does this unsatisfactory back-ground augur a bright future for cottage industries in our country? It does, for the success so far achieved is not discouraging. Even as long ago as 1920, Hemingway felt that "co-operative societies of all kinds are found to be admirably receptive of new ideas for the improvement in the appliances and methods of their members' occupations whether agricultural or industrial". The Townsend Committee opined likewise; and the Madras Committee of 1939-40 "are satisfied that cottage industries have a future, an expanding future and that the co-operative principle has a large part to play in their development". My own impression which is a result of my tour in the Coastal Andhra districts is that there is a very vast scope for co-operative activities as well as a very great desire on the part of many an artisan to "try" co-operation. Wherever I went, with the exception of a few ignorant individuals, artisans were desirous of having co-operative societies. But the peculiar feature was that they wanted somebody to organize them. It is really quite possible even now for enthusiasts to organize

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co-operative societies for the textile printers of Narsapur (West Godavari district) and Masulipatam (Krishna district), the coir makers of Muthyalapalli (West Godavari district), the poultry-keepers and fishermen of the Kolleru lake villages, the lapidaries of Masulipatam, the dairy-women of many deltaic tracts of the Andhra districts, and several others who are now exploited by unscrupulous middlemen.

Experience in the co-operative field has shown that it is more difficult to organize producers' societies than to organise consumers' ones. It is said that this accounts for the relatively small expansion of producers' movement in America. But for India which is of a different economic system this task of organising producers' societies is inevitable in spite of all difficulties. It is gratifying to learn that the Madras Government is considering the matter of organising and developing cottage industries on co-operative lines since imports from abroad have fallen as a result of war.

Since the move to take advantage of the present situation has come, it is now necessary to take into account the following problems, on whose solution the future lines of work depend.

(1) *Industrial Surveys*.—The existing survey of cottage industries in our province is old and incomplete. Many important industries like dairying, poultry, and bee-keeping have been omitted. Moreover many industries like cement works, hand-stick making, hosiery, and oils and paints have come into existence during recent years. And the War has brought many more. Hence a complete survey is essential.

(2) *Capital*.—This problem is of a varied nature as shown below :

(a) Artisans usually borrow cash for the purchase of raw materials, *etc.*, but are obliged to utilise it for other purposes.

(b) Credit is usually given on personal security and not on that of raw material like cotton or finished products like cloth.

(c) Capital requirements vary in amounts with each industry. For instance, an iron-safe maker or a hosier who applies machinery requires larger amounts than the village society can often afford to give on personal security.

(d) The problem of repayment is knotty. The income of the artisans is not regular but dependent on the seasonal demands for products. Again in industries like iron safe making and bronze bell and image casting finished products are paid for and taken delivery of only on auspicious days and so regular payment is not possible. Moreover some industries require long term loans. Sometimes when the artisans have money on hand, the sowcar on whom they partly depend pounces on them and takes away the money, thus leaving them little to pay to the society.

(3) *Organization*.—This problem comprises the following minor problems :

(a) The artisans of a locality distrust one another so much that they want an outsider to organise them into a society. Unfortunately this ugly situation is sometimes rendered uglier by the patronizing attitude of the Co-operative Department.

(b) There are several minor industries like rattan work, horn work and button making, which are scattered

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here and there. They differ from one another in many respects and yet need to be organised into one co-operative unit.

(c) The weaving industry is decentralized, but the spinning industry is almost localized. The transport of yarn to important weaving areas like the Coastal Andhra is expensive, in consequence of which circumstance the weavers of that region are unable to compete with the South Indian weavers. Hence the spinning industry must be started on co-operative lines in the Coastal Andhra, *Rayala seema* and other such regions.

(d) Two important industries, *khaddar* and hand-pounded rice, are rapidly developed as a result of popular sentiment, but they are running mainly on capitalistic lines. They afford a very large scope for expansion on co-operative lines.

(e) Poultry and dairying industries are exclusively carried on by women in many districts. Since the male members of the families do not take any interest in their development, some outside agency must organise them into a society.

(4) *Marketing*.—(a) Some new industries like hand-stick making and oils and paints have low cost of production and decent margins of profits. They require a society only for marketing their products.

(b) Certain industrial products like cloth are not thoroughly standardized in quality even in co-operative societies. Some standards must be fixed and strictly enforced.

(5) *Administration*.—

A. *Internal*.—(a) The democratic principle of the societies usually degenerates into the principle of oligarchy.

Societies are often managed by a small clique in utter disregard of the opinions of the other members, but when a crisis occurs the smaller men are victimized.

(b) There is often a tendency on the part of the industrial aristocrats of the locality to look down upon the local society as a group of rebels and to try to harm it with the aid of some black sheep.

B. Departmental.—(a) The artisans are under the impression that the Industries, Co-operative and Agricultural Departments are indifferent to their progress. It was reported to me that some improved weaving appliances were supplied to a certain society without any instructions as to how to use them. A certain officer told me how the propaganda for the introduction of a new industry was hampered by the refusal of the concerned departments to supply him with the necessary appliances for demonstration which the artisans demanded.

(b) There seems to be a lack of co-ordination in the policies of the Development Department; for instance, as I was told, an order is placed with some artisans by the Industries or Co-operative Department but the goods produced are not taken in time by the Departments for which they are meant.

(c) The Government supervising officials are often reported to have interested themselves in the politics of a society.

The above are the general problems which were placed before me by the artisans of the Coastal Andhra. Their talks disclosed a general lack of confidence in the working of the societies under existing conditions, though they were unanimous in acknowledging the suitability of co-operation

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to the country. It now follows that a successful solution of these problems is the key-note of success of the producers' movement in India. This solution means a reorientation of the industrial and co-operative policy of the country. I shall here venture to offer a few suggestions:

1. *A re-adjustment of the spheres of certain large scale and cottage industries.*—The two largest industries in any country are food industry and clothing industry. Though the former is larger than the latter, India has been obliged to pay greater attention to her textile industry on account of the huge drain on her purse caused by imports of foreign cloth. The ceaseless toil of the country for the past three decades has brought the situation well in hand. So it is time that India paid greater attention to her food industries.

A. Food industries.—Food industries like cereals, flour and confectionery are run as large-scale industries and on capitalistic lines. It has been realised now that this system has not only thrown many people out of employment but also been the indirect cause of malnutrition in the people. Popular sentiment which has recently begun to develop in favour of home-pounded rice and home-made flour and the like, as a result of medical researches, the difficulty in importing mill machinery at present, the prohibition by the government of production of polished rice, and the poor keeping quality of unpolished rice and its flour produced on a large scale have favoured the development of these industries on cottage lines. Since these industries are certainly more remunerative than the *khaddar* spinning industry in the deltaic regions, many able-bodied spinners will do well to take to them. These industries are not at present run on co-operative lines. In 1940-41

there were only two co-operative hand-pounded rice societies of importance whose annual sales were about four thousand rupees. Local societies with district federations and provincial apex bodies may be organised with advantage for these industries:

Fruit canning, pickles and jams, oil pressing, poultry, dairy and bee-keeping are some other food industries fit for being carried on on co-operative basis.

B. Textile industry.—This may be considered here for it comes only next to food industries:

(a) Mill yarn handloom weaving.—Handloom weavers are at present under a great handicap due to the indifference of the capitalistic mill owners in the matter of yarn supply. Hence they will do well to have co-operative spinning mills for important weaving centres. Another form of co-operation in weaving is the joint ownership by about five weavers of a single power-loom. Weaving can be done by the weavers by turns every day and the rest of the day may be spent in marketing the products and so on.

(b) Khaddar.—The *khaddar* industry is now run on capitalistic lines by the A.I.S.A. and several private producers. The A.I.S.A. is over-solicitous, while the private producers are unscrupulous. In its eagerness to help the artisans the A.I.S.A. is unmindful of the conditions of the textile market while the private producers do not scruple to exploit the artisans in accordance with the market conditions. Only co-operation is the best remedy for this state of things. The A.I.S.A. should transform itself gradually into a federation of co-operative societies organised separately for spinners and weavers. The artisans will then feel that the societies are their own and that

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they should strive to better their conditions. The popular sentiment in favour of A.I.S.A. will be an asset to the newly formed societies.

Events seem to tend towards this end:—In 1930 the A.I.S.A. expressed itself in favour of decentralisation. And in 1941-42 financial difficulties pressed the A.I.S.A. to take the significant step of asking the artisans to contribute small sums towards capital. This is a helpful sign. And it is to be hoped that co-operation will soon take the *khaddar* industry also into its fold.

C. Other Industries.—There are scores of other industries which are individually smaller than the above two industries; for instance, metal work, rope making, paper making and toy making. They are all important in their own way for they are helping to replace some factory made articles. Some of them are so small and scattered that they cannot be organised except in groups.

2. *Better production.*—The people should be made to give up their mutual distrust and join hands in mutual good faith. Propaganda and education must be pursued not as routine work but as a matter of conviction. The Government instead of evincing a supervising attitude should volunteer its services.

(a) *Capital.*—The Government should aid some societies substantially. For instance, for the promotion of co-operative spinning, the Government through the local bodies may invest capital (since the capital forthcoming from the weavers will be small) and supervise it in such a way as to enable a smooth running of the industry. Since the present Co-operative Societies Act does not admit of this state co-partnership, the Act may be amended.

to this effect. It need not be considered impracticable in view of the fact that the Registrar of Co-operative Societies, Madras has induced several mills and central banks to buy shares in co-operative societies.

(b) *Production*.—Small power-driven machinery can also be used co-operatively in the case of some important industries.

3. *Better Sales*.—The ways and means of selling—advertisements, exhibitions, museums and the like—are not unknown. Only they are not taken full advantage of. For example, industrial museums introduced during the Congress regime are now virtually defunct. They have become merely displaying places of 'museum pieces'. If all these means are properly adopted the outside market may be easily captured. Local unhealthy competition may be eliminated if all the artisans are enrolled as members.

4. *Better Living*.—It is a truism that despite the general absence of better living in the land, the factors conducive to its attainment are not unknown. Hence there is no need to dilate on it.

The present trend of the co-operative movement is to combine all the activities of the members. The multi-purpose society is evolved to attain this end. This type of society has been criticised of late by some people. But has been found fairly successful in Bombay, U.P. and elsewhere. In Madras also it is being tried at Alamuru and other centres. This multi-purpose society may be constituted to combine the various activities of one large industry (as a vertical combination) or the activities of a group of small scattered industries in each locality (as a horizontal combination).

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What then are the respective spheres of activity of the people and the Government towards co-operative development of cottage industries? The scope of work of the people has been too often explained by leading co-operators to need mention here. Suffice it to say that the people must have the will to elevate themselves by co-operative action. They must put heart and soul into their work and then success is theirs. Young men who have the necessary technical education and equipment should give the lead by starting some new industries or improving old ones co-operatively using improved appliances like machinery as in many western countries.

But the aid which the State can render needs to be mentioned here. The Government can assist by:

(a) Co-partnership in certain costly but essential industries for the benefit of the artisans;

(b) Purchase of articles produced by co-operative societies;

(c) Supply of electricity at cheap rates for industrial purposes;

(d) Opening technical institutes at many centres for training young men since apprenticeship is not possible under present conditions;

(e) Giving free technical advice and new designs and patterns which the artisans may not be able to obtain otherwise.

If industries are developed on these lines there will be scope not only for employment but also for living a good and a full life.

The co-operators the world over, are hopefully rejoicing that the latter part of this century will be a new age of man characterised by social co-operation. If India is to share the same hopeful joy she must justify her position by working in right earnest even from now.

XIII. INDUSTRIES IN NEW INDIA

SH. GHULAM GHOUS

To write on any technical subject requires longer time and space. So I give here general hints for persons interested in these lines.

If a person is to start any industry he should look if there is a fair demand for his produce. Again there are certain articles which are necessities of life and there are some which can be avoided, for instance toilet articles. The English when they first opened their shop at Surat created a market for their articles of luxury by purposely allowing people to steal them. When the people were accustomed to use them they were obliged to purchase. So when one starts any industry he should enquire scrutinizingly if there is any market for it.

In the present times there is an ample scope for home industries especially for those which are articles very necessary for the present life; for instance, cloth of all types, chemicals, pharmaceuticals, writing materials, *etc.*, I give some technical and secret information for some of the following industries.

Cloth.—Cloth is a necessary article for life. No cloth manufacturer will find any difficulty in its sale. But did you ever think, why we cannot produce snow-white cloth without bleaching chemicals. Water has its effect on cotton yarn and this is the chief cause of its muddy colour. In England people felt similar difficulty which was removed by opening factories all round the river Avon.

In Kashmir we have lot of such waters which give the same results. In Muzaffarabad district there are certain

drugs which they use in bleaching wool. There is a great scope for cloth manufacturers to start this industry in Kashmir State. Similarly there may be other places in India. Try and you will discover. Pakistan is getting one source of a such a water on Kangra side, but there may be some in U.P. near hills also.

Writing Materials.—The second class of things which are as necessary as cloth, are writing materials like pencils or inks. There are many factories in England and America which supply us, and there is a great scope for thousands of such factories here. When I commenced my research work on pencil making I found that Indian manufacturers do not know the secret processes of deflocculations. The people who use Kaoline and graphites use them after purification only. The proper use of chemicals is unknown to them also. A Lahore manufacturer is using wax which is now unknown in all good foreign makes. The result is that most of the factories cannot make good leads, and so there is still a great demand for foreign pencils. We have another difficulty in India: we have no good wood for this industry. Will Hidustan and Pakistan Governments try to grow *Juniperous Virginiana* (Cadare-Virginian Red)? Both these Governments possess climatically suitable places for their growth. Persons desirous of starting this industry may read my *Secrets of Pencil-Making* which will be printed shortly.

A very important article in writing materials is Blue-black ink. For those who know chemistry, it is very easy to make. There is a secret process, however, for introducing iron into water in atomised condition. The present method of using Ferrous Sulphate and Tannic Acid has now been replaced by a cheap method of intro-

ducing iron directly into water. This method is a trade secret. Ink by this method may cost one anna for one pound of writing fluid. I have discovered this secret method which the lay reader may not understand.

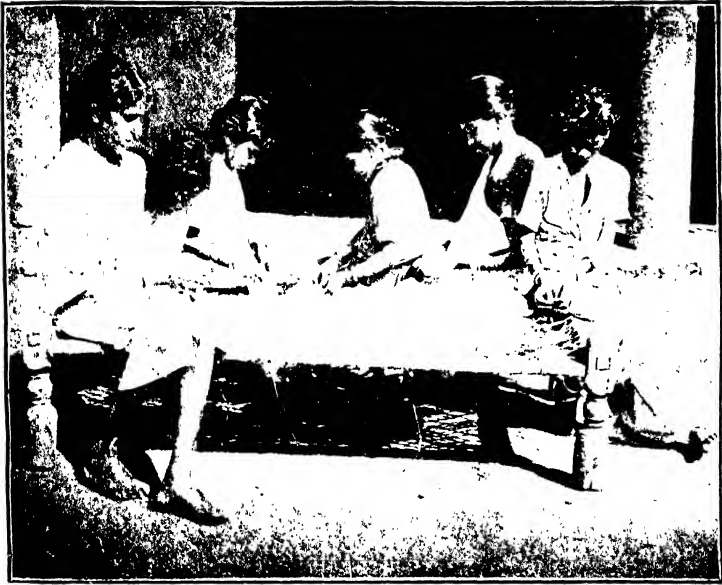
There are many other articles of writing materials like school slates, which may be manufactured with great profit. German 'Emeta' type of slates were considered to be the best. Indian manufacturers started this industry. They used some hard material like fine sand, of Barium Sulphide, *etc.*, in black varnish. After drying, slates were heated a little in ovens. These slates were not durable and therefore all the factories are closed now.

Other writing materials like fountain pens, *etc.*, can be manufactured here also, but unless India begins to produce acids, celluloids, and alloys like 'pen metal', *etc.* I do not advise them to start them.

Agricultural Industry.—The third is a class of articles which comes under the *Agricultural Industry*. Till to-day this line was developed to produce grain for food or cotton for Lancashire. There are thousands of articles, which the agriculturists can easily produce and they are very important for present day life. For instance milk-powder, gallilith, artificial horn, buttons, starch, dextrine, glucose, industrial alcohol, wooden articles, wood spirit, and chemicals derived from it, *etc.* Both Hindustan and Pakistan can start such industries with great success and there is a great demand for these things also. I can supply German secret methods for making any thing to persons who are interested in them.

As far as our Kashmir State is concerned, we have several lines which can be developed by capitalists. I will be glad to supply information about them.

ANDHRA FINE SPINNING
(Some important processes)



1. Drying and Sorting of *Kapas*.



2. Fish-jaw cleaning



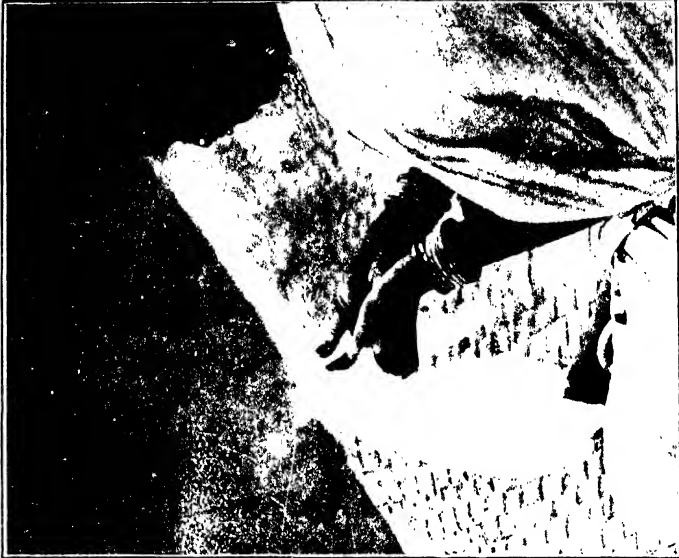
3. Ginning



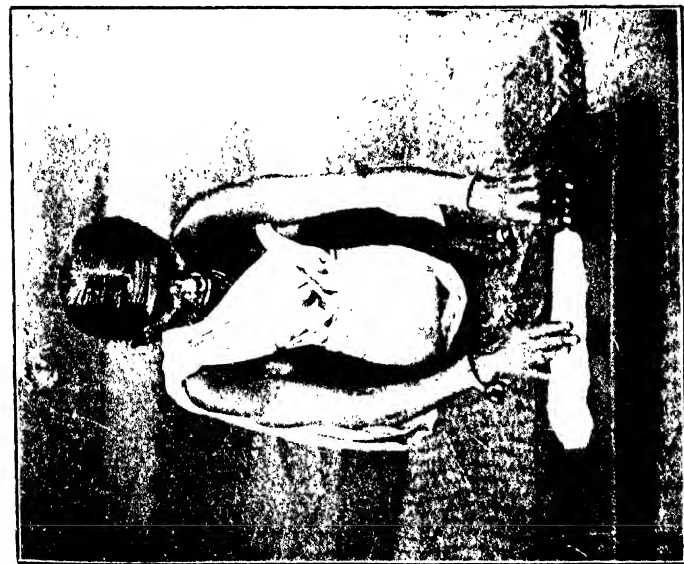
4. Separating lint



5. Cleaning lint of Seed-heads and dust particles.



6. Paralleling.



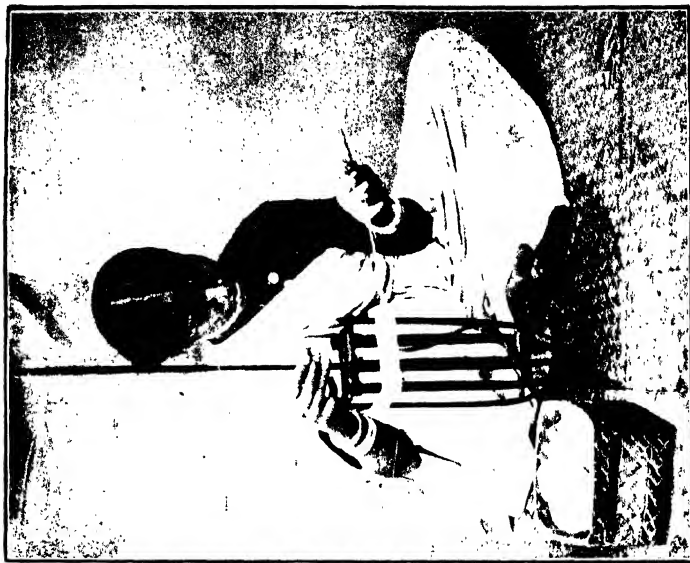
7. Slivering.



8. Spinning.
(Blind spinner of Bonthala koduru in Andhra).



9. Spinning.



10. Winding by Spinner.

COTTAGE INDUSTRIES OF INDIA

SECTION IV—IMPROVED PRODUCTION AND ORGANISED DISTRIBUTION

A. PRODUCTION TECHNIQUE

I. TECHNICAL IMPROVEMENTS IN HANDSPINNING

ALL INDIA SPINNERS' ASSOCIATION, WARDHA

Ever since the commencement of the Khadi movement in 1920, Khadi workers have been paying attention to the improvement of spinning and weaving implements. It is necessary to make some modifications in the implements used for ginning, carding, spinning, weaving, etc., in villages from very ancient times. Without such modifications, no progress is possible in the Khadi movement. When Khadi workers realised this necessity, the first attempt at this reform was made in Sabarmati Ashram under the direction of Maganlal Gandhi. Later on experiments in improving the Charkha and other implements were continued in the workshops at Bardoli, Nalbadi, etc. The All-India Spinners' Association, opened a separate Research Centre to carry on experiments in the technical improvement of handspinning. This was followed by the opening of many more Research Centres by the Provincial Branches. As a result of these attempts, many technical improvements were effected in Khadi implements. Khadi which in the initial stages was thick and coarse, giving a sort of ugly appearance to the wearer is now entirely different ; it is fine and smooth and definitely good-looking. No doubt the valuable experience gained by workers also is responsible for this improvement ; but it must be admitted that the improvement noticed in the strength, evenness, appearance, quality, etc., the ease with which the workers are now working, the increase in the speed of spinning and

weaving—all these are mainly due to the improvement of the technical implements.

Some people fancy that as a result of these improvements implements can be made to match mill parts and Khadi can be produced almost at the mill-speed. But this fancy can be indulged in only by those who do not understand the object of Khadi. If Khadi implements are to be improved and converted into machines which can match the mills, then why not use our mills themselves? The various machines in the mills are the result of long researches of thousands of scientists. If only such improvements are to be effected in Khadi implements also, then why not straightaway accept the machines of the mills? We wish to make it clear that the technical improvement of Khadi implements is for entirely different reasons which can be outlined as below :—

1. To make the required implements from local material and craft ;
2. To simplify the implements so that the workers in the village can handle them without any special training, and repair them when necessary ;
3. To lighten the implements so that one man can singly work with each of them, eliminating very heavy implements which extract too much of labour from one man or which require either many men or animals or steam or electric power to function ; and
4. To suitably improve only the existing popular implements and make them strong, efficient and simple to handle ; but not to introduce altogether new implements in place of the old ones.

In addition to the above, another point also had been kept in view in effecting improvements. That is to make the simplest possible implements which everybody can easily handle, which will be cheap and which will not occupy much

IV] IMPROVEMENTS IN HANDSPINNING

space. It does not matter if because of them even the rate of production comes down. It is enough if they satisfy the aim of self-sufficiency in cloth. Such implements that do not take much time to arrange, that are light and do not occupy much space are very necessary.

Thus we find that improvements are necessary from two view points :

1. From the point of view of those who do Khadi work for wages, and 2. From the point of view of those do Khadi work for self-sufficiency in cloth. Let us now consider these improvements one by one :—

GINNING.—In the production of Khadi, cotton undergoes many processes before it is woven into cloth. Of these processes, ginning is the first. Different kinds of ancient ginning implements were in vogue in different provinces. There were two small rollers, either both wooden or one wooden and the other made of iron, in them. There was the provision of wedges also to increase or decrease the pressure. Because of the small size of the rollers, the speed of ginning was low. The imperfect provision for pressure made it very difficult to separate the seeds from the cotton. Experiments were carried on in Bardoli, Nalbadi and other places on these old implements, after which some new ones were designed in which instead of both the rollers being made of wood, one was made of wood and the other of iron. The size of the wooden roller was kept bigger than that of the iron one. As a result of this for each revolution of the wooden roller, the iron roller revolved thrice and thus the speed of ginning was increased. With the old implement we could hardly get half to 1 seer of cotton ginned per hour ; but now we easily get one and half to 3 seers of cotton ginned with the new implements. With a view to get better grip on the cotton, octagonal and cylindrical rollers were tried and octagonal

one proved effective. In the case of the cylindrical variety we have to cut cross-groves to get good grips. This results in the spoiling of the fibres and the possibility of breaking the corners of the cotton seeds. The wedge system is good for adjusting the pressure between the roller and the axle. But in the Bardoli Ginner, the wedge has been substituted by a screw, by tightening or loosening which the pressure can be increased or decreased. But in view of the difficulty in manufacturing the screws in the villages, the wedge-system is preferred. The wooden roller was thick at one end and tapering at the other in the case of the old ginner. There were friction and slips between the rollers due to this. Therefore in the new ginner the wooden roller and the iron rod are of uniform size at both the ends. The want of seat for the ginning worker in the old implement is rectified in the new implement by the provision of a seat. The seat has been so arranged that it rests firmly without moving either side, by the weight of the worker. In the case of the old implement, either big stones were used as fixers or the implement itself was fixed well to the wall to prevent movements while ginning. It was found that the speed of ginning varied with the softness or the hardness of the cotton (cotton which is easily separated from the seeds is known as soft cotton, and that which is difficult to separate is known as hard cotton). The Nalbadi ginner is considered to be good in the case of hard cotton and the Bardoli ginner in the case of soft cotton.

Besides these implements some mechanical gidders also, as used in factories, were experimented on and one such was even designed and made in Sabarmati. That is worked by the pedal system like the bicycle. Cotton is cleared on one side. The chain, ball-bearings, etc. of the cycle are made use of in that instrument. But it is not used because it is not constructed according to the principles of the Khadi movement.

Salai Patri (Roller and Plank).—The big ginner which is described above is good and useful for ginning on a large scale, but not for self-sufficiency in cloth. For self-sufficiency in cloth one must gin 3 to 4 tolas per day; and he does not want such costly instrument with a ginning capacity of 2 to 3 seers. Then a big carding implement is required to card the cotton ginned by the big ginner. All this is unnecessary. Therefore 'Salai Patri' is devised for the sake of those who only want to attain self-sufficiency in cloth. It consists of only two things—a wooden plank measuring 9" x 3" x 1" and an iron rod 1' long. One or two clusters of cotton are placed on the plank and the rod is rolled on by the palms. Thus the seeds are separated from the cotton. Cotton thus ginned becomes very loose. So it is carded with a small bow or the hand and slivers are made easily. Even for carding on the bigger implement, cotton ginned on the *Salai Patri* is very good. Then the slivers also are better. *The Salai Patri* is cheap and can be made at a cost of 10 to 12 As. With this 10 to 15 tolas of cotton can be ginned per hour.

CARDING.—Carding is the process next to ginning. The big carding bow was in use in the initial stages. But it was not good for carding. It could be used where yarn of 5 or 6 counts was wanted. Therefore in Sabarmati Ashram a new type of carding instrument was designed which was only an improvement on the old big instrument with the additional advantage of being of medium size. A thin string and a small striker were also used in carding with the instrument. Carding and making slivers was possible with this instrument at the rate of 10 tolas per hour. To-day this medium sized carding instrument alone is considered to be the best for Khadi production.

During the 1930-32 movement, when workers began to propagate carding and spinning, a smaller and easily

portable carding instrument was needed. The medium carding instrument has to be hung from a bow while carding. So it requires some considerable space. Therefore another smaller carding instrument was made which could be held in the hand while carding. The carding capacity of this hand-carder is 5 tolas per hour. The string is very thin here and we can make slivers with this which can be used for spinning yarn of 30 or 40 counts. This instrument is useful to small school-children too.

Bow Carding.—Both the above types of instruments were found to be too heavy for self-sufficiency purposes. Therefore Acharya Vinobaji conducted some experiments to devise simpler methods of making slivers, as a result of which carding and making of slivers came into vogue. In Andhra and some other places, the method of making slivers was in existence. With some modifications, the method of carding with the fingers or bamboo sticks came into practice. By this method it takes only seven minutes to make slivers for one hank of yarn. The method of ginning on *Salai Patri* and making slivers of that cotton also became prevalent. It is only a question of ginning here and no time need be wasted in carding. Even though the slivers prepared on *Salai Patri* cannot stand comparison with the slivers prepared after carding, they are all right for coarse yarn.

But the bow-carding method is decidedly more useful than both these methods. As in carding and slivering, the cotton is ginned with *Salai Patri* and the fresh cotton is loosened with a small bow. The loose cotton which attaches itself to the string of the bow is separated and stretched by the fingers and made into slivers. Barring ginning, the speed limit of bow-carding approaches 5 to 6 tolas per hour. The slivers thus made are also good. The only appliance used here is the small bow made of bamboo strip.

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There is not even the question of spending for the string ; only the twine of the charka or some such thin twine is used in this case. This has proved to be the best for those who spin for self-sufficiency in cloth. This above is being popularised now.

The Carding Machine.—For carding well on a large scale, a machine was designed in Sabarmati workshop after the varieties used in mills. This is worked by the feet. Its construction is of a screw type, as in the case of the Ginning Machine. The cost is very high and it is very taxing also to work it. Therefore, it was not considered to be desirable for *Khadi* work. Still it has become a little popular in Gujerat.

CHARKHA.—A new *charkha* was made in Bardoli with certain modifications in the old ones. It is known as the Bardoli *charkha*. The wheel in it is kept big to increase the speed of spinning ; there are brass bearings in it to ensure smooth and light movements ; the whole build is scientific to make it strong and avoid rocking while in action. All the parts are well-measured and accurate and fixed at proper distances and in proper directions. The spindle and the axles are made of good steel ; the leather pieces are of new type. These new modifications have removed the defects of the old *charkhas*, namely the slipping of the belt, the rocking of the *charkha*, the shaky vibration of the spindle the heavy movement of the wheel, etc. These peculiarities of the Bardoli *charkha* have been incorporated in the *charkhas* of other provinces also retaining as far as possible the different local forms. The cross-spindle method was adopted in the Savali *charkha* of Maharashtra. This enabled the easy manipulation of yarn and checked it from slipping from the spindle. The usefulness of this method commended itself to others and the method has been adopted in other *charkhas* too.

The two wheeled *charkhas* became popular in view of the ease in handling and comfort in carrying them during tours. Some had flat wheels and some vertical wheels. But since the belting arrangement was not satisfactory, they could not become very popular till 1930. Gandhiji carried on some experiments with these *charkhas* during his incarceration in 1930-32. He preferred the flat *charkha* to the vertical one. Some people had made no provision for fixing springs between the two wheels and the bend to ensure firm belting. They were incorporated in the new *Charkha*. After this improvement, the two-wheeled *charkha* became very satisfactory. Encasing it in a box, using slipping twine instead of leather, etc. were other improvements on it. Since this *charkha* was designed in the Yerrawada Jail, it has come to be known as the Yerrawada *charkha*. Good in appearance, protected since it is encased in a box, scientific and strong in build, good for speed and fit for spinning fine uniform and durable yarn, this *charkha* has become very popular among urban spinners.

To reduce the price of the Yerrawada Charkha still further, it was mounted on a plank, instead of encasing it in a box. This is known as the Kisan *Charkha*. Being simpler and stronger in build and cheaper in price than the Yerrawada *charkha*, this has become very popular in villages. But some iron parts have to be used in both the Yerrawada *charkha* and the Kisan *charkha*. The lathe is necessary to make its wheels, axles, etc. Therefore, the village artisans cannot make it. Hence the use of this *charkha* is not considered to be proper in rural parts.

When the Spinners' Association decided to pay the workers living wages, it became necessary to pay special attention to their efficiency and to improve their yarn. This was not possible with the old *charkhas* and it was very

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expensive to provide them with new *charkhas* in the place of their old ones. Therefore their *charkhas* also were provided with speed wheels as in the case of the Yerrawada *charkhas*. Then the rotations of the spindles and the capacity of the spinners increased. Thus the provision of the speed wheels in the vertical *charkhas* also came to be made.

Attempts were made to provide for two spindles in the *charkha* with a view to increase the spinning output. As a result of these, two kinds of Magan *charkha* were designed on the treadle and the pedal types. This enabled the increase in the spinning output by $1\frac{1}{2}$ to $1\frac{3}{4}$ times. But it requires skill to spin on these *charkhas*; more labour also has to be put in. Apart from these considerations, the size is inconvenient and the cost prohibitive. Therefore, they could not become very popular.

In this connection, the Spinners' Association announced a prize of Rs. 1,00,000 for an improved *charkha*. The conditions attached to the award of the prize were :

1. That the *charkha* should be capable of spinning 2000 yards per hour.
2. That its price should not exceed Rs. 150 and
3. That it should be capable of being repaired in villages.

Many mechanical *charkhas* were designed for this reward. Among them the *charkha* designed by Sri Kale of the Kirloskar Factory deserves special praise. The whole *charkha* is made of iron. There are eight spindles in it and there is also provision in it for automatic carding and making of slivers. But because of its excessive cost and complicated mechanism it could not be accepted. The other *charkhas* also were found unsatisfactory for similar reasons. The announcement of this prize has now been withdrawn since mechanical *charkhas* are not in accordance with *Khadi* principles.

THE DHANUSH TAKLI.—Sri Bharatanand, a Polish resident staying with Gandhiji designed a new instrument called the *Dhanush Takli*, cheaper and simpler than even the *charkha*. The spindle is set on leather pieces and the instrument mounted on a small wooden plank. A bow with a leather strap is used to revolve the spindle while spinning. There is provision to maintain the speed imparted by the strap. To ensure friction, the strap is coated with a rough paste. It is so simple that anybody can make it. It does not cost more than 10 or 12 as. and the speed also is not much inferior to that of the *charkha*. But it is difficult to spin on this for 4 or 5 hours at a stretch, because it requires much energy to work with the strap. Frequently it gets out of order too. Improper resin, loosening of the strap, shaky vibration of the spindle and many such defects are responsible for its not being as comfortable for spinning as the *charkha*. So this instrument also could not become very popular.

THE TAKLI.—The easiest and the cheapest instrument for spinning is the *Takli*. The discs of the old *Taklis* were of stone and the spindles of bamboo. They were improved further and brass discs of correct weight and iron spindles were used later. Provision was made for a hook in the *Takli* with the result it has become good in strength and speed. These brass *Taklis* alone are in vogue today. No doubt the lathe is required for making these discs; but these small things can be made in any place and easily sent to any other place. They have to be produced on a large scale too and so the use of the lathe in the making of the *Taklis* can be overlooked.

Any kind of yarn, fine and coarse, uniform and durable can be spun with the *Takli*. It can be worked even during discussions and debates in meetings and conferences. Even though the speed of the *Takli* is somewhat less than that of the

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charkha, it is the best instrument for attaining self-sufficiency in cloth. Acharya Vinobha has brought into vogue new methods of spinning by revolving it on the shin and thigh because of which the speed of the *Takli* has been considerably improved. It has proved to be useful to school children too.

Correction of the spindle.—Whatever the improvements effected in the *charkha*, all our efforts will be in vain if the spindle is bent. The bent spindle often cuts the yarn and thus spinning becomes very difficult. Old spindles were made of ordinary iron and so they used to get bent very often. To avoid the bending, the spindle is now made of steel needles. But still due to mistakes, it is sometimes bent and not perfectly straight. It is essential to correct it before giving it to the spinners. In the initial stages, the correction was done mainly by an estimation by the eye. Only a select few could do this. But now an easy method is known to us for correcting this bend. The spindle is kept horizontally on a frame and is gently rotated, marking on it with chalk at the same time. At places where the spindle is bent, the chalk-mark is not clearly formed. This bent portion is then corrected by hammering it on the anvil suitably. This is so easy that anybody can do it with a little practice. This must be regarded as an important improvement to the implements of handspinning. The *Takli* also is corrected in the same manner.

The improvements so far made in the implements of ginning, carding and spinning have been described above. Let us now consider the implements of weaving. So far no notable improvements have been made in the weaving looms from the point of view of *Khadi*. The handlooms and shuttlelooms were already in existence ; setting up looms in pits or in frames was also popular before. They have been wholly adopted in *Khadi* work. The tendon, comb,

shuttle and such other parts of the loom are all still in use. No necessity has been felt to make any modifications therein. But quite a number of experiments and improvements have been made in the process of weaving. The unwinding of yarn, the preparing of the warp and the weft and such other processes have been modified in accordance with the requirements of *Khadi*. Many other improvements also have been made in weaving, details of which need not be gone into here.

The main objective of *Khadi* work is that all the processes in the production of *Khadi* must be such as can be done by everybody easily at home and at leisure. In other words, the object of making improvements in the implements of *Khadi* has been to devise instruments which are useful, handy, cheap, simple and easy to make from local material with local talent. There is not much scope in *Khadi* implements for mechanical or complicated parts.

In Africa, the "takli" is used widely even today to spin cotton. The Africans learned this method of spinning, many centuries ago, from the Arabs, who had learned it from India.

II. SCREEN PRINTING

S. RAMANATHAN

Screen Printing or to give it its American name "*Silk Screen Processing*" or "*Serigraphy*", is little known in India. To the extent it is known it is thought of only as a method of textile printing which is a half way house between the ancient handicraft of printing cloth by engraved blocks of wood and the modern power driven cylinder printing machine of the mills. While textile printing is undoubtedly one of the many methods of application of the silk screen process, its real inwardness is that it is an art form like painting, the drama and the cinema. It is a modern addition to the armoury of graphic art.

One picture is worth a thousand words, as the Chinese say. Screen printing multiplies pictures by the million. Man is not content with producing one work of art. His very pleasure at the production urges him to continue the process. He wants to continue to draw, to paint. He strives to reproduce his pictures over other media, at other places, and at other times. Like every human faculty, art is not content to be self-satisfied and static. It is an activity, a process of continuous exertion and ceaseless toil. The urge for duplication, for reproduction of works of art, has led to the discovery of engraving, printing, lithography, photography, etc. Serigraphy is in that line of discovery and is meant to fulfil the need for reproduction of not merely the form but the colours of the original. It is a handicraft with the distinct individuality of the artist imprinted on it as distinguished from the product of the printing press.

which carries with it the full monotony of the factory assembly. The original works of art can be owned only by the elite, the very rich, and are not within the reach of the man of moderate means. There is a genuine need for a method of reproducing original in colour for the delight of the poor. Serigraphy meets that need.

Screen printing is really a development out of stencil printing. This art originates from pre-historic times when men inhabiting tropical jungles used to cut banana leaves as stencils for painting on the trees and on the rocks. Stencil printing has developed through the ages with practically no improvements in the technique except in the change of medium from banana leaves to metallic plates. Stencilling is such an easy method of duplication that it finds application in all walks of life. Addressing packages and painting names and numbers on all media are done everywhere by using metallic stencils. But, there is one defect in stencil work which obtrudes on every observer. It is the necessity for leaving unprinted breaks along what should be continuous lines. The outstanding feature of screen printing is the elimination of these breaks in continuity. This is accomplished by the use of screens to which the stencil is affixed as a background. The permanence of the stencil is guaranteed by reinforcement with the screen by lacquering. This feature may be illustrated by a simple experiment. Take a very thin fabric, preferably either organdy or bolting silk, and fix it by nails to the four sides of a wooden frame made like a picture frame. Fix a sheet of paper on a table with drawing pins. Place the frame with the fabric nailed to it over the paper. Now pour over the fabric some thin paint or a fairly viscous ink like cyclostyle ink and spread the ink over the fabric by using the edge of a thick cardboard or a wooden foot-rule. Then if you remove the frame you will find the ink or the paint spread through the meshes of the

fabric and laid over the paper as a thin coating. Now, cut a small circle of paper and attach it to the middle of the underside of the frame. Place the frame over another sheet of paper fixed with drawing pins as before. Again draw the edge of the cardboard or foot-rule over the entire fabric. On removing the frame you will find that this time the thin layer of paint has left a white circle in the middle corresponding to the shape of the cut paper attached to the fabric. If instead of the circular piece of paper you attach any other figure, that figure will be as faithfully reproduced as the circle. The figure need not be cut with ties and the continuous lines need not be broken as it has to be in the case of metallic stencils.

This principle has been incorporated in serigraphy with a lot of technical improvements. Stencils are cut on tracing paper coated with shellac. The cut stencils are then affixed to the screen by hot iron and afterwards reinforced with the screen by lacquer. Of late, stencil material has been discovered which dispenses with the process of lacquering. Instead of cutting the stencils by hand, mechanised appliances are used and pre-sensitised screens reproduce the original designs by the use of the photographic method. These and other improvements in serigraphy are yet unknown in this country. They are largely used in America for painting sign-boards and printing posers and show cards.

Screen printing is superior to printing by the ordinary printing press because high grade shining paints can be used in screen processing while only thin inks can be taken by the printing press. Glossy posters and sign-boards are the results of serigraphy. A variety of *media* including cloth, paper, wood, metal and wall can be printed over by the silk screen. In fact every kind of surface of whatever material or shape, including curvatures like bottles, cups, plates and procelain-ware are fit *media* for screen printing. There

is a special product called Decalcomania consisting of multi-coloured prints deposited on tissue paper which can be readily transferred to any surface by a process of wetting and ironing. Trade marks and patented signs and ornamental designs can be fixed permanently over glass containers, porcelain ware, wood furniture etc., by use of decalcomania.

The process of screening which was originally done entirely by hand is now gradually getting machinised and machinery has been invented for manipulating six or more screens of various colours at the same time. The form of screen printing mostly practised in this country is for the purpose of printing on cloth. The practice is to spread the cloth over tables whose length is between 60 to 80 feet and whose width is between 45 to 60 inches. The tables are usually made of wood but sometimes of concrete. A wooden rail is fixed to one edge of the table lengthwise to support the printing screen. Over the wooden rail are fixed stops, made also of wood, every 18 inches. These stops provide automatic and accurate repeats for the screen. Such accuracy in repeats is impossible in the old method of block printing except with skilful and experienced printers. Indeed, with the introduction of screen processing, textile printing has ceased to be a specialist's job. A beginner after a few days of instruction and trial will do as good a job as a workman with years of experience behind him.

Screens used in this country are made usually of the size 24 inches by 55 inches so that cloth and sarees measuring up to 48 inches width may be tackled. A well-made screen will print up to 2 bales of cloth if properly taken care of. The process of applying colour is done by scrapers or squeegees which press the dye paste through the screen over the surface of the cloth. The squeegees are provided with edges of rubber of about 21 inches length. The tables are covered with a thin layer of an adhesive paste which is prepared by

mixing bees'-wax, rosin and castor oil. The cloth is then spread over the table and held fixed to the surface by the adhesive paste during the process of printing. The paste does not adhere to the cloth when the latter is removed from the table after printing.

Subsequent processes of dyeing, steaming, developing and finishing are the same for screen printing as for every other method of textile printing. While it is not claimed for screen printing that it can compete with the power driven cylinder method employed by the mills for mass production, it is certainly true that for small scale operation where variety and individuality are of importance the screen processing method will always be supreme. While the masses especially in a poor country like India will always go in for cheap machine printed cloth, the richer and the middle classes will prefer to patronise screen cloth which may be a little more costly.

III. SOAP MAKING AS A COTTAGE INDUSTRY

D. SAMBASIVA RAO

In spite of the fact that soap is supposed to have been known as early as the Bible or earlier still, in India, according to her oldest *Sastras* in one of which a preparation for a soap named "*Phenakam*" is given, we have to admit that the soap of today is but an accidental discovery, like so many other discoveries, when kitchen grease accidentally got mixed with ash from the fire-place and a new substance was formed, which proved to be a product of an unexpected nature, and upon which further experiments were conducted in various ages and the modern soap was evolved.

The soap of India made its first appearance in the early days of this century and Madras saw its first soap factory about 1915 as an off-shoot of fish oil refining at Tanur on the west coast, which developed later on into the present Kerala Soap Institute. Those were the days when Government were obliged to make good soap (mostly washing soap) for supplying mainly to the War front etc. as those were the days of the first World War.

Along with the depression that came after the World War the *Swadeshi* movement started in full swing and everything *Swadeshi* was the slogan of the day. Till then the soap that was made on a large scale in big factories in imitation of the foreign stuff imported took a change and alongside with *Khadi* and other cottage industries the making of household soap on the cottage industry basis came into fashion.

Various people devised various methods and experiments were conducted with various materials available in the villages

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and finally the All-India Village Industries Association with its headquarters at Wardha developed and brought into use a soap made entirely from the village soil and the locally available oil.

But one has to admit that this system of manufacture has its own short comings, due to the fact that the process is more laborious and troublesome in comparison with other methods of soap manufacture where caustic soda is got direct from its manufacturers and used. In any country, big or small, the basic industries must be provided to meet the existing demands of its people though not for trade and export, and caustic soda is such an important industrial product, that the manufacture of it cannot be ignored and left over. Besides there is no perfect process for its preparation except that which involves heavy initial outlay for a good factory meaning good capital and efficient labour. When such is the case, surely the basic industries cannot but be provided either by Government or good capitalists and when thus the product is available cheap, there is no reason why one should resort to indigenous and crude methods of its manufacture for the cottage soap.

So taking for granted that one is prepared to use the readily available caustic soda, I am proceeding further regarding soap manufacture on the cottage industry basis : Besides I can emphatically say that when a tolerably good soap for either washing or toilet purposes is required, soap made only with good caustic soda is better in all respects than that prepared in accordance with the other processes where caustic soda also is made by the soap maker from the locally available *sajji matti* etc.

(a) *Raw materials*.—Oils and fats on the one hand and caustic soda on the other are the two important raw materials that are required and the binding medium for these

two is water, which is the most important material. The more pure and soft the water, the better is the product. Hence water is the third important raw material that enters the soap. As a matter of fact it will be more relevant to put water as the first and the foremost of the raw materials that are required for a good soap. Last but not least, is the use of other materials like soda ash and silicate of soda for the toning up of soap when used in smaller quantities and for adulterating soap when used in excess quantities. Having got accustomed to smell soap as we pick up from any market place, before going into its purity or quality for which we rely on appearances, we may add that perfume though left in the bath room only is yet another important raw material.

No single oil or fat will ever give a good soap and so oils must be blended in such a way as to give a good washing or a good toilet soap and one has to take many considerations in blending the oils. The availability and the price form the chief considerations.

Coconut Oil is the important oil in the case of small scale manufacture especially of the cold process type and its usage upto certain percentages is indispensable for any variety of soap made either on the cottage industry basis or the large scale operation. Without using the oil no soap gives abundant lather or lathers freely. Only coconut oil soaps lather very freely and waste away easily though they appear hard and brittle. Besides they tend to remove the natural odours of the skin and body and they lather freely even in brackish waters.

Ground-nut, marote, cotton-seed and other oils of this type give a comparatively softer soap than the coconut oil but these oils do not lather as freely. So they are used for blending and softening the coconut oil and also for cheapening the product as they are much cheaper than

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coconut oil. Marote oil otherwise known as Indian *Chalmungra* gives also a good medicated soap.

Castor Oil is yet another oil of importance that enters soaps especially of the transparent type even though its soap is soft and does not lather freely or profusely. Without castor oil, sugar, glycerine and alcohol there is no transparent soap.

Sesamum oil having more food value, it is very little used in soap making and it is better not to try to use it. So also is the case with mustard oil which has got a peculiar persistent smell also.

Punnai, Pongam, Ganja seed, croton seed, kokum butter and other oils are of regional nature and are available only in certain localities where only they are cheap and can be used with advantage.

Mouha oil and Dhupa fat otherwise known as Malabar tallow are very good for the manufacture of good soaps that carry some body in the lather in comparison with other soaps.

Fats from cow, buffalo, goat or pig can all be used with advantage, especially in toilet soaps as long as sentiment does not come in the way. It is not known why sentiment should come in especially when we are using them to cleanse ourselves, while others are using them in very large proportions for the adulteration of the ghee the intaking of which is a dire necessity which allows no sentiment to come near-about in any way.

Hydrogenated oils that are entering the local markets all over the country are really a good god-send to the soap maker as they are free from bad smell and colour and can be got in various grades of solidity for the making of a soap of choice either for washing or toilet purposes. At least for the sake of the growing industrial needs of India the hydroge-

nation of oils industry is to be encouraged though not for other purposes like causing of the temptation to the ghee merchant who is able to get now in large quantities a product similar to that of ghee which has no smell and which could readily be passed on for-ghee with a mixture of pure ghee in a very small quantity. Of course, cases are there in plenty wherein the ghee merchant of a greedy nature is caught and punished, but when once the temptation exists, no one on earth can ever find a cure for it. Though out of place I suggest that hydrogenation of oils should be allowed only for industrial needs of any country and nothing more.

Now washing soda, soda silicate, soap stone, fullers earth and a multitude of other ingredients are used by the soap maker for adulterating soap. As has been already said the use of the first two up to three per cent. can be considered only as a toning agent for soap as that much of it is not detergent and on the other hand improves the washing qualities of soap and also does not allow soap to waste away freely. But no toilet soap can ever contain these as they are harmful to the body even though in fact many of the cheap foreign soaps that are sold in the Indian markets are prepared cheap with their use as there is no law prohibiting their usage in toilet or other soaps in India as in other countries all over the world.

(b) *Utensils*.—As long as soap is made only for self use, and the idea of marketing does not occur the existing utensils of any moderate house hold suffice for its manufacture. Making soap for the market is quite different from its making for the family needs, where the shape of the soap or its colour cannot be a drawback for its utility, viz. the washing of the household linen and keeping the body clean, cheaper than any other known product. As long as soap is made at home even soap nut, *shékai* appear to be costly and as long

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as one is able to make a good soap with some extra care and is prepared to use the juice of an orange or a lemon or the juice of some acid fruits as a final "ringe" to give a better tone and remove the soapy feeling, I can advocate with pleasure the use of soap as a shampoo for washing hair; for this saves us from all the worries of the breaking of the soap-nut, or the pounding and boiling of the *shekai* paste.

Besides, soap is so cheap and economical, that a cake got for an anna gives four or five shampoos or even more according to the length of the hair, in comparison with the rupee worth of soap nut or *shekai* for the same purpose.

Again coming back to the subject after the long deviation, soap making for the market requires extra utensils like soap frames for cooling soaps, soap cutting tables, soap stamping machines and finally enough of printed matter, card board boxes, wooden cases and the like for appearance and transport for trade.

Soap frame for all purposes is something like a box without the lid, the sides of which can be removed conveniently by removing a few bolts and nuts and can be made of good wood like teak or of iron sheets or, if funds permit, cast in iron.

Hand cutting of soap can be done by a good piece of wire tied to two strong wooden pieces, 8 to 10 inches long and 3 to 5 inches in circumference but the use of the cutting table of the two-way type is very economical and useful.

Hand stamping of soap is cheap though laborious and can be resorted to by getting a good engraver to engrave the required letters on a good strong piece of wood or brass plates fitted to wood as the case may be. Letters may be made separately and fixed to wood also for the same purpose. A small stamping machine of the two wheeled type

with two or three sets of dies is an asset for the small scale soap maker.

Weights, balances, foot rules etc., are other needs and finally one should have a good mixing drum for the ingredients to get mixed up and boiled if necessary, of double the size of the batch that one is prepared to make at a time. A good drum can be got from crude oil drums cut to size half way or so. Another drum of the same size or less for mixing up of caustic soda in water and storing it for a number of batches at a time is also required.

Whether one is making soap for his personal use or for marketing purposes, the use of Baume's Hydrometer for the finding out of the strength or density of the caustic soda solution in water popularly known as lye is recommended, as its strength varies from time to time due to the high hygroscopic nature of the lye (capacity of absorbing water) by which it absorbs water from the air and gets weaker day by day.

(c) *Procedure*.—Caustic soda can be got from the bazaar packed in the form of flakes or small bits or in lumps packed as one big lump. Generally there are drums of either variety available and the solid caustic is cheaper than the flakes. Buying caustic in flakes is more advantageous for the household manufacturer, when he can mix only sufficient quantity every time as and when required, instead of mixing up the entire lot and storing it when he buys it as solid.

Generally one part of caustic soda is mixed in two of water and kept previously for use, its strength verified with the help of the Baume's hydrometer which is something like a milk tester having the figures from 0° to 50° . The thing sinks low if the lye is thin or rises high if the lye is thick and shows 0 if it is only water for testing initial error if any. Generally lye of 35° to 40° B is taken up and used as such for the cold process soap manufacture or diluted as

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desired for the semi-boiled process of soap manufacture known popularly as the hot process.

Caustic lye must be always cold and this must be added to the oil and not otherwise.

The required quantities of the various oils and fats are weighed properly and put in the drum or pan and heated if necessary to dissolve all the solid matter if there is any. Then taking the power of the combination of each of the respective oils with caustic potash (generally known as saponification value, which is given later on) the required quantity of the solid caustic soda is calculated. With the help of the hydrometer the strength of the soda is got and used for the determination of the exact quantity of the lye that is required for the batch.

(i) *Cold process.*—Then for the cold process soap manufacture the lye is brought and added slowly to the oils in the pan in small quantities gradually stirring the contents of the batch with a wooden paddle slowly and steadily. *Never stir vigorously.* Then the oil begins to appear cloudy creamy and begins to get thicker and thicker and becomes whiter and whiter. The stirring should go on for a considerably long time after the whole of the lye is poured in, till the stuff gets sufficiently thick and does not drift away freely from the paddle. At this juncture the colour and perfume that one intends to add is added and stirred. After ensuring about the homogeneous mixing of the colour and perfume, it is transferred to the cooling frames which are got ready previously. Old soap is generally beaten with a wooden hammer till it gets softened and rolled into thick rolls and used as a paste for closing leaky places of the frames especially all the corners as a precautionary measure.

The soap is then allowed to cool and settle for a day or two and the sides of the frame are removed by loosening the bolts, when a single block of soap is got for every frame.

By the help of the foot-rule and in tune with the stamping die the required thickness is determined and marked on the block all round, and by joining the marks, lines at the interval the required thickness are drawn all round the block. Any ordinary nail will suffice for the marking of the lines. Then the thick good wire that is got ready by tying to the bits of wood is stretched by two persons and passed along the lines carefully and firmly, when with each passing of the wire a slab of soap is cut. In the same manner the slabs are cut into bars and the bars into cakes which are finally stamped, wrapped in paper, packed in cardboard boxes and packed for trade in dealwood boxes.

Now after the general description of the process of manufacture of soap by the easiest process popularly known as cold process I shall now proceed with the description of the semi-boiled (hot) process of manufacture of soap for the benefit of its maker.

As a rule the bottom plate, the top plate and the sides of the block of soap that is prepared by the cold process are left away as they are supposed to contain more alkali than the rest of the block. Generally they are scraped away thinly to remove the excess alkali. Besides there will be the bits of soap left over in the cutting of bars and cakes and also at the stamping press. These things shall not be a waste. To convert such accumulated bits into good soap and also to make good soap on a larger scale than that of the cold process at a time and for easily reducing the soap contents of the soap and filling it with adulterations and thereby cheapening it, and also to make particular varieties of soap like insecticides and soft soap for the cotton dyeing and for paper making etc., the semi-boiled process of soap making is a good method. Even the best soap without adulteration can be made in larger quantities by the hot process when the saponification or the mixing up of oils with alkalis and

IV] SOAP MAKING AS A COTTAGE INDUSTRY

forming into soaps can be quickened and completed in the space of a short time, etc., the hot process is useful. Here the coconut oil contents can be reduced to the minimum thereby cheapening it as far as possible.

(ii) *Hot process*.—Now supposing we want good washing soap by the hot process, take the necessary quantities of the oils and fats and the alkalis weighed and keep them ready. Pour all the oils and fats in the pan and heat them on a good flame for half an hour or so or till all the solid stuff like the rosin, fat, etc., gets completely dissolved. Then in the alkali mix the necessary quantity of silicate of soda if so desired and add enough water that generally gets evaporated in the process. Add all the alkali to the hot oils steadily and quickly, stirring vigorously when the entire mass gets hardened easily. Now control the flame and give enough heat till the hardened mass begins to get liquified when a good yellow colour of perfectly formed soap is seen in the centre of the stuff. Then begin to stir gradually and when all the stuff is molten add the perfume and colour, remove flame, stirring vigorously and transfer the stuff to the cooling frames early. If the flame is not controlled properly the soap begins to rise in the pan and gets a hollow in the middle or in various places after it is got cooled in the frames. This is the method that is generally followed by those that make soap by the supposed hot process.

(iii) *Semi-boiled process*.—For the real semi-boiled method of soap making after getting all the material weighed and got ready, the pan is put on the fire and some water and some alkali are added and heated. Then the remnants of soap if any are added to the pan and heating is continued till all those bits melt completely. Then add the fat and rosin of the batch of materials and also some more alkali and water and heat. One must be always sure of keeping the batch alkaline till the end, lest it should get lumpy and

cause trouble. That means adding more alkali than required for the oil you are going to add each time ; that is, the alkali and oil are to be added in various lots and not at one time like the other methods. At each further adding one must be sure that the previous batch of oil has been taken up and saponified completely. Finally add the last quantity of alkali and oil and when it is complete, add the colour, perfume silicate of soda solution or washing soda solution and any other material either for toning up the soap or for adulterating it and cool it for some time before transferring it to the cooling frames.

After giving all the possible information that could be given in a small article of this type and treating the subject as non-scientifically as possible, I will give you hereafter the necessary information for calculating the quantity of alkali and give you the necessary tables for reference with an assurance that any further information on this subject will be gladly furnished and formulae given to various localities or people after knowing the various oils and fats available in their localities with their respective prices. This is only because there is no good of my giving you a formula with olive oil or palm kernel oil or some other oil that can never be procured easily or cheaply in one's locality.

One thousand parts of coconut oil requires 246 - 260 parts of solid caustic potash for becoming soap and so 246- 260 is known as saponification value of coconut oil. The saponification values of the various oils are as follows :—

| | | |
|-------------|----|-----------|
| Castor | .. | 183 - 186 |
| Coconut | .. | 240 - 260 |
| Cotton seed | .. | 193 - 195 |
| Ground nut | .. | 190 - 196 |
| Marote | .. | 203 - 208 |
| Mowha | .. | 188 - 192 |

IV] SOAP MAKING AS A COTTAGE INDUSTRY

| | | |
|---------------|----|-----------|
| Punnai | .. | 191 - 198 |
| Beef Tallow | .. | 193 - 200 |
| Mutton Tallow | .. | 192 - 195 |

Suppose your soaps consist of 100 lbs. of coconut oil, 50 lbs of tallow and 50 lbs. of ground nut or castor oil. On the average, say, 25 lbs., of solid caustic potash for coconut oil and 20 lbs. of caustic for the other two, in all 45 lbs. of caustic potash are required for the total oils and fats of 200 lbs.

But we want to use caustic soda for our soaps and not potash. So divide the amount of potash required by seven (7) and multiply the result by five (5). Why so requires a very great deal of explanation which is not necessary for the present purpose.

Thus 45 of potash means $\frac{45 \times 5}{7}$ of solid caustic soda.

Generally when one part of caustic soda is mixed in two parts of water and cooled, the hydrometer gives a strength of 38° B which is equal to 32.45 per cent. That means in 100 lbs. of solution there is only 32.45 of caustic soda solid; or 32.45 lbs. of soda solid is equal to 100 lbs. of lye. 1 lb. of it is equal to $\frac{100}{32.45}$ lbs. of lye. So if, $\frac{45 \times 5}{7}$ lbs. of soda is required $\frac{100 \times 45 \times 5}{7 \times 32.45} = 99.1$ lbs. of lye is required at 38° B

In a similar manner calculate the exact quantity of lye for the batch of oils and fats you want to use for your soap and to assist you I am giving the percentages of soda in the popularly used strength of lye for the making of soap.

DEG. AS PER HYDROMETER PERCENTAGE OF CAUSTIC SODA

| | |
|----|--------|
| 30 | 23.901 |
| 31 | 24.858 |
| 32 | 25.750 |

COTTAGE INDUSTRIES OF INDIA

[Sec.

| | |
|----|--------|
| 33 | 27.110 |
| 34 | 28.109 |
| 35 | 29.161 |
| 36 | 30.535 |
| 37 | 31.490 |
| 38 | 32.446 |
| 39 | 33.905 |
| 40 | 35.382 |

IV. PAINT PRODUCTS—QUALITY TECHNIQUE

“SODHAN” COTTAGE INDUSTRIES ASSOCIATION

Quality of their paint products and their painting service is the claim of Sodhan—The Cottage Industries Association. The same was recognised by the Government of Madras in their G.O. Ms. No. 1920 dated 9th September, 1940 of the Public Works Department as also by the people as far as our products reached them. It is common knowledge that special quality products are generally hand-made. If mass-production be the boast of the huge factories the quality of product is the pride of the cottage industry.

Let us here discuss to some extent what is called quality. The rule of “Standards of Quality” which is much talked of in the factory world does not apply to the cottage industry. The cottage worker is the man on the spot. He has the privilege of personally inspecting the painting work he has to do. He notes the special requirements of the individual cases and suits his paints to the particular demands of different cases. While the centralised factory can only give certain general-purpose goods, the cottage industry looks to individual needs and prepares its paints accordingly.

Medium.—Medium is the first consideration in paint manufacture. Linseed oil stands foremost as paint oil. Durability of the paint film, weathering properties, elasticity, gloss retention, flowing and levelling of wet paints are some of the essential qualities of paint medium. These indispensable qualities cannot be achieved by the use of raw linseed oil or the boiled oils marketed by the paint factories. They can only be produced by a special treatment of raw linseed oil. Raw linseed oil is heated in copper pots from four to eight hours at 300° C. The oil thickens to a stringy viscosity.

Sodhan C.I.A. have adopted this process of heat thickening of linseed oil in order to ensure the quality of their products. Sodhan's paints are not ordinary bazaar qualities but enamel types. This step may be mentioned as the first important technical improvement achieved by Sodhan C.I.A.

Again Sodhan's experience is that a blend of oils of different viscosities gives better results. Sodhan generally uses blends of four hours, six hours, and eight hours polymerised i.e. head thickened linseed oils in the manufacture of their paints. This adds elasticity to the paint film and prevents cracking.

Incorporation of good quality gums such as copals, and certain synthetic gums into polymerised oils is a third method adopted to make their paints hard drying, and water-heat and acid-resisting. This resistance is further improved by co-polymerisation of linseed oil with the famous Chinese Tung Oil.

Sodhan were the first to try Tobacco seed oil in the manufacture of paints. It is a semi-drying oil. Tobacco seed oil co-polymerised with linseed oil lessens the danger of cracking of zinc-base-paint film, it is said, due to its 60 per cent. content of linolic acid capable of forming chain-polymerides. The three dimensional polymerides of linseed oil are believed to give hard films while chain polymerides will have reinforcing effect upon them.

Utilisation of castor oil which is native to the Guntur District is a fresh attempt of Sodhan C.I.A. In a modified form the oil is expected to take the place of the foreign Chinese Tung Oil which is famous as a varnish oil.

Sodhan have always endeavoured to utilise, in their paints, local oils co-polymerised, blended or modified according to requirements. Soap industry is another line for Sodhan to utilise local oils.

IV] TECHNIQUE OF PAINT PRODUCTION

Pigments.—The solid part of paints, mostly pigments are no less important than the oils. In the first place it may be mentioned that Sodhan have discarded the practice of reduction of pigments. Reduction of pigments is done by adding extenders such as barytes to pure pigments like white lead, white zinc and so on, and is done with a view to cheapen the pigments. Adulteration of oils and reduction of pigments is the means adopted by the huge producers to offer competitive prices. We may mention here that this gross neglect of quality is not calculated to benefit the consumer. Sodhan, The Cottage Industries Association, as manufacturers and appliers of their own paints have found out that the best qualities invariably worked out to be the cheapest on account of their greater covering capacities, better obliterating or hiding power, weathering capacity and durability. Repainting work becomes an easy matter. The best is always the cheapest.

Lead pigment gives soft films. Zinc pigment gives unduly hard films. Mixture of these two pigments gives desirable results. So also other pigments such as red lead, red oxide and so on.

Red lead rapidly reacts with the oil in the paint. It loses its colour and drying properties due to the formation of lead soap on storage. It is the privilege of the cottage producer to manufacture red lead paint for use on the very next day if need be. Aluminium paint shall not be kept in store after mixing. It will lose its important property called "*Leafing*." It must be mixed on the work spot and applied then and there.

Colour taste of the paint consumer immensely varies with individuals. The customer sits by the side of the manufacturer and develops the shade to his entire satisfaction. Factories can only sell in fixed packings. Cottages can supply the actual requirements to the ounce. Many more

are the advantages of the local industrial cottages, to the paint consuming public. As well, the cottage producer also can command technical, mechanical, and economical advantages.

When each producer works along with of his people the industrial cottage spreads industrial ideas and confidence in the minds of the public.

PRODUCTION AND QUANTITY TECHNIQUE

Sodhan are as ambitious as any huge factory producer, with respect to production and distribution. If a number of mills are placed together in the centralised factory they are separated and distributed over the country by Sodhan—The Cottage Industries Association. Each separate unit is made a separate individual proprietary concern with a definite area of business allotted to it. Decentralisation of capital, profit and production and centralisation of direction and control is the theme of Sodhan.

The prospective unit holder is given training at first in painting work and then in paint-making. He is a full man in all the sides of the paint trade. He is put in direct contact with the consumer. The wasteful advertisement and the middleman are thus obviated. He gets into direct touch with the public. He increases his demand and increases his production accordingly. While the individual unit holder goes on increasing his business, of course, within his area the central organisation called Sodhan-central, The Cottage Industries Association works out the expansion by multiplication of the decentralised units. The Centre gives training and fits men for their work at the units. The Centre carries on scientific research and research in business methods, in mechanical advantages, in raw material resources and thus all that is needful for the promotion of the expansion scheme. The Centre is an association of the cottage units themselves formed for their common benefit. The total

IV] TECHNIQUE OF PAINT PRODUCTION

production of all units goes on increasing as the number of units increases every year. Sodhan's fair name is enhanced and enjoyed equally by all Sodhan's units.

No master, and servant, no capital and labour relations exist in Sodhan's working. It is a continuous course of learning, earning and living. Every worker in Sodhan's organisation is trained to think about any problem in its entirety. He knows his trade in all its sides. Specialisation is not made much of. Knowledge and skill are derived by inheritance (*Sampradaya*), practical working, observation and reading.

BUSINESS AND PRICE TECHNIQUE

Sodhan have been able to offer competitive prices, quality to quality, for their products and their service. Sodhan are three in one : They are manufacturers, suppliers and painting contractors. They can scrape one or two of their margins if need be. They can very well meet any situation if the capitalist should come down upon them with cut-throat competition. They are not profiteers. They work for the bare living wage if they should.

V. CROCKERY MANUFACTURE ON COTTAGE INDUSTRY BASIS IN INDIA

DR. N. V. RAGHUNATH

The following are some of the countries, where the ceramic industry has progressed well :—

- (1) Czechoslovakia,
- (2) Germany,
- (3) Japan,
- (4) England, and
- (5) United States of America.

The crockery industry in the above countries is about 150 years old. The following table shows the number of factories in various countries :—

| | Greater Ger- many including Austria and Czechoslovakia. | Great Britain and Ireland. | Switzer- land. | U.S.A. |
|--|--|-------------------------------------|-------------------|-------------------------|
| Technical Porcelain including Magnesiaware | 362 | 71 | 2 | 92 |
| Porcelain painting including decoration of China | 530 | Figs. not available. | 7 | 62 |
| Stoneware including fire arti- cles | 440 | 59 | 24 | 244 |
| Earthenware including faience, majolica, terracotta and com- mon pottery | 651 | 234 | 59 | 244 |
| Tile factories for stove and Dutch tiles | 366 | Figs. not available. | 23 | 244 |
| Refractory ware for common fire-clay goods and terra- cotta | 431 | 83 | 5 | 244 |
| Abrasive for whet stone and grinding discs | 164 | 25 | 3 | 244 |
| Ceramic laboratories and schools | 64 | Figs. not available. | 2 | Figs. not available. |

Coming to India, we find that the Ceramic Industry is yet in its infancy when compared with what it is in Europe, America, Japan, etc. There are a few factories manufacturing porcelain and earthenware crockery. For manu-

IV] CROCKERY MAKING AS COTTAGE INDUSTRY

facturing high class crockery, the china clay must be very good, and besides, white burning ball clay is required. These raw materials are not available at present in India and so they have to be imported from outside. If a thorough survey of all the raw materials available in India is made, then the question of the supply of good raw materials will be solved. This has been done in most of the other countries where manufacture of crockery has progressed well.

In the manufacture of crockery articles 50 per cent. of the cost goes towards labour, 30 per cent. of the cost goes towards fuel and the remaining 20 per cent. towards raw materials. The reason why Japan was able to manufacture crockery articles at a very cheap rate was the Japanese skilled labour was the cheapest in the whole world. To compete with the manufacture of Japanese crockery articles, America tried various labour saving devices, and thus overcame the difficulty. Here in India, we find that labour is not educated and not economical in the long run. The first requisite is to make education compulsory.

From the above it is seen that for manufacturing crockery, the supply of proper raw materials plays a very important part. At present in India, there are the village potters who take the black tank clay and fashion various mud vessels and bake them in the kiln at about 600 ° C. using wood fuel, etc. All these mud vessels are without glaze. Low temperature crockery below 1000 ° C., could be made using the above black clay and covering it with a suitable glaze. For manufacturing the plaster moulds, gypsum which is available at Trichinopoly and Nellore could be ground by hand in stone wheels, used for grinding rice, etc., at home, and then calcined in an open pan at about 130 ° to 180 ° C. Making plaster of paris from gypsum works out cheap and if this is not possible, ready made plaster of paris could be bought. If white porcelain is to be made then a central organisation is to be set up for supplying porcelain body material, which is

made by using washed china clay, felspar and quartz in definite proportions and grinding it to a suitable fineness. This porcelain body material will be supplied to various centres, where this will be converted into casting mass by adding suitable electrolyte like sodium silicate and sodium carbonate.

After crockery articles are cast, then the question for firing the articles comes up. At present in almost all the Indian villages, a small kiln is used fired by wood, etc., for firing the mud pots. For firing the glazed crockery, a higher temperature is required and also cheap fuel. A proper kiln plays a very important part in manufacturing good crockery. At present all over India various Provinces are planning hydro-electric schemes and thus every village could be supplied with cheap electric power, which could be used for lighting, irrigation and factory purposes. So wherever the porcelain crockery is to be made one small electrical resistance kiln of 40 KW capacity and going up to 1400° C. could be installed. If electric power is supplied to the above kiln at 0.25 anna per KWH., it will work out very economical. Some of the essential spares like globar rods, thermo-couple, etc., could be bought and kept. Not only the glazed crockery can be fired in the above electric kiln, but it could be used for firing over-glaze decorated articles, etc. The cost of one such kiln will come to about Rs. 10,000 and the price could be much further reduced by getting only the essential parts for the kiln, from outside and getting the other parts locally. I have suggested the electrical kiln as it gives better control than kilns fired by coal or wood.

I have outlined the main lines and in view of the fact that cottage industry is going to be revived all over India, the above plan could be tried and the results watched. The author will be only too glad to furnish other particulars if required.

VI. COTTAGE MANUFACTURE OF GLUE FROM HIDE FLESHINGS.*

K. SESHACHALAM CHOUDARY
AND Y. NAYUDAMMA

Glue is manufactured from the fleshings which form a tannery bye-product during the fleshing, *i.e.*, the scrapping of the flesh sides of hides and skins before they are tanned. It consists chiefly of collagen, the glue-yielding substance, and lime, mostly as calcium carbonate from the lime pits. The wet fleshings from the tannery are usually sun-dried before they leave the tannery.

Preliminary Treatment—Soaking and Washing.—

The weighed dry fleshings are well beaten to the ground to remove the superficially adhering lime. The stock is then soaked in cold-water—about 100 gallons of water to 1 cwt. of dry fleshings—in a wooden tub for about 24 hours. It is well trampled once or twice during this time to make it soft. The softened stock is taken out and washed four or five times with fresh changes of water until the wash water is clear. Most of the adhering lime would have been removed by this time. The remaining lime in the fleshings is completely removed by treatment with acid. The fleshings are put into a tub with water to which Commercial Hydrochloric acid (3 per cent. on the weight of fleshings) diluted 1: 1 has been slowly added. The lime will be slowly dissolved out. After a few hours the water is tested with blue litmus paper. If the paper is turned red it is an indication that there is excess of acid in the water, *i.e.*, that the

*By courtesy of the Director of Industries and Commerce, Madras.

lime in the fleshings has been dissolved. If the paper is not turned red it means that there is not excess of acid; so more acid is added and the water is tested again after some time. The addition of acid is repeated until the water turns blue litmus red. (The correct quantity of acid to be added can be easily understood from experience). The fleshings are again trampled for an hour and the wash water thrown off. They are next washed well in the tub four or five times with sufficient changes of water until all the acid is found to be removed by testing the wash water. (The wash water should not turn blue litmus red at this stage). The neutralized fleshings are pressed hard with the hand to remove the water and kept overnight on a sloping ground in the shed.

Digestion.—This is the important process in the manufacture of glue and it has to be done with care. The digestion should be carried out at a controlled temperature below the boiling point of water, quickly and uniformly, and without the fleshings coming in direct contact with fire. The method is detailed below.

An iron drum of 40 gallons capacity is taken and a false bottom (about $3\frac{1}{2}$ inches in height) with holes is fixed into the drum or iron legs. A tap should be fitted near the bottom of the drum to draw off the liquor. The drum may be covered with a tight lid. Water is poured into the drum at the rate of 50 gallons of water to 1 cwt. of fleshings. The fleshings are next put on the false bottom. The drum is now heated on a furnace similar to the one used for making jaggery. The dried spent tan-bark from the tannery might be used as a fuel in this furnace. The digestion is to be carried on for 6 to 8 hours and the liquor drawn off.

It has been found that instead of digesting the fleshings with the total quantity of water, *i.e.*, 50 gallons of water to 1 cwt. of fleshings, at one stretch, it can be done several

times with the same quantity of water, with advantage to the colour and quality of the glue obtained, as detailed below.

One cwt. of fleshings is digested first with 15 gallons of water for 3 to 4 hours and the liquor drawn off at 6 degrees Bc. This liquor can be clarified and evaporated (*see later*). Five gallons of water is now added to the stock and digested for another two hours and the liquor drawn off at the proper consistency. This is repeated a third time. Thus in one day the digestion can be carried on for 8 hours and three runnings can be drawn off. This is repeated four times next day and then the digested fleshings thrown off. Thus there can be obtained seven runnings in two days (the quantity of water not being more than 50 gallons). This method yields a bright and clear liquor, the liquor being drawn off from the zone of the highest temperature in a short time. The drawn liquor runnings is filtered through a muslin cloth. An ordinary wire gauze fitted with muslin cloth can be used for this purpose. The dark coloured glue liquors may be clarified by the addition of a saturated solution of Ammonium Sulphate ($\text{NH}_3 \text{SO}_4$) and decanted. The liquor is then evaporated.

Evaporation.—The evaporation should be done quickly and at a low temperature. A pan which can conveniently hold the total quantity of runnings from a single long-timed digestion can be fixed on to the top of the drum, in the place of the lid and the runnings from the drum filtered and poured into the pan. By this arrangement the digestion of fleshings and the concentration of the runnings will go on simultaneously and with the same fire. Thus there is saving of heating. As the evaporation proceeds the glue liquor gets concentrated. As soon as the liquor gets to the proper consistency (10 degrees Bc) it is removed from the pan.

Setting and drying.—The concentrated glue liquor is now poured into tin trays, lightly greased to facilitate easy removal

of the jelly. The trays may be cooled by placing them in a tub of cold water. The period of setting depends upon the outside temperature, the atmospheric humidity and the height of the liquor in the setting trays. The most congenial conditions could be ascertained from experience.

The set glue is now cut into pieces of the required size. These cut pieces are then dried by keeping them on wooden frames fitted with wire gauze. The drying should be done in the shade (not in the open sun). This is best done in an open shed where there is a good draught of air, as free circulation of air aids rapid drying.

The glue prepared by the method described above is found to be of good colour and adhesiveness.

The yield of glue has been found to be about 25 per cent. of fleshings.

General.—The water used should be soft and free from salt. The water that is used in a tannery would be suitable. Since a large quantity of water would be required for this work the industry should be located in a place where there is a large water-supply. As the drying should be done in a shed with a good draught, an open place where there is good draught of air is to be chosen for locating the industry. The location of the industry near a tannery will ensure an easy supply of fleshings and of waste tan-bark for fuel. The place where the industry is carried on should have facilities for draining the water without fouling any public supplies. Since tanneries are usually located away from dwelling houses this industry would be best located near a tannery.

ECONOMICS OF GLUE MANUFACTURE

(Unit—one cwt. of fleshings)

| <i>Capital Expenditure</i> :— | | Rs. |
|----------------------------------|----|-----|
| One furnace with iron gratings | .. | 100 |
| One drum with false bottom, etc. | .. | 50 |

IV]

GLUE MAKING FROM FLESHINGS

| | Rs. | | | |
|--|-----|-------------------|----------|---------------|
| One pan | — | 20 | | |
| Trays for setting (24) | — | 100 | | |
| Wooden tubs (3) | .. | 150 | | |
| Drier with wire gauze (4) | .. | 200 | | |
| Appliances (Spring balance, thermometer, hyddrometer, etc.) | .. | 50 | | |
| Shed with land | .. | 500 | | |
| Miscellaneous | .. | 130 | | |
| | | <hr/> 1,300 <hr/> | | |
| | | | Rs. | A. |
| | | | | P. |
| <i>Cost of Manufacture :—</i> | | | | |
| Fleshings : 1 cwt. at Rs. 30 per candy | .. | 6 | 12 | 0 |
| Labour | .. | 3 | 8 | 0 |
| Chemicals | .. | 1 | 4 | 0 |
| Fuel for boiling | .. | 5 | 0 | 0 |
| Pay of Foreman at Rs. 45 | .. | 1 | 8 | 0 |
| Depreciation on capital | .. | 0 | 8 | 0 |
| Miscellaneous | .. | 0 | 11 | 0 |
| | | | <hr/> 19 | <hr/> 3 |
| | | | | <hr/> 0 <hr/> |

Yield of glue : 27 lbs.
 Cost price of 1 lb. of glue Re. 0-11-6.
 Average selling price of 1 lb. of glue Re. 1.
 Profit per lb. of glue Re. 0-4-6.

VII. BANGLE INDUSTRY—IMPROVED METHODS OF MANUFACTURE.*

A. N. RAJU

The imports of glass bangles and beads form the biggest single item under imports of glassware into Madras Presidency, having been valued at over Rs. 10 lakhs a year in the pre-war period. The manufacture of bangles and beads was once a flourishing cottage industry in some of the districts in this Presidency, particularly in the Ceded Districts and the Circars. But the industry has been dying out slowly due chiefly to the competition from the finer, more attractive and cheaper imported bangles. There has been considerable improvement, of late, in the design, quality and manufacturing technique of bangles and beads at Ferozabad and abroad. To revive and bring this industry to its former flourishing state, it is necessary that the latest methods of manufacture should be adopted. The following is a brief account of the up-to-date methods of manufacture of bangles followed at Ferozabad in the United Provinces.

Raw materials.—Soda lime glass is used for bangle making. Silica (sand or quartz), soda and lime form the bulk of bangle glass. Silica and lime are available in abundance in several parts of this Presidency. Soda extracted from alkaline soils which occur in several districts can be used in certain types of coloured bangle glass. Bangle glass is obtained by fusing the above three ingredients at high temperature (1200 to 1250 degrees centigrade) together with small quantities of oxidizing, reducing, colouring, opacifying and fining agents as are necessary for the type of glass to be produced. A portion of soda is sometimes replaced by borax. Saltpetre

*By courtesy of the Director of Industries & Commerce, Madras.

IV] IMPROVED METHODS OF BANGLE MAKING

(sodium nitrate Na No. 3), carbon as finely crushed coal, metallic oxides, flourspar and cryolite, and arsenious oxide are respectively the oxidizing, reducing, colouring, opacifying and fining agents. The following table gives the average composition of bangle glass :—

| | | |
|--------------------------|----------------------------------|---------------|
| Sand (Sio ₂) | Sodium Oxide (Na ₂ O) | Lime (CaO). |
| 70 - 75 parts | 23 - 15 parts | 7 - 10 parts. |

The colouring effect of the metallic oxides is usually very strong and small quantities (1 per cent. to 5 per cent.) are required to produce the desired effect.

| Colour. | Colouring Agent. |
|-----------------|--|
| Red | <i>Selenium</i> with or without Cadmium sulphide. |
| Yellow (gold) | Cadmium sulphide. |
| Yellow | Uranium oxide. |
| Aquamarine blue | Copper oxide or copper sulphate. |
| Blue | Cobalt oxide. |
| Green (Lemon) | Potassium dichromate (K ₂ Cr ₂ O ₇) and copper oxide (Cu O ₂). |
| Green | Iron oxide. |
| Violet | Manganese dioxide (Mn O ₂). |

MANUFACTURING METHODS

Equipment.—(1) Glass founding furnace. (2) Reheating furnace (same as the one which is in vogue in this Presidency). (3) Muffle furnace. (4) Rollers for drawing glass rod in the form of spirals, iron rods, pipes, cups, slabs and moulds, corundum wheels, bellows and other tools.

Bangles produced at Ferozabad are classified as follows :—

(1) Imitation (2) Ration (3) China fancy (4) Fancy (5) Coral (6) *Desi* (crude type) bangles.

Imitation Bangles :—

Molten yellow glass is gathered from a pot in a furnace and is blown to the shape of a bulb. When it is sufficiently

cooled and hardened transparent molten glass is collected on it from a different pot of the same furnace and distributed uniformly over the yellow glass by rolling in a semi-circular iron cup with water and oil and then it is given a conical shape by rolling on an iron slab. It is again heated in the reheating furnace and rolled on an iron slab. Great care is taken to see that the transparent glass is uniformly distributed over the yellow glass. Then it is drawn in the form of a spiral as in the previous case and is sent to silver treatment. Silver nitrate (Ag NO_3) solution together with a reducing agent like glucose is pumped through the hollow glass spiral which is kept in boiling water for a few minutes and removed. It is then cut into open rings and joined.

Ration Bangles :—

A small quantity of opal glass (bone glass) is taken on an iron rod from a pot in a reheating furnace and is given the form of a short rod by rolling it on an iron slab. Then a quantity of molten glass of the desired colour is gathered on it from a pot in a furnace and the gather rolled to a round shape by rolling it in an iron cup and then to a conical shape by rolling on an iron slab. This will be heated in the reheating furnace till it attains proper viscosity to be drawn in the form of a rod when it will be taken to the operator who, sitting in front of a box-like reheating furnace, reheats the cone and draws out its end into a thread by attaching it to another iron rod. The thread of glass is then drawn out over the fire and attached to an iron roller on the farther side of the furnace. The roller is wound rapidly by another man by means of a small crank handle and is mounted on a steel shaft which is supported on semi-circular notches in two wooden posts, one on either side of the furnace. One of these notch bearings is threaded and engages in a thread on one end of the shaft. When the crank handle is wound,

IV.] IMPROVED METHODS OF BANGLE MAKING.

a transverse motion is imparted to the roller by the thread in the supporting post and the glass is wound on to the roller in the form of a spiral. When the roller has been completely wound, the thread of the glass is cut and the spiral removed from the roller. The coil is next broken into a series of open rings by scratching it down its length with a piece of corundum. The twist in the open ring thus formed is removed by exposing the opposite side of the joining end to kerosene flame and the ring is joined in a jet of kerosene or petrol lamp flame.

China Fancy Bangles:—

Molten glass is taken from a pot in a furnace on an iron rod and made into a rectangular block. Molten china glasses of different colours are then welded to the facets of the original block which is then drawn in the form of a spiral. The spiral is then cut into open rings which are afterwards joined as already described.

Fancy Bangles:—

Block glass is melted in crucibles in a reheating furnace and the molten glass is taken on an iron rod and worked into a conical shape and coloured china glasses are welded either inside or outside the cone, as the case may be. Then it is heated in the same furnace and when it is sufficiently soft, the end of the cone is taken on an iron rod and is drawn to a length of about 20 feet while twisting. Then the glass rod is cut with a corundum piece into uniform sizes. These pieces are heated on sand beds, just at the entrance of the working holes of the same furnace; and when sufficiently soft, they are removed and when the ends are welded together on a slab, are then transferred to a revolving fire clay cone, where each piece attains the circular shape.

Coral Bangles:—

Pipes of about 2 inches diameter and 12 inches length are blown just like any other hollow ware and then annealed.

The pipes are cut with a diamond cutting pencil into rings which form the bangles.

“*Desi*” Bangles:—

The method of making this type of bangles at Ferozabad is the same as that followed in this Presidency.

Designing and Decoration:—

Designs and facets are cut by grinding the bangles on revolving corundum wheels. Liquid gold and enamel colours are applied on the designs either by painting or stamping. Decorated bangles are placed single file on M.S. flat and fired in a muffle furnace for about 10 minutes at about 600 degrees C. temperature.

It is indeed desirable that cottage industries should survive. But it is no good their surviving as a relic of primitive economy, as a symbol of sweating and low living standards. They must survive and grow strong as the corner stone of a healthy decentralised modern economy which will maintain in freedom millions of families on a reasonable standard of comfort.

—Dr. P. J. THOMAS.



Metal Casting

Muradabad



Brass Beatenware

Madras

WOOD TURNING AND LACQUER WORK



Charpoi Legs

Punjab



VIII. POWER LATHE VS. COUNTRY LATHE

V. R. CHITRA

Lathe—a device for turning and shaping articles of wood, metal, etc., is as ancient as the potter's wheel ; and it is beyond the reach of historians to guess exactly or even roughly the period when it was brought into use and by which country it was first invented. Old civilizations like the Indian, the Chinese and the Egyptian were using the lathe from very early times as is evident from the specimens, in the museums, of work in wood and metal. In India and China we find still in use the old lathes ; and many beautiful lacquer articles and metal art ware are made throughout India without using the power lathe.

There are about three varieties of lathes in our Country—very popular even to this day—which could not be replaced by the power lathe, in spite of the precision and easy manipulation with much less effort which the modern power lathe offers to the artisan. In spite of the best efforts of the Government departments and the industrialists, some of the traditional craftsmen refused to replace their old lathes with the modern ones. In the earlier days this attitude was attributed to the conservatism of the artisan ; but after proper investigation it has been found that the power lathe cannot replace the country lathe for the manufacture of certain articles. For instance, turned lacquer work throughout India, in the Punjab, in Gujarat, in Orissa and in Madras is done on different country lathes. In these provinces some ambitious industrialists, introduced power lathes to manufacture the same articles on a mass production scale, with a view to reduce the cost of production by greater output as a result of the machanical power and technical precision that a modern lathe offers. But to their great disappointment they could not reduce the cost;

and on the contrary the quality was much inferior to that of articles that were produced on the country lathe. After a very careful examination it was found out that the advantages that a country lathe offers to the artisan cannot be expected on the power lathe ; and hence the work turned out on a power lathe cannot compare well with that of the other lathe, especially for art-crafts. All the country lathes are manipulated by two persons one to turn the lathe and the other to shape the articles. The man who shapes the article is an artisan well-versed in the manipulation of his tools, shaping of various forms and harmonising several shades of colour ; whereas the man who turns the wheel or the spindle which varies according to the design of the lathe, is an unskilled workman who knows his master's skill and the speed that he requires for a particular type of work. This co-operation and harmony is absent in the power lathe so much so that articles that are produced on a power lathe are crude and unartistic. Hence they fail to compare well with the products of the traditional artisan working in the indigenous methods.

Exquisite lacquered articles including furniture are made at Etikoppaka in Vizagapatam district in the Madras province, Multan in the Punjab and at several places in the Kathiawar State in Gujarat where only country lathes are used. Several attempts were made to replace them with a view to increase and improve production by introducing power lathes ; but after some bitter experience workers reverted to their old processes thus proving to the modern scientist that for efficient use and artistic production nothing can beat the age-old country lathe.

In the Madras Province there are two varieties of lathes of which one is used entirely for wood turning and lacquering and the other mostly for metal work. The wood turning lathe is a very simple one ; and every artisan makes his own lathe and

IV] POWER LATHE Vs. COUNTRY LATHE

fixes it up in his house. It comprises of two hard wooden posts fixed into the ground and a small cylinder of hard wood with an axle at one end and a clutch at the other to hold bits of wood for shaping articles. A leather belt about 10 to 12 feet long with good wooden grips at both ends for the puller to hold fast is wound round the cylinder. The artisan sits on the ground shaping the wood and applying lacquer to the articles while the unskilled workman sits on a small stool resting his feet against the two posts fixed to the ground that holds the lathe and revolves the wooden cylinder in both directions. His eyes are fixed on the lathe and the article under preparation and he adjusts his motion according to the requirements of the artisan. The other lathe is the usual one with a big fly wheel which is operated by a handle. The unskilled workman sits on a stool and turns the handle of the fly wheel which is fastened with a rope to the lathe spindle. The revolution is only in one direction. Even here the attention of the unskilled workman is on the object under operation. This lathe is mostly used for metal shaping and polishing almost throughout India.

In the Punjab the wood turning lathe is almost the same* as that of Madras except for the difference in the device to revolve the spindle ; for instead of the leather belt is used a bow-like thing whose string is wound to the lathe cylinder and the unskilled man sits and turns it up and down allowing revolution in both directions. These are the most common lathes used in this country.

On the other hand there is not much variety in the power lathes used throughout the country. They are worked chiefly by the use of electricity. Their patterns are standardised and the types of work for which they can be used are defined.

* An illustration of this lathe in actual use is given at P. 161 of Sec. II.

It cannot, however, be said that the power lathe is not useful to the artisan. It is rather an advantage for him to use a small power lathe where electricity is available. From the standpoint of production costs, it is very economical to have a small power lathe. The world is mad after decentralisation of industry and the modern precision lathe helps to promote this objective. The recent war has clearly demonstrated this. During that period numerous home workshops sprang up and successfully helped war production where large scale industries failed miserably. This was all due to the precision lathe. Machine tools, spare parts, and scores of other things were manufactured in these home workshops, all precise to a ten-thousandth of an inch and there was no difficulty what so ever in fitting up these spare parts made at several units into huge machinery. This would not have been possible but for the precision lathe.

Could it then be taken that the precision lathe has gained a point over the crude country lathe? Could it then replace the age-old indigenous appliance with advantage? Far from that. The precision lathe can effect precision and standardised production. But it cannot put beauty and elegance into the products. This beauty and elegance can be brought in only by the dexterous hand of the artisan and the quick eye of the operator of the lathe who knows how to regulate speed so as to bring a particular kind of effect.

It therefore follows that the power lathe has a sphere complementary to that of the country lathe. It can be used for manufacturing buttons, in ivory, bone, horn and even wood and various articles with wood and plastics useful for stationery, furniture and toilet where precision is essential. But where production is required to decorate the drawing room, to delight the child and to brighten the hearts of many with beautiful shapes and elegant colours, the country lathe has a definite place in our industrial economy.

B. INDUSTRIAL PROPAGANDA

I. EXHIBITIONS AND HOME INDUSTRIES*

SIR T. VIJAYARAGHAVACHARYA

An Exhibition of the products of home industries has a special value in India, where the distances are great, the art of publicity is imperfectly developed and many of the makers are men of small means working small concerns in small places. Quite apart from the stimulus given to trade by bringing sellers and probable purchasers together, there is the outstanding fact that an assemblage of home-made products like this brings together in one view the variety and wealth of the indigenous skill displayed in home crafts by men whose names do not appear in the advertisement columns of newspapers or in published catalogues. In my experience, often the fact that an industry of the kind exists at all is so little known that even residents of the district round about are not aware of it. Once when I was organising a show of home crafts, I had to penetrate into villages, far away from the railway line, before I could get at the craftsmen. With the present day keenness for using so far as possible in our homes the products of home industries, an exhibition very well serves the valuable purpose of bringing to the notice of people what all things are produced in India and can be produced on a commercial scale if only the requisite patronage was forthcoming. I had to organise during the last war an all-India exhibition of Indian made goods, and as a part of the work of organisation, compile a catalogue of exhibits. When I came to prepare the subject-index to the catalogue, I was amazed to discover how, under the stimulus of the protection afforded by war conditions, a vast array of indigeneous substitutes

* By kind permission of the author.

was being manufactured. It was deplorable that once peace came, and normal trade relations were resumed, that skill and enterprise temporarily aroused were allowed to die out. It is to be hoped that advantage will be taken of the present conditions to stimulate the rise of new industries in India and to ensure that these industries do not die out once peace returns.

That brings me to the question of how the industrial skill latent in the country is to be given permanent expression, how spasmodic efforts are to be converted into systematic enterprises, and the methods by which crafts practised by a few groups of workers depending on uncertain local patronage and enjoying a precarious existence could be turned into concerns on a commercial scale. Exhibitions that are regularly held are of great value in this process of conversion. Now that provincial autonomy is in sight, though temporarily eclipsed, * I think, it should be one of the important tasks of the new ministers to assist in developing the formation of district associations which should be charged with the duty of helping the development of small local industries. The spirit of encouragement of home industries is abroad ; it should be caught and utilised in institutions of a permanent character. The great thing is to ensure the small handicraft-worker a living wage. In some countries of Europe the State makes a grant for this purpose. Doubtless, it will be pointed out to me that many such industries did exist and flourish in the last century in many a locality in India, and that they died out when communications improved and brought the country side into the vortex of international commerce and international competition. That was the age of *laissez faire* when we were nourished on the pure word of the doctrine of Adam Smith and John Stuart Mill and believed that the

* Our land has since achieved independence.

brotherhood of man and the federation of the world were in sight. We then believed that the world could be treated for purposes of production, trade and consumption as one unit, that every country should produce what natural conditions made it fit for producing and should buy from other countries what it could not produce so well. The war came and blew the vision splendid out of existence like the baseless fabric of a gorgeous dream. We do not now live in the age of Cobden and Bright; we live in the age of Dr. Schacht and Mr. Walter Elliot. It is an age of economic nationalism, of tariffs, quotas and trade restrictions, when every country seeks to export and not import and makes national self-sufficiency its objective. Even England, the traditional home of free trade, has deserted the practice of free trade. In the attempt to produce in England things which could be more cheaply imported from countries better fitted to produce them, the Government is making subsidies to the farmers on a scale which would stagger us in India. For instance, in last few years the Milk Board set up in England is being subsidised at an annual cost of one and quarter million pounds, that is, over $1\frac{1}{2}$ crores of rupees. It is astonishing the way in which the objects of State-aid have multiplied. Beet, hops, pigs, nothing agricultural or pertaining to livestock, has escaped Mr. Walter Elliot's protecting hand, and it is doubtful if his successors be able to go back on it, for the policy of the Government in England is decided not as in India by a single powerful minister but by the collective opinion of the public at large. What is still more astonishing is the way in which the mild Englishman of the present generation stands even in peace time a system of State control of industries and of State regulation of prices, which his father would not have tolerated. It is not so long ago that powerful political parties were turned out of power for venturing to talk of tampering with the Englishman's precious heritage of free trade.

The point that I wish to make is that, if in a highly industrialised country like England, it is considered wise and expedient to help agriculture and animal husbandry by special protective measures on the part of the State, by a parity of reasoning in a country like India which industrially speaking is still backward, similar treatment is required to foster its industries. Not that I do not recognise that agriculture is the predominant industry of the country. I quite see that I go further. As far as my poor imagination can peer into the future, I see no time when it will cease to occupy the first place in the country's economic life. I am not one of those who are ashamed of the fact that India is one of the world's largest producers of raw material. If India, by reason of her natural advantages and skill and industry of her cultivators, is able to grow things which the world seeks and of which she has either the monopoly or possesses an advantage in production, there is no reason why she should not supply them. On the other hand, it is the strength of her countryside that she is able to produce such a large range of raw materials. Look at the way in which the "have not" countries like Germany and Italy urge their claim to colonies on the score that they cannot without them get their essential raw products. But, on the other hand, the rate at which the population of India is growing, and the fact that on the average there is not per individual more than an acre and a half of land growing or capable of growing food crops, make it imperative that more non-agricultural occupations should be found. One of the members of the Government of India referred the other day to the "explosion" which he apprehended if the Universities went on producing graduates for whom employment could not be discovered. The danger is greater if you add to the rank of the educated unemployed, men from the countryside.

IV] EXHIBITIONS & HOME INDUSTRIES

An advantage in the case of India is that there is no conflict of interests between town and village, between the agriculturist and the industrialist. In fact, except perhaps in parts of Northern India, the dividing line between the townsman and the villager is faint. I know that in Madras the townsman is at heart a villager. The growth of towns and the growth of industries are factors helpful to the agriculturist. He finds in them a market for the produce of his kitchen garden and of his livestock. I revisited recently the early scene of my labours as a District Officer, the place where I learnt the alphabet of administration. In my time it was entirely a rural area. The nearest town was 35 miles away, and the prices which the agriculturist could get for the vegetables which he grew were so absurdly low that I used to wonder that he grew them at all. But the motor lorry has changed all that and has placed within the ryot's reach towns as far distant as 200 miles or over. The result is that he commands much better prices for his green stuff. I found that to the presidency town which is more than 200 miles away, two lorry services were running daily from my old subdivisional headquarters just to convey the humble vegetable known as the drumstick which the Madras man loved and was willing to pay a good price for.

It is not necessary to labour further my point that the prosperity of the town spells the prosperity of the village. Where the natural outlet of an agricultural product is in the industry arising out of it, the connection is obvious enough. Think of what the sugarcane grower used to get for his jaggery and of what he gets now for his cane from the sugar factory.

As Lord Linlithgow and others have said, whether we like it or not, economic nationalism has come to stay. At any rate, far from seeing the beginning of the end of it, we

see it going from strength to strength. India is naturally hit hard by it. The reports of the Indian Trade Commissioner at Hamburg show how India has lost or is losing her markets in Central Europe. We are aware already of our losses in Eastern Asia, and of how Siam and Cochin-China not only do not take Indian rice but are proving formidable competitors in our home market. It is time that India embarked on bold industrial policy backed by all the resources of the State.

My valued friends, Sir Purushottamdas Thakurdas and Sir H. P. Mody, who are much more competent than myself to speak on these matters, have told us how the rise of the sugar industry in the country has disproved the notion that used to be current of the "shyness" of Indian capital and of the lack of enterprise on the part of our captains of industry. Sir Purushottamdas pointed out how the industry has given employment to 200,000 skilled and unskilled workmen, and 10,000 educated Indians, scientists and others. I shall only add one more figure. In the season 1934-35 the value of sugar manufactured from cane was Rs. 1,250 lakhs and of this, 600 lakhs went to the growers as the price of the cane, 200 lakhs represented the wages bill in the factory, and 50 lakhs the salary bill. That is how the money which would otherwise have gone out of India, principally to Java, has fructified in the pockets of the people of this country. I do not forget that against this has to be set the loss that the Central Government's budget has sustained in normal years under the head of import duties. To my mind the measure of that loss is the measure of the effectiveness and success of the policy on which the Central Legislature embarked in 1931-32.

I quote the sugar cane as a "pointer" of the policy which should be adopted if the industrialisation of the country is desired. But India is the home of lost causes

and forsaken beliefs of other parts of the world ; and free trade often masquerades under strange forms. It has been put as an objection to the policy of protection that it has promoted inefficiency in the sugar industry. Granting for the sake of argument that there has been inefficiency, would that be an argument against giving protection? The only alternative was to leave the industry to its fate and it is notorious and officially admitted that if Government had not come to the rescue and asked the Imperial Council of Agricultural Research at its inaugural meeting in 1929 to investigate the case and suggest a speedy remedy, the sugar industry in India would have collapsed. Would you say that you would have either an absolutely perfect industry or none at all? And is it only protected industries that are inefficient? How about the Lancashire textiles industry which grew up in the course of a century and for which it used to be claimed that it was built up by private effort without an artificial propping up by the State? Has it not required drastic rationalisation?

Make no mistake. I do not say that measures other than protection are not required to build up a sound industry either of the big factory kind or of the small cottage variety. But in a country like India where many industries are still in their infancy, protection is often an indispensable condition of their existence. Protection is the first step, but certainly not the last.

II. INDUSTRIAL MUSEUMS: THEIR FUNCTIONS

V. R. CHITRA

The idea of an Industrial Museum is not to transplant one of the shops from the evening-bazar or to transfer a few almirahs and showcases from the ordinary Museums. An Industrial Museum is something different from a sales emporium or the collection of dead labelled specimens which fill the almirahs in the Provincial Museums. The Industrial Museum has a message to carry from the artisan to the shop-keeper and the on-looker. It must afford facilities to the artisans, cottage workers and small industrialists ; put them in touch with all the modern developments ; introduce to them all the modern appliances, latest tools and new raw materials. It should also try to bring together all artisans, cottage workers and industrialists in the District to avoid unfair competition and put down petty jealousies among themselves. It must enlist all these people as its members and serve every one of them and make them all serve the country through the Industrial Museum.

It is the duty of the Industrial Museum to collect statistics of the whole district, gather information on the availability of local raw materials and their potentialities and circulate such information to its members. It should also try to put these artisans and industrialists in touch with financiers ; promote more cottage or small industrial units ; procure concessions and other facilities from the Government. It should periodically organise industrial exhibitions in the Museum as well as at other centres in the District, and their specimens to other exhibitions or organise their own exhibitions in other centres in India and abroad ; offer prizes and scholarships to some deserving artisans and send them out, even abroad, for higher training. Thus

we can decentralise not only the industry but also to some extent the Government departments such as Industries and Commerce, Forest and Agriculture.

Industrial Library.—To do all the above mentioned work more efficiently the Industrial Museum should have a well equipped library with enough accomodation for people to work in the library. In these days of rapid development in all branches of knowledge, we will fall behind in the march of progress if we do not gather up-to-date information. We should direct our activities in such a manner as to take the fullest advantage of all the latest work in the various branches connected with an industry. Specialisation in study has made the progress of human effort varied and rapid. If we have to keep pace we should get access to it, to all our workers. Again, unless we get a comprehensive view of things, our development would become lop-sided and ugly. The various aspects of an industry have to be studied and co-ordinated. The advantages and disadvantages of centralisation and decentralisation not merely from the point of the economics of an industry but also from social aspects, have to be evaluated. We have to plan for rich and full growth of our society, keeping human values and moral worth in tact. There is the problem whether in certain cases our technical development and scientific research should take the line of improving cottage and small scale industries. All this requires study and for this purpose we should have a library up-to-date and well equipped, with latest publications and current magazines, handy brochures, and statistical reports, bearing on all the aspects of an Industry—economic, scientific, social and national.

To this library a research department should be added. A mere collection of books and almirahs with a librarian does not serve any useful purpose. Not only should there be

facilities for study, but there should also be inducement to study. The study must be, not merely for intellectual curiosity, but for application to life. Mere theory takes us nowhere. Unless there is a research section attached and interested people are encouraged to work in various handicrafts and cottage industries, our efforts will not bear any fruit. Such work has been neglected in our country from the beginning of this century. You should not be misled by the term research. I do not mean research work as it is generally carried on in our Universities. What I mean is experimental work with a view to develop the existing local handicrafts, giving them better raw materials, improved tools and new designs. Each one of these three items is equally important.

Raw materials form the basis of an industry. Work to raise the quality of a raw material, or to mould it to suit a particular type of industry is very important. Good suitable raw material lessens human labour, raises the quality of the goods and gives scope for varieties in production. Taking cotton as an example, what amount of difference is seen when the staple is long or short, when the dents on the cellulose wall of the fibre are many or few, when the tensility is great or less. A particular type of fibre suits a particular type of cloth. Some times we have to develop new varieties to suit our requirements. And we must know our requirements. This means an intimate touch with the practical field work and an intellectual acumen in our research workers to apply theoretical knowledge to actual problems.

Next are the tools. They are to the craftsman, the limbs of his industry. If they are primitive, old, hardened and rusted, they hamper the work. Efficiency would decrease. Labour costs mount up. The worker loses pleasure in his work, which lack kills the soul of his creation. Good, handy, efficient tools with easy manoeuvrability are absolutely essential. Here again the research worker must not be a mere theoretical

mechanist. He must have intimate knowledge of the various stages of production and the processes involved. He must keep in mind the cost of such tools, and the available repair facilities in the localities of their use. The failure in many of our ventures in cottage industries is due to lack of such facilities. To cite only one example, I may mention the hand-made paper industry. Suitable equipment and efficient tools will produce high grade paper to suit special tastes, and would thus put the industry on a firm footing.

Last but not least, I may even say the most important of the three factors I mentioned, is the production of new designs ; and we are sadly lacking in them in our country. If you want good markets you must have good attractive, artistic designs. Not only from the marketing point of view are designs important ; but they have a higher value also. What is beauty and charm to a flower that gives us joy, what is melody to a song that soothes our mind, what is rhythm to the dance that enlivens this creation, design is to a piece of art craft. Design in structure, design in colour, design in the very creation, makes it "a thing of beauty which is a joy for ever".

The sordid gloomy habitations we call dwelling houses in our country, lack colour and line. Even they can be made sunny and cheerful, fit for the blossoming personalities of our children who have to grow with the pride of our race and the glory of our civilisation imprinted on them, grow into adults who would stride this wide world as free citizens contributing the rich gifts of joy and peace to the whole of humanity. But this can be done only by surrounding them in every day life with artistic things. The daily articles of utility, the decorations in our homes, the apparel we wear, the toys we give to our children, all these should be artistically designed so that we can infuse in our children an æsthetic sense, that makes them see the importance of harmony over

mere material usefulness,—which, though cheap, is ugly and jarring. After all man does not grow on bread alone. The blossoming personality requires something more to kindle the soul within. That something is the love of harmony, of beauty, of peace, of perfection. All this requires good artistic designing, creative in its effort, combining utility with charm, and strength with beauty. The employment of good artists who would give ever new designs is as great a necessity as that of scientists that develop raw materials or engineers that give better tools.

Scholarships for deserving young men already employed in a craft or industry should be given. It should also undertake to translate from time to time such of the literature that is considered necessary and useful to the artisans and other industrial workers. Our craftsmen are very efficient and clever but most of them know only their mother tongue and unfortunately all available literature in handicrafts and industries is in English. Even the Government reports on industrial survey, etc., are printed only in English. Instead of making the Government do this work which may be more expensive and less effective, it must be undertaken by the Industrial Museum, lessening the burden of the Government. In this manner, we can decentralise certain Departments of the Government. To the research section of the library there should be added some experimental stations. These experimental stations need not all be located in the premises. Better they are located near the production centres with the sole object of helping the workers with scientific knowledge, technical experience and artistic designs. It is then and then alone the Industrial Museum would serve the purpose for which it is originally intended. Otherwise in course of time it will slowly reduce itself to something like the common Municipal Museum which is just an apology for a Museum.

It is absolutely essential to develop our District Industrial Museums on the lines indicated above. Such a course would also help us to develop the mineral and forest resources of our land which is undoubtedly the richest in the World. We have not got such resources and facilities anywhere else and if we do not develop them and take advantage of the times we will lag behind and a little later we will be too late. Leave the big industries to the Government. We need not bother very much about the big industrialists. They know how to take care of themselves. There are people who would come forward, if not in the interests of the country, at least in their own interest ; they would start big industries. But nobody would come forward to develop our indigenous handicrafts and cottage industries. We must take up the development of our local handicrafts and cottage industries. I know personally that many of the local handicrafts and cottage industries have degenerated due to lack of modern scientific and technical efficiency and proper organisation to push them up and protect them against the monster *Mass Production*. This is the time to check foreign imports into our country which come under the false pretence of cheap consumer goods. There is no better service that one can render to his country at the present time than to develop our handicrafts and cottage industries and this we can do only by making these industrial Museums as *nuclei* for industrialisation of our country.

Of course, one or more sales *emporia* should be attached to an Industrial Museum invariably.

C. SOME IMPORTANT ORGANISATIONS
I. THE ALL-INDIA VILLAGE INDUSTRIES
ASSOCIATION

SEVAGRAM, WARDHA

The All-India Village Industries Association, also known as the *Akil Bharat Gram Udyog Sangh*, was started in 1934 as the outcome of a resolution passed by the Indian National Congress at its Bombay session. The object of the Association is the relief and service of the poor in the villages by the re-organisation and improvement of village industries with a view to promote the moral and physical advancement of the villagers.

The plan of work of the Association is based on non-violence and truth. It lays emphasis not on mere co-ordination of the country's resources to obtain the largest material return, *i.e.*, the accumulation of wealth, but on the proper distribution of the wealth. Unlike large-scale industrial concerns where labour generally does not count for much as a factor of production, the Association follows a method of production which uses the labour factor most. Its object is to include as large a share of labour cost as possible, so that the price of the village production may be made up largely of labour costs. In other words, it endeavours to distribute wealth as it produces it.

With that object in view it has chosen industries which supply the needs of the masses, rather than obtain the largest returns. The necessities being food, clothing, and shelter, it started to work on paddy-husking, flour-grinding, gurmaking, oil-pressing, honey production, soap-making, cloth production, leather-tanning, etc. Since many of the cottage industries have been languishing for lack of knowledge in useful and better processes of production, the Association has

VIEWS OF MAGANVADI

(Headquarters of the A. I. V. I. A. Wardha, c. r.)



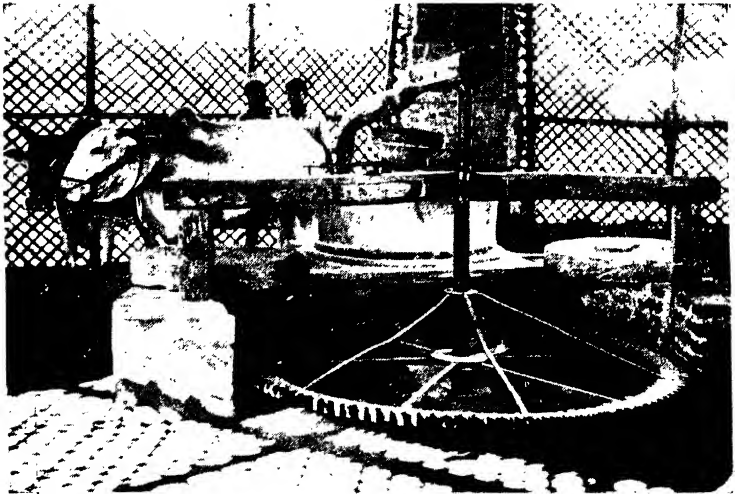
Paddy husking



Winnowing



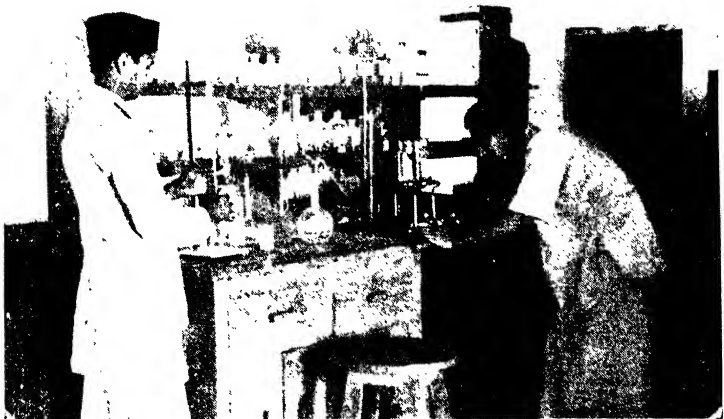
Flour grinding



Bullock flour *chakki*



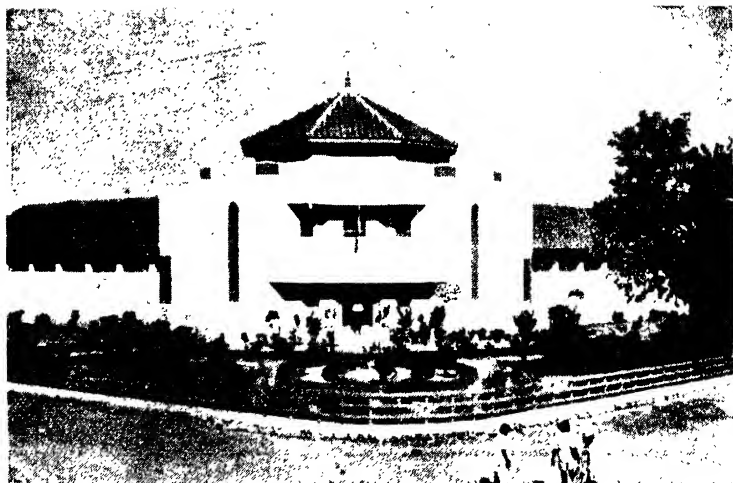
The staff spinning hour



At the Laboratory



At the Libra



The Magan Sangrahalaya
(Museum for *Khadi* and other village industries)

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also taken up research such as the studying of the diet and food requirements of the people and the finding of better processes of production which would be in keeping with the utility value of the product. Although agriculture is the base of all industries, it has not taken it up as it requires a considerable amount of special help from Government.

Its headquarters are at Sevagram near Wardha where it owns extensive buildings built with very little capital.

Though the Association is largely concerned with research and experimentation, it has, however, chosen to work up a few industries for the benefit of the people. It provides implements and raw materials to the producers and undertakes to market the production. From the value of finished goods, it deducts the cost of materials and a small instalment towards the payment of the equipment. In some cases it provides implements, gives guidance to the producers and helps them in marketing their products.

With a view to guaranteeing the conditions of production and return to the producer the Association has laid down a scale of wages so as to yield a living wage to the producer.

So as to bring the available knowledge to the people, it organises exhibitions and partakes in exhibitions organised by others. It publishes from time to time books on the results of its experiments and research for the benefit of the people. It has also two periodicals—the *Gram Udyog Patrika* and the *Khadi Jagat*. These are meant to keep the people in constant touch with the work of the Association. The Institution has a school of crafts—the Gram Sevak Vidyalaya—and a museum for Khadi and Village Industries—the Magan Sangrahalaya at Wardha.

The following is a brief note on the work of this Association in 1945 :—

The work of the Association was hampered to a considerable extent by two factors : First, important members

of the staff and other workers were imprisoned by Government following August, 1942 and some institutions were closed down. Secondly, transport of implements was very difficult since the Railway Authorities placed them under class VI relating to furniture or luggage, though they were useful for food production. Consequently supply of improved implements was very difficult.

With a view to organise work and supervise its agents, affiliated institutions and certified shops 10 *Sanchalaks* were appointed. On the 31st December, 1945, there were 380 members, 32 agents, 31 recognised production centres, 29 certified shops and 8 affiliated institutions.

The progress made in the various industries was as follows :—

(1) *Paddy husking and flour grinding*.—Not much work could be done in this respect as food grains were rationed and their movements were controlled by Government. Paddy could not be obtained even for experiments at Wardha. So no research work was possible. Transport of implements was difficult, and so local manufacture was encouraged.

The grinding of flour at the consumer's own house was encouraged. Experiments were made with bullock driven *chakki* but discontinued later.

(2) *Oil pressing*.—Due to lack of wood and railway restrictions ghani production suffered considerably. During the year only 3 complete ghanies and some pestles and other spare parts could be supplied. Local manufacture of ghanies was encouraged.

Under the Ghani Scheme capable workers were provided loans up to Rs. 500 to cover the cost of two ghanies. They were to engage a local assistant to ply the ghanies, so that they might attend to the general village work. Rs. 12,755-4-0 was advanced for 53 ghanies distributed in

43 centres. In about three-fourths of the centres the workers were enabled to attend to the general village uplift work. The average monthly income of a two ghani centre was Rs. 60 nett and of a one ghani centre Rs. 25 nett. Work under this scheme however received a set back for two reasons : The C. P. Government controlled the rates of oil-cake. Secondly, the price of oil seeds shot up and the stocks in the villages were disposed of by the villagers with the result that the ghanies were left with no seeds. In consequence the scheme could not rapidly expand.

It was found out that *bhera* and tamarind wood would be useful and *babul* would be useless for implement making. It was found out that for bleaching and refining of oils good results could be obtained by adding $\frac{1}{2}\%$ caustic soda to about 15 to 20 times water, and adding this solution to the oil and warming it till the oil gets decolourised. If the oil is impure 1% caustic soda could be added. Any oil can be purified by adding 10 per cent. common salt to it gradually while heating it.

35 students were trained in oil pressing and ghani manufacture.

(3) *Bee keeping*.—Bee keeping progressed in Honavar (Karnatak) and 296 colonies were captured and 52 persons were trained. Honey was marketed by the bee-keepers' co-operative societies. The number of box hives with colonies rose from 2,129 to 2,985. The yield of honey in the district rose from 13,722 lbs. to 22,533 lbs. Bee keepers' societies were formed at various centres. The average yield per colony was 7.55 lbs. The highest average yield per colony was 19.7 lbs. and for a single hive 55 lbs. One individual harvested 795 lbs. during the year. 16 persons were trained in bee keeping at Wardha.

(4) *Gur making*.—Work in this respect consisted in training, research and propaganda. A centre in *Sindhi* was

opened at Wardha and eight students were trained. Owing to prohibition there was a shortage of experienced tappers ; so a scheme for training Harijans in date palm tapping was prepared. Research was done in improving the sugar centrifugal machine. The output on the new model machine was 2 maunds of sugar in a day of 8 to 10 hours. Its price was Rs. 163. Demonstrations in making *gur* from palmyrah were given in Chanda district.

(5) *Paper making*.—Paper making suffered for want of waste paper. Some arrangements were made with the aid of Government grants for the supply of waste paper to the Arandol and Junnar paper making centres. At the headquarters 300 reams of paper worth Rs. 7,000 was produced and sold to the extent of Rs. 9,137-8-9. The wages paid amounted to Rs. 2,821-13-0.

(6) *Soap, chalk and slate pencil manufacture*.—Owing to the scarcity of *sajji matti* for soap making, work was confined to training and research. 11 maunds of washing and toilet soap was made and 8 students were trained during the year. Not only washing but scented and coloured soaps also were produced. In the process of manufacturing caustic soda from *sajji matti* and quicklime, the proportion of resultant caustic soda and slaked lime is 4 to 5. From this lime chalk can be easily manufactured as a side industry. The lime should be completely free from all traces of caustic soda. For this purpose it may be washed well in clean water. To seventy-five parts of slaked lime 25 parts plaster of Paris are added. The plaster of Paris will be obtained by heating gypsum in a pan and powdering it. The paste which forms with the mixing of plaster of Paris and slaked lime is placed in moulds and chalk sticks are obtained. A similar process is adopted in the manufacture of slate pencils except that the percentage of the plaster of Paris to be added to slaked lime is 50.

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(7) *Magan Deepa*.—Further experiments were made on vegetable oil lamps in respect of ventilation and suitability of the various oils. Since the ordinary mill-made wick was not satisfactory due to close weave, experiments with khadi cloth and cotton creased in cloth were made and found satisfactory in results. 1,655 bed lamps, 165 table lamps, 254 attachments and 231 hurricane lanterns were produced during the year.

(8) *Miscellaneous*.—Work was carried on in industries connected with leather, horn, button and coir.

II. SODHAN

THE COTTAGE INDUSTRIES ASSOCIATION, TENALI—ANDHRA

Sodhan—The Cottage Industries Association was started with the object of reducing the large scale production methods of huge factories to smaller scale adaptable to cottages and workable to ordinary house-holders. It began with the manufacture of paints as India is perfectly suited for the paint industry.

It has been at the paint manufacture for the last twelve years, and has always given the benefit of its knowledge and experience in the industry to enthusiastic young men. It has so far helped the formation of eight paint making units in the Province of Madras (two units), Nellore, Guntur, Tenali, Bezwada, Rajahmundry and Vizagapatam. Decentralisation of capital, profit and production and centralisation of direction and control are in a nut shell its scheme of expansion. In pursuance of its scheme of expansion by decentralisation of industry it proposes to form a net work of industrial cottages in the Province. Each cottage unit is made an independent proprietary concern with a specified area of business. All the units will be united in a centre for their common benefit.

G. O. Ms. No. 1920 dated 9th September, 1940, of the Public Works Department of the Government of Madras recommends encouragement to the industry. The Government Departments and the general public have realised that the paint products of Sodhan C.I.A. are reliable, and its painting service satisfactory.

“Direct to the consumer” is its method of service. The middle man and the bazaar of the present day, it holds, are not characteristic of the cottage method of service. The

present day market is the creation of centralised capitalistic manufacture.

Its production is in keeping with the demand. There is never the danger of over-production with it. Paint formulation is done in accordance with the requirements, special to individual cases. Formulation is not influenced by competitive price considerations. In this way it finds that the cottage-scale worker is required to think for himself at every stage of production. Individual initiative and talent are brought into play on a nation-wide scale.

There is no question of wages in its scheme of work, since every concern is more or less a family unit. The troubles of labour strikes and lock outs do not occur in its scheme of work. The whole plan of working of *Sodhan*—the Cottage Industries Association—is based on the principle of labour, skill and knowledge. Labour plays the predominant role.

In its opinion, the finished consumer-products shall be generally produced in cottages. The capitalist or the State shall make available the raw materials of good quality and the small scale machines of good precision required by the cottage worker, where necessary. The rich man exists to help the poor man but not to compete with and eliminate him.

It is noteworthy that its existing units are carrying on their work to the workers' advantage. It desires that industrially-minded young men of different districts should join *Sodhan*, the Cottage Industries Association, receive training in its different manufactures and form their own independent cottage industrial units in their respective districts.

In pursuance of its plan of expansion and progressive decentralisation, the organisation submitted to the Government of Madras in September, 1946, a scheme for the production of the entire paint requirements of the Province by the

formation of a net-work paint making cottages throughout the Province. It offered to work out its scheme in agreement with the self-sufficiency scheme under the consideration of the Government. According to its scheme the Association undertakes to produce 10 lakhs of gallons of paint, valued at one crore of rupees, which is the average annual consumption of the Province. The capital outlay would be Rs. 50,00,000. The production would be effected in 200 paint-making units under the ægis of the Association providing work for 4,000 young men. Each unit would invest a capital of Rs. 5,000 and after all expenses are met, there would be a minimum income of Rs. 100 per head per month. The Association sought the help of the Government in respect of supply of raw materials like zinc, lead, iron, oils and pigments, cheap electric power supply and railway transport facilities. It also requested the Government to purchase the product for Government departments and to ban the import of outside substitutes in its area of operation.

IV]

III. RURAL DEVELOPMENT CENTRE, PATANCHERU, NIZAM'S STATE

The Rural Development Centre, Patancheru, is mainly concerned with the improvement of agriculture and co-operation. It is concentrating on the development of cottage industries which are side industries maintained by the peasants such as poultry farming, horticulture, etc.

Distribution of pure bred cockerels and eggs of improved breed is carried on by the centre in the villages to improve the country breed of fowls and to increase their egg laying capacity both in number and size.

Basket and rope making are part time occupations of labour class and agriculturists, where improvements in the quality and appearance have been effected through the centre's efforts.

The weaving society with a membership of 15 weavers, purchased 40 and 60 count thread and prepared *saries*, *dhoties*, shirting cloth and other varieties with improved shuttle, but due to the non-availability of thread, caused by changed conditions, this industry could not flourish long.

When normal conditions are restored, it will be again revived.

The depressed class people are taught improved methods of flaying and tanning by the assistant tanning instructor. The tanned leathers by this method are durable and superior in quality, and fetch better prices in the market. It is a part time industry of the *dheds* and is very remunerative due to enhancement of prices. About 90 families in 5 villages have been trained in this new art of tanning.

To make the tanning industry more successful and popular, a co-operative society with a membership of 29 persons and a share capital of Rs. 298 was formed.

It is functioning satisfactorily.

IV. VILLAGE RECONSTRUCTION CENTRE, MOOLKY, KARNATAKA

The Village Re-construction Centre, Moolky, situated in the South Kanara district of the Madras Province has been started in 1945. It is a typical organisation devoted to rural uplift on the West Coast. Its area of activity comprises a number of villages. Work is conducted by the Village Reconstruction Committee, Moolky. The programme of work in general is rural uplift ; but by far the most important items of work are development of cottage industries and introduction of compulsory education.

A report as to the various cottage industries now existing in the different villages of the area was called for during the second Tree Planting Day. As a result it was found that 1. hooks ; 2. thread button ; 3. cocoanut shell and horn works ; 4. mats ; 5. baskets ; 6. spinning and weaving ; 7. pottery ; 8. shoe-making ; 9. toy-making ; 10. broomsticks ; 11. country umbrellas ; 12. stitching and embroidery ; 13. painting ; 14. coir ; 15. cane works ; 16. carpentry ; 17. iron tool works ; 18. jaggery ; 19. fruit and vegetable growing ; 20. goat-rearing ; 21. bee-keeping ; 22. fish-oil extraction ; 23. oil pressing ; and 24. hand-pounding of rice, are some of the cottage industries now pursued in the villages. The list shows what a variety and number of articles are being produced in the villages. These things are now being prepared on a very small scale and mainly for local consumption. The way to improve these indigenous industries lies in finding them a wider market. This would encourage both quantity and quality of production thus adding to the wealth of the villager. The Village Reconstruction Committee feels that unless some organisation on a co-operative basis is started for sale

IV] VILLAGE RECONSTRUCTION, MOOLKY

of these articles, it will be futile to ask the villagers to produce these articles on a larger scale. The Industries Department co-operated with the Committee by starting a Coir section at Moolky, soon after the first Exhibition. It is regrettable that the Department had to close down the section, a few months ago, for lack of proper response. But it is gratifying to note that it will be opened again.

The Committee made representations to the Education Department to bring the whole area under compulsory education. Thanks to the District Educational Officer and the Department, nine villages of the centre have been brought under the Scheme for Compulsory Elementary Education during 1947. It may be mentioned here that the Committee had already placed before the several communities in 1946 a proposal to collect funds and grant scholarships to deserving students. Work could not be done in that direction, during the year, but it was hoped that communities which have not made any efforts in this direction would do so and earn the gratitude of those who would otherwise be unable to educate their children.

APPENDIX

NOTES ON SOME SPECIAL ART CRAFTS

1. BIDRI WORK

Bidri work, known to the Western world as damascened work, derived its name from Bidar, its original home. It is said that one of the Hindu kings of Bider invented this art and used the art ware at the time of worshipping household gods. The Muslim rulers of India improved the art very much.

Till recently this work was done at four chief centres, namely Bidar, Lucknow, Purnea, and Murshidabad. Subsequently due to the demand from European consumers many other centres also came into existence.

The mode of manufacture is very nearly the same in all places: The first process is the preparation of the mould. A mould is made of clay or a paste of fine dust and fresh cow-dung. It is shaped on a lathe. A layer of wax is then applied to it and it is then shaped smooth of the lathe. Another layer of clay is applied and the mould is dried. Two holes are bored into it. When the mould is gently heated the wax melts and runs out through the holes leaving space between the two clay layers for receiving the metal. An alloy of copper and zinc, in a proportion varying from centre to centre is prepared by melting copper and zinc, in separate crucibles and then adding copper to zinc and firing strongly again. This heat unites the metals into a rich alloy. The molten alloy is poured into the mould and when cooled the rough model is taken out. The surface is then made smooth and even on the lathe. So far the work is done by the braziers.

The vessel is now passed on to the designer who applies to the surface copper sulphate solution and turns it black. This helps him to see clearly the design etched on the surface with a steel point. The vessel then goes to the carver or engraver who scoops out the design with chisels and hammer carefully. The grooves are somewhat smoothed so that the surface may receive in-laying properly. In-laying is done with gold, silver and even copper.

Thin plates of gold or silver are laid on a bed of wax and resin. An impression of the excavated pattern is taken by inserting a thin bit of paper into the grooves. The plate is then cut accordingly and then inserted into the grooves and gently hammered. The thicker the wire inserted, the more durable is the work done. The surface is then polished with a common file and scraper.

IV] SPECIAL ART CRAFTS—ENAMELLING

The final process is the giving of a permanent black colour to the surface. The article is gently heated and then thickly smeared with some paste. It is allowed to dry for some hours and then washed well. The black hue sticks on to the article enhancing the lustre of the gold or silver inlay which is not affected by the paste.

The patterns are generally flowers or fish, etc. The products were, formerly, *hukkas*, water goblets, spittoons, betel cases, flower vases, plates trays, etc. But now due to the European market the articles include knife handles, buttons, cigarette cases, ash trays, ladies' belt buckles, etc. A list of *bidri* ware is appended to section VI.

2. ENAMELLING (*Minakari*)

The art of enamelling on metal is very old in India, the centres being Jeypore, Alwar, Delhi, Lahore, Multan and Benares. The best work was done on gold at Jeypore in Rajputana where the artists could lay rainbow tints on gold with exquisite skill and harmony of colour. Work is done on gold, silver and copper also. The principal enamellers in Jeypore are all descended from Sikh artisans imported from Lahore in Akbar's time.

Enamelling or painting on metals with mineral oxides, in such a manner that the colours are fixed upon or adhere to the metal, is done in many ways. Incrustation is the Oriental method. This method is two-fold—*Cloisone* or filigree enamel, and *champleve* or excavation enamel. The latter method is common in India while the former is common in China and Japan.

The artist draws the design; the goldsmith makes the article to be enamelled; and then the engraver engraves the pattern on it with steel styles. These three artisans are goldsmiths by caste. The enameller (*Minakar*) carefully burnishes the surface of the ornament and then applies the colours in the order of their hardness, or power of resisting fire, beginning with the hardest. The enamel colours are available at Lahore. All the colours known can be applied to gold; only some colours like black, green, blue and yellow to silver; and a few colours like white and black to copper. The application of pure ruby red requires the greatest skill.

The enameller begins with the whites and usually burns in each colour separately, though two or more may be fixed at one firing. The colour is powdered and made into a paste and applied with a probe. Then the ornament is put in a primitive charcoal furnace. The time of firing and the intensity of heat required for fixing the particular colour are known to the worker from experience. The piece is then polished with corundum;

then it is gently heated and cleaned by rapidly dipping in some strong acid solution. Colours require similar care at each firing. Some large pieces are fired as many as eighteen times which shows that work must necessarily be slow.

Enamelling is done not only on jewels like bangles and bracelets of women but also on the handles of swords, fans, umbrellas, handsticks, etc. Enamel helps to enhance the beauty even of the gems set on them.

The enameller always works in his own home with help of his family. Each member does a particular job such as applying colours, firing and fixing and feeding and watching the furnace. Each artist sits on the ground before a low stool with his tools and his moistened colours arranged in a brass pallet before him. An ordinary bracelet of five tolas takes fifteen to twenty days for completion. The artisans are so poor that their valuable designs, colours etc., are kept wrapped in dirty rags only.

3. PAPIER-MACHE

Papier-mache work is probably the most picturesque art craft of Kashmir. It was once a thriving industry but has of late begun to languish due to cheap substitutes.

Papier-mache articles are made out of paper pulp. This pulp is made out of waste paper which is pounded and mixed with starch. The material is never exactly reduced to a pulp ; it is merely made soft. Before pasting the pulp on the mould several layers of paper are pasted on the mould of the required article. Over it pulp paste of the required thickness is laid and over it again is pasted some thick paper, layer upon layer, by repeated process of drying and adding. This is done until the article gets the correct shape and thickness. Even when it is wet the mould is wrapped in a thin muslin rag and covered with a layer of dressing material said to be plaster of Paris (*gach*). The mould is then made smooth by rubbing until the surface becomes uniform. The ground colour (*zamin*) is then painted on the surface. The pattern, floral or otherwise, is then painted in water colours on this ground. After drying, it is glazed with transparent varnish, usually made from copal dissolved in turpentine.

In place of paper, soft ground wood has, of late, come to be used. These wooden goods are coated with thin layers of pulp and the designs are painted on the surface as in the case of pure *papier-mache* articles.

There are a number of designs in *papier-mache* work, the most important being, shawl pattern, rose pattern, Arabesque pattern and Yarkhand pattern.

The shawl pattern consists in the making of wooden moulds, coating them with pulp and painting the designs in water colours on pure white ground colour.

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Rose pattern : This consists in the painting of roses and birds all over the surface, in accordance with a colour scheme.

Arabesque pattern : The design is painted against a dull grey or brown ground colour of large articles like tables.

Yarkhand pattern : In this pattern there is a dark background and gold and white rosettes and flowers are painted spirally or on the tops of golden foliage.

During recent years only two or three old patterns like the shawl pattern and the rose pattern have been in vogue. Several modern patterns have now been introduced and the old patterns are being slowly abandoned.

4. ANDHRA FINE SPINNING

During the palmy days of the Dacca muslin industry, the muslins of the Andhra Desha ranked only second in excellence in our country. But now the Andhra muslins are probably the finest in our country. This fine *Khadi* production is confined mainly to the Vizagapatam District where the poor women spinners of *Velama* and *Pattusali* sub-castes spin even now yarn of over 100 *s*. Mention may be made here of the blind woman spinner of Bonthala-Koduru village who can spin super-fine yarn on a crude *charkha* in spite of her blindness.

The excellence of the Andhra fine spinning is the result of highly elaborate processes like ginning, carding and slivering which are quite different from those adopted by the spinners elsewhere. These processes may be said to be some six in number—every one of them requiring attention :

(a) *Selection of Cotton*.—The cotton used is a local variety of hill cotton known as *kondapatti* and another local variety of level country cotton called *buradapatti* or *gudipatti*. Though the staple of these varieties is not long, yet it has a smooth, silken surface. The *kapas* or pods are carefully selected and cleaned.

(b) *Combing*.—Combing is done by means of a fish jaw bone. The *kapas* is held in the left hand and the bone is gently passed over the fibres with the right hand. This process helps to remove the dust particles and to stretch the fibres properly.

(c) *Ginning*.—The ordinary cotton gin is not used. Only a wooden block and an iron rod are used. The block, made of black *pala* wood is about 1' by $\frac{1}{2}$ ' with a smooth surface. The rod is a foot long, thick at the middle and thin at the ends. The combed *kapas* is placed on the

block—some five or six seeds at a time—and the rod is carefully rolled over it. Thus the seeds are removed without affecting the fibre.

(d) *Cleaning*.—This process is very important. The cotton is put in a closely woven basket and gently thrashed with two thin broom sticks. Small quantities of cotton are then taken out and the dust particles are removed with the fingers. Then the lint is taken in the left hand and stretched into flakes of about half-foot each. The fibres are thus arranged parallel to one another.

(e) *Carding*.—A small bow made of bamboo or apple wood with a strong but elastic gut is used. About a tola or two of cotton is taken and gently carded with the fingers. The strands of fibres are thus carefully separated.

(f) *Slivering*.—The carded cotton is folded into a thin sheet of about 1' by $\frac{1}{2}$ '. It is placed on a plank and a thin rod or piece of cane is rolled from one end of the sheet to the other. The sheet rolls into a sliver and the rod is removed. These slivers weigh $\frac{1}{2}$ to 1 tola each. The slivers are carefully kept in a closed basket.

Every one of these processes requires much care and patience. The greater the care taken the better is the product.

The *Charkha* used is large with a diameter of 30 to 32 inches. It is very light and quick in movement. The spindle gives about 180 to 240 revolutions for one revolution of the wheel. The spinner holds the sliver in a piece of dry plantain bark placed between her fingers. She sits on a short stool, plies the wheel and spins with dexterity and ease.

5. AFRIDI WAX WORK

This art craft is peculiar to the N.W.F. Province. This consists in the working of designs on cloth in a kind of wax called *roghan*. This material is prepared by boiling a vegetable oil (polli seed i.e. wild safflower or *carthamus oxyacantha*) to a thick consistency and then adding some mineral pigments until it looks like laquer. To obtain the proper consistency a little dry lime is added. The various colours are obtained by mixing various mineral substances. For instance: red is obtained by adding red lead and white by white lead; yellow by mixing orpiment and blue by indigo; green by mixing indigo and orpiment with roghan; for obtaining gold or silver colour powdered gold or silver leaf or imitation leaf is to be added.

The worker wears a leather shield on his left hand and puts in its palm a little *roghan* of the size of a pigeon's egg and in his right hand he holds a six inch iron style pointed at one end. With this pointed end he draws the *roghan* out into fine threads. If the wax is too moist he adds a

IV] SPECIAL ART CRAFTS—KALAMKARI WORK

little more finely powdered lime. He works up the *roghan* until he gets properly the plastic thread that is required for his work.

He marks the patterns in outline on the fabric with chalk. In the case of common place designs for instance *malkhosai* or *panairakh* no outlining is done. He then works up the pattern by placing the plastic threads along the out lines. This work is done by the artist very carefully.

He charges the style each time from the little store on his left hand. The little thickness at the end of each newly drawn thread is very artistically used. The rapidity and accuracy with which the artist works is remarkable. A skilled artist can work with ease from right to left and *vice versa*.

After working up the threads of *roghan* on the cloth the artist presses the moistened tip of his finger all along with the design. This causes the wax to sink into the texture of the cloth and adhere to it firmly. It hardens and becomes permanent rendering the fabric washable without damage to the wax work. If solid patches of colour are required on the designs, the artist passes the style over the design a number of times plying it in the same direction and laying the *roghan* threads in parallel lines. Then he presses the patch with his moistened finger tips. If two or more colours are required for the design the artist applies one colour at a time. An expert worker compresses the parallel lines so dexterously that the parallel lines disappear and a solid patch is left on the design.

A number of designs are worked out by the wax workers ; for instance, flower baskets, dragons, peacocks and the Persian Tree of Life. Some modern designs like the regimental or military colours have recently been introduced.

6. KALAMKARI WORK

Kalamkari, also known as printing and painting on cloth with permanent vegetable dyes is one of the oldest art crafts of our land. The most important *kalamkari* centre is Masulipatam in Andhra Desha. It is said that some Persian merchants settled at Masulipatam and improved the local industry and that the art craft took its name *kalam* (pen) *kari* (work) from them. Locally the work is known as *addakam*.

Till the beginning of this century, *kalamkari* work was done on hand spun, hand woven cloth. But during recent decades mill made long cloth and mull has come into use for this work. The cloth used is generally unbleached and of close texture.

This art craft strictly consists of two series of processes, namely block printing of designs and pen work for colour effect.

(a) *Block printing*.—The grey cloth is soaked in cow-dung solution and rinsed and dried on the grass at water side. This process is repeated daily for about a week until the cloth is bleached.

Mordanting is done next. This consists in soaking the cloth in a filtered decoction made of myrabolon powder, water and pure milk and then rinsing and drying it.

Designs in outline are block printed on the cloth with red and black solutions. The red solution is made by mixing pure alum with gum and water. The black one is made by soaking iron pieces in jaggery water for a month and then adding gum to the solution obtained. These designs are essential for pen work.

A colour bath is then given to the cloth: *jaji* leaf, *chiruveru* and *chiranjī* are boiled in water. Some two days after the block printing, the cloth is lightly rinsed in water and dried. It is then soaked in the boiling colour bath for some two or three hours. The red and black designs are thus developed.

(b) *Pen work*.—The artistic colour effects are brought out by this process. The cloth is soaped in rice *kanjee* and dried. The portions of the designs for which a particular colour—say blue—is not required are covered with melted bees' wax by means of a brush-like pen.

A solution of *tantiya* seeds, indigo, lime and country soda is made by fermenting them in a vat for a fortnight. The wax-coated cloth is dipped in this vat and the uncovered portions take the dye.

The wax is removed by dipping the cloth in boiling water. The cloth is then soaped and cleaned with country soap made out of lime, gingelly oil and saline water.

For obtaining green and yellow effects, use is made of *althi* solution which is prepared by boiling myrabolon flower powder in water. The cloth is soaked in *kanjee* and milk and dried. The solution is painted on the required portions with the pen. After two days the cloth is soaked in alum solution for fixing the colour. This gives light shades. For deep shades the wax-coating and colour bath process is adopted after which the alum solution bath is given. Wax-coating and colour bath are done as many times as the number of colours required.

Then the piece is finally soaped and cleaned. Fancy shades are produced by mixing the colours. A good *kalamkari* curtain or bed sheet takes a month to produce it since these hand processes are necessarily slow. But after manufacture the product displays such a harmony of colour scheme that the time element is ignored.

KALAMKARI WORK
(Some important processes)



1. *Kalamkari* process : Colour bath (boiling)

2. *Kalamkari* process : Indigo colouring.



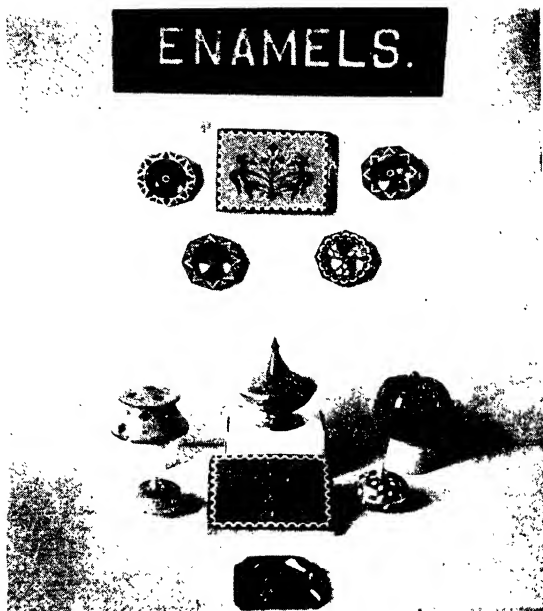
3. *Kalamkari* process : Wax-Removing.

4. *Kelenkari* Process : Scraping and Cleaning



5. *Kalamkari* Process : Green and Yellow Effects (pen-work)

JEWELLERY ENAMELLING



Silver and Enamelled trinkets



Copper and Enamelled articles
Madras

COTTAGE INDUSTRIES OF INDIA

SECTION V—INQUIRY AND LEGISLATION

I. REPORTS AND SURVEYS OF COTTAGE INDUSTRIES

1. A NOTE ON THE WORK OF INVESTIGATION

VISWANATHAN TEKUMALLA

Nothing is more trying and at the same time more pleasing than investigation, particularly in the field of economics. It is at once a task and a hobby; and is more so when self-imposed. If one desires to test the truth of this observation, he has only to play the investigator himself.

It is very obvious that the work of the investigator is beset with several handicaps. The chief handicap is the ignorance of the cottage workers. In respect of ignorance, the urban artisans are on a par with their rural brethren. Deplorable as this common defect is, it must be admitted in fairness to them that they are not wholly to blame for it. Their share of the blame lies in so far as they have not striven to shake off their ignorance and to move with the times; but the larger part should, without a word, be borne by the Government, the national leaders, and a large number of educated persons. The Government has, for several years past, not concerned itself seriously with any regular system of inquiries. The last government survey of cottage in-

dustries in the Madras Presidency, for instance, dates as far back as 1929, the last pre-Depression year; and nothing appreciable seems to have been done since then to apprise correctly the condition of the artisans. Evidently the Government busied itself more with the dull departmental routine than with the institution of inquiries. The report submitted by the sub-committee of the National Planning Committee is of value only as a proof of the revival of the whole nation's interest in cottage and rural industries. Of course the national leaders have established a very close contact with the rural and urban artisans, especially in the field of *khadi* but they cannot be expected to go farther than laying general policies for the development of cottage industries. The work of systematic surveying should naturally have been taken up by their followers, but they too have not taken it up either due to the fear of strain or want of confidence in themselves. But at least the Universities or some educated youngmen could have started the work, but they too have left it out in the cold. The thesis of Prof. N. G. Ranga on handloom weaving (1930) and a few village surveys incorporated in the book entitled *Some South Indian Villages* edited by Dr. Gilbert Slater of the Madras University (1918) and a couple of other brief surveys, are probably all the research work done in the Madras Province. Unfortunately there has, however, been a dearth of real enthusiasm in field-work in the country. It is a pity that the country should lag behind and allow every other country to steal a march on it. The obvious effect of this absence of periodical surveys is the popular ignorance of their value. If only these surveys are made a regular feature of our economic system, the cottage workers would not view an investigator with appalling strangeness.

Ignorance does not exist by itself; it brings in its train several attitudes which confront the investigator and dis-

courage him at first. The first thing that challenges his confidence is the suspicion of the artisan. Suspicion is writ large on his face; he does not even pretend to conceal it. His simple mind is normally incapable of concealing emotions, and much more so when a stranger makes his presence suddenly. Whatever be the psychology behind it, the fact remains that his suspicion is so marked that the spirits of an ordinary investigator are chilled at once. This suspicion manifests itself in various ways. One artisan takes the stranger for a revenue officer in disguise whose object is to impose or enhance some tax; another imagines him to be a government agent whose object is to coerce him to paying some fund; and yet another, with all his imagination, fancies him to be a rival aiming at getting all his trade secrets; and so on. It must, however, be noted that weavers are usually free of such fancies, obviously because their occupation has no trade secrets and also because their position is by no means enviable. Most other artisans are prone to these misgivings. Women in this respect are worse than men; and here my experience merits mention: At Viravasaram, one of the famous cotton-tape weaving centres of the West Godavari District, the weaver-women of a large part of the village stopped their work abruptly and piled their spinning-wheels and looms as 'lumber' within a few minutes of my arrival. Many a suspicious artisan bluntly asks the stranger whether he is a revenue officer. His bluntness should not be attributed to mischief. It is merely the attitude of an indisciplined mind which cannot easily comprehend the role of a sincere investigator. It is also natural that such a mind should start with suspicion; for, suspicion is to it what caution is to the mature mind.

Then there is another type of attitude, namely indifference. It is the outcome of half-knowledge and is also likely to baffle the investigator. It also manifests itself in more

than one way: For instance the artisan admits the investigator's sincerity of purpose but doubts the success of his mission. On that score he refuses to respond to his inquiries and even advises him not to embark upon such a futile mission. What explains this attitude is, as already stated, his dangerous half-knowledge of things. One of his friends, usually a clerk or a peon in some office tells him the tale of the failure of a departmental inquiry to better the conditions of the staff; and at once he is convinced that an inquiry is a sham; and he deems it his sacred duty to urge the futility of any inquiry.

Another trait of the artisan's life also presents some difficulties to the investigator at first. It is his lack of interest in the conditions of his locality and of his own craft. Almost every artisan lives by himself and for himself. If his village is fairly large, he may not know or even care to know how many families live by his craft. The wise investigator does not ignore him, but accepts his statements with caution and uses him as a measure of the ignorance of the artisans. Again the artisan displays a remarkable lack of interest even in the matter of keeping business-accounts and drawing family budgets. He believes that his small business profits little by account-keeping. Like a child he chooses to concern himself only with the present. He seems to sing with the poet:

{ "Trust no future, howe'er pleasant!
 ✓ } Let the dead Past bury its dead!
 } Act,—act in the living Present!"

There are other handicaps too to reckon with: First there is the physical and mental strain which field work entails. Only experience can show its intensity. Almost every day he has to visit a new village and approach new men. Very often he has to go from street to street and

house to house in quest of proper informants. He has to put up with discomfort in board and lodging. At times he is obliged to carry his portmanteau and quilt from the bus-road to the village. Secondly, travel involves a good deal of expenditure which, in these days, is not a matter to be ignored.

The foregoing account will give an idea of how investigation becomes a task; but it is not the entire picture; for, were it so, investigation could never be a pleasure. Luckily there are several salient traits of the artisan's nature which encourage the investigator and make his work a pleasant task. The artisan is after all not entirely irrational. Consequently his first anti-social emotions melt away under good influences and his latent goodness becomes patent. Freed of his false fears and suspicions, he becomes a loveable fellow man. The first encouraging trait is his dormant sincerity. The sincerity of the inquirer evokes sincerity in him. At times he is sincere to a fault. He is prone to look upon his kind inquirer as a deliverer and to place too much faith in him. Too much trust is as much a fault with many an artisan as too much suspicion. I still remember how the weaver-women of Viravasaram, alluded to before, regretted their having hidden away their looms out of suspicion. Another admirable trait is the hospitality behind his apparent coldness. Once he is impressed with the stranger's sincerity of purpose, he is at his service till he leaves the village. Thirdly he has a good memory to make for lack of account-keeping. He can state from his memory the approximate state of his industry in the past. But if he feels unequal to the task, he will certainly direct the investigator to one who is competent.

So much of the artisan; and now of the investigator. Nothing is nearer truth than that the success of his mission depends on himself. He must qualify himself for the mis-

sion by the possession of certain indispensable qualities. These qualities are also the limiting factors because their absence precludes many a young man from venturing upon the work. First, he must be gifted with tact since, without it, a right approach to the artisan becomes impossible. Tact is the key with which to open the bosom of the artisan. A blunt inquiry, however sincere, only confirms his suspicion; but, if tact is used, there will always be a good response. The investigator should talk in a sweet strain giving points of general and special interest to the artisan and at the same time not straying from the purpose of his visit. Care must also be taken not to confuse tact with cunning. He should create the impression of a plain-spoken person but not of a blunt or artful inquirer. Secondly he needs an inexhaustible fund of patience. The artisan is prone, unwittingly, to try his patience in several ways. He may ignore his presence and converse with some known visitors for a long time; he may confront him with a volley of silly questions of every nature; or he may bluntly tell him to see him again. Only patience can help him in that situation. He should patiently wait, as at the door of a lord, or choose to call on him again; or he should tactfully mix with the company and take part in their conversation. Any trace of impatience or false dignity is sure to mar his purpose. Then the investigator should have enthusiasm and energy. Strictly speaking they are the basic requisites; for, on them depends the desire to investigate, just as the success of investigation depends on intelligence, tact and patience.

One thing more deserves special mention—the camera. It is also a necessary part of the investigator's equipment. It is a sure means of successful approach to the artisan. It tickles his vanity, and by the promise of what he fancies to be a luxury, makes the task of the investigator fairly easy.

2. COTTAGE INDUSTRIAL SURVEYS AND REPORTS IN PROVINCES AND STATES

There does not seem to have been made in any part of the country a scientific and systematic study of the condition of the handicrafts or village industries or cottage industries and the problem arising out of various political, economic and social factors. It may not be far from true to say that no comprehensive survey of cottage industries has been made in most parts of the country. There have, however, been in some Provinces and States occasional inquiries and surveys which do not go very deep. Most of them relate to handloom weaving. The following is a list of the reports of the committees or individuals who had undertaken survey under Government auspices or on their own account :

ALL INDIA

- Report of the Banking Enquiry Committee, 1931.
- Report of the National Planning Committee, 1939.
- Report of the Fact Finding Committee on Mills and Handlooms, 1941.
- Report of the Co-operative Planning Committee, 1946.
- Imperial Gazetteer of India.

ASSAM

- Survey of handloom weaving conducted during census operations in 1921.
- Survey of handloom weaving conducted during census operations in 1941.
- Survey of handloom weaving in selected areas about 1941.

BENGAL

- Report on the Survey of Cottage Industries, 1923.
- Sample survey of handloom centres by the Bengal Board of Economic Inquiry, 1936.

COTTAGE INDUSTRIES OF INDIA

[Sic.]

- Report of the Bengal Industrial Survey Committee, 1941.
- Report on the Survey of Cottage Industries in Bengal, 1945.
- Survey of Traditional Rural Arts and Crafts of Bengal by the Calcutta University (now in progress).

BIHAR

- Survey of Handloom weaving conducted during census operations in 1921.
- Census of Handlooms, Bihar, 1935.
- Survey of Handloom weaving by the Industries Department in 1941.

BOMBAY

- Survey of Handloom Weaving by Department of Industries, 1923.
- Report on Arts and Crafts by J. P. Fernandez, 1930.
- Report of the Bombay Economic and Industrial Survey Committee, 1938—1940.
- Report of the Committee for Promotion of Village Industries, Bombay, 1947.
- Report of the Cottage and Small Scale Industries Sub-Committee of the Provincial Industries Committee.

CENTRAL PROVINCES AND BERAR

- Survey of Industries by C. E. Low, 1908.
- Survey of Handloom Weaving, 1935.
- Report of the C. P. Government Industrial Survey Committee, 1939.
- Tabulated occupational tables of 1941 Censys (C. P. is the only Province in India where these tables have been tabulated).

MADRAS

- Statistics of Handlooms and Weavers of the Board of Revenue since 1850.
- Survey of the Arts and Crafts of Northern Circars by E. B. Havell, 1881.
- Report on the Survey of Cottage Industries in the Madras Presidency by D. Narayana Rao, 1929.
- Survey of Handloom weaving in the Province by Co-operative Department, 1939.
- Bulletin on Handloom weaving of Industries Department, 1930.
- Special Survey of Important Weaving Centres by Co-operative Department, 1941.

- Survey of Cottage Industries in Coastal Andhra by Viswanathan Tekumalla, 1942-44. (Not yet published.)
- Survey of Cottage Industries by Co-operative Department, 1946. (Not yet published.)

NORTH-WEST FRONTIER PROVINCES.

- A Survey of Cottage Industries and Handicrafts, 1938.
- A Plan for the Economic Development of the N.-W.F.P. by J. C. Kumarappa, 1940.
- Supplement to the above Report, 1946.

PUNJAB

- Manufactures and Arts of the Punjab by B. H. Baden Powell, 1872.
- Survey of the Textile Industry by Industries Department, 1926-27.
- Survey of Industries in the Punjab, 1940, by the Industries Department.
- Report of the Village Sub-Committee of the Industrial Planning Committee, Punjab, 1946.

UNITED PROVINCES

- Report of the U. P. Industrial Re-organisation Committee, 1936.
- Report of the U. P. Industrial Finance Committee, 1937.
- Report of the Cottage Industries Inquiry Committee, 1935. (Not yet published.)
- District Industrial Survey Reports (1921-23). (These reports are now being revised.)
- *Survey Reports on Leather, including flaying and curing of hides.
- *Oil pressing.
- *Metal Industry.
- *Rope, Ban and Tatpatti making.
- *Basket making.
- *Reed and Cane Furniture making.
- *Glass Bangles.
- *Pottery and Ornamental Toys.
- *Rapid Industrial Survey Report by M. Z. Rab.
- *Cottage Glass Industry.

*N.B.—These reports could not be published owing to the shortage of paper. Besides a regular quarterly survey report of certain important cottage industries is being conducted by this Department.

Bee Keeping.

Handloom Survey Reports, 1933.

Hosiery Survey Reports, 1935.

BARODA STATE.

Survey of Handloom Weaving in three centres in the State.

COCHIN.

Survey of Handloom Weaving in 1935-36.

HYDERABAD.

Survey of Handloom Weaving in Hyderabad, 1931.

Survey of Handloom Weaving by Industries Department, 1937.

MYSORE

Survey of Handloom Weaving in Mysore by the Industries Department, 1940.

TRAVANCORE

Special Survey of Handloom Weaving in Travancore State, 1940.

OTHER PUBLICATIONS.

Industrial Arts of India, Sir George Birdwood, London.

Journal of Indian Art Volumes, London.

Cotton Painting and Printing in the Madras Presidency, W. S. Hadaway, 1917.

A Plan for Rural Development, Dr. J. C. Kumarappa.

Economics of Khaddar, R. B. Gregg, 1925.

Village Industries and Reconstruction, Bharatan Kumarappa.

Handloom Weaving in Madras Presidency, Prof. N. G. Ranga.

Handloom Weaving in South India, Dr. K. S. Venkatraman.

Cottage Industry in Indian Economy, All India Congress Committee, 1947.

II. ACTS FOR PROMOTION OF COTTAGE INDUSTRIES

A. INDUSTRIAL LEGISLATION

I. ALL INDIA

THE KHADDAR (NAME PROTECTION) ACT, 1934

(1) The Khaddar (Name Protection) Act, 1934 (Passed by the Indian Legislature: Received assent of Governor-General on 13-3-1934).

An Act to regulate the use of the words "Khaddar" and 'Khadi' when applied as a trade description of woven materials.

Whereas it is expedient to regulate the use of the words 'Khaddar' and 'Khadi' when applied as a trade description of woven materials; It is hereby enacted as follows: This Act may be called the Khaddar (Name Protection) Act, 1934.

(2) It extends to the whole of British India, including British Baluchistan and the Sonthal Parganas.

(3) This section shall come into force at once, and section 2, shall come into force in any province on such date as the Local Government may, by notification in the local official Gazette, appoint in this behalf.

The words 'Khaddar' and 'Khadi', whether in English or in any Indian vernacular language, when applied to any woven material shall be deemed to be a trade description within the meaning of the Indian Merchandise Marks Act, 1889, indicating that such material is cloth woven on handlooms in India from cotton yarn handspun in India.

II. BENGAL

THE BENGAL STATE AID TO INDUSTRIES ACT, 1931

(BENGAL ACT III OF 1931)

(As modified up to the 15th March, 1941).

STATEMENT OF REPEALS AND AMENDMENTS.

Repealed in part and amended.—The Government of India (Adaptation of Indian Laws) Order, 1937.

NOTE.—In reprinting this Act,—

(1) matters repealed have been omitted, explanatory notes being inserted;

(2) the amendments have been inserted in their proper places with explanatory foot-notes;

(3) the marginal notes to sections have been revised, wherever this was necessary, in order to bring them into harmony with the amendments made in the sections.

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7. Term of office.
8. Removal of members.
9. Casual vacancies.
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18. (*Repealed.*)
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22. Inspection and returns.
23. Disposal of profits during continuance of State aid.
24. Power of Board to receive donations, etc.
25. Method of recovery of money due.
26. Power to Provincial Government to terminate aid on account of fault.
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28. Supervision of assisted industry.
29. Recovery of sums due.
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THE BENGAL STATE AID TO INDUSTRIES ACT, 1931.¹

(AS MODIFIED UP TO THE 15TH MARCH, 1941.)

[22nd October, 1931.]

An Act to provide for the giving of State aid to industries in Bengal.

WHEREAS it is expedient to make provision for the giving of State aid to industries in Bengal;

AND WHEREAS the previous sanction of the Governor-General under sub-section (3) of section 80-A of the Government of India Act has been obtained to the passing of this Act;

It is hereby enacted as follows:—

1. *Short title, local extent and commencement.*—(1) This Act may be called the Bengal State Aid to Industries Act, 1931.

(2) It extends to the whole of Bengal.

¹ For Statement of Objects and Reasons, see *Calcutta Gazette*, 1930, Pt. IV, page 107; and for report of the Select Committee, see *ibid.*, page 148; and for Proceedings in Council, see Bengal Legislative Council Proceedings, Vol. XXXV, p. 203 and Vol. XXXVII, pp. 140 and 217.

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(3) It shall come into force on such date¹ as the ²[Provincial Government] may, by notification, appoint.

2. *Definitions.*—In this Act, unless there is anything repugnant in the subject or context,—

(1) “Board” means the Board of Industries established under section 3;

(2) “Chairman” means the Chairman of the Board;

(3) “Director” means the Director of Industries, Bengal, and includes any person appointed by the ²[Provincial Government] to discharge the functions of the Director under this Act;

(4) “industry” means any industrial business or enterprise, including agriculture, undertaken or conducted by any person;

(5) “machinery” includes plant, apparatus, tools and other appliances required for carrying on any industrial operation or process;

(6) “notification” means a notification published in the ³[*Official Gazette*];

(7) “owner” means the person who owns any industrial undertaking, and includes the successors in interest of such person in respect of such undertaking; and

(8) “prescribed” means prescribed by rules made under this Act.

3. *Establishment of a Board of Industries.*—(1) The ²[Provincial Government] shall, as soon as possible after the commencement of this Act, establish a Board to be called “the Board of Industries,” for carrying out the purposes of this Act, and consisting of the following members, namely:—

¹ The Act came into force on the 15th January, 1932, *vide* notification No. 7392 Ind., dated the 23rd December, 1931, published in the *Calcutta Gazette*, dated the 31st December, 1931, Pt. I, page 1636.

² These words were substituted for the words “Local Government” by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

³ These words were substituted for the words “Calcutta Gazette” by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

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(a) two members, not being ¹[servants of the Crown], to be appointed by the ²[Provincial Government];

(b) one member, being an employee of the Imperial Bank of India, to be appointed by the ²[Provincial Government];

(c) two members to be elected by the Bengal Legislative ³[Assembly] from among the ⁴* members of the ³[Assembly];

(d) one member to be elected in the prescribed manner by the Bengal Chamber of Commerce;

(e) one member to be elected in the prescribed manner by the Bengal National Chamber of Commerce;

(f) one member to be elected in the prescribed manner by the Marwari Association;

(g) one member to be elected in the prescribed manner by the Calcutta Trades Association;

(h) the Director :

Provided that the Board shall have power to co-opt for the discussion of any particular question before it not more than three members specially qualified to advise on the matter in question or having special knowledge of local conditions in the area where the industry in question is situate.

(2) The Director shall be, *ex-officio*, Secretary to the Board.

4. *Procedure in default of election of members.*—If, by such date as may be fixed by the ²[Provincial Government], any of the bodies referred to in clauses (c), (d), (e), (f) and (g) of subsection (1) of section 3 does not elect the member to be elected by it under the provisions of that section the ²[Provincial Government] shall appoint a suitable person to be such member, and any person so appointed shall be deemed to be a member as if he had been duly elected by the body failing to elect a member under the said provisions.

¹ These words were substituted for the words "Government servants" by Sch. IV to the Government of India (Adaptation of Indian Laws) Order, 1937.

² See foot-note 2 on p. 14, *ante*.

³ This word was substituted for the word "Council", *ibid*.

⁴ The word "non-official" was omitted, *ibid*.

5. *Chairman and Vice-Chairman.*—The Board may from time to time elect, for such periods, respectively, as it thinks fit, two of its members to be Chairman and Vice-Chairman.

6. *Elections and appointments to be notified in Gazette.*—The names of the Chairman and Vice-Chairman and of the appointed and elected members of the Board shall be published by the ¹[Provincial Government] in the ²[*Official Gazette*].

7. *Term of office.*—(1) The Chairman may resign his office by giving notice in writing to the Board; and on such resignation being accepted, shall be deemed to have vacated his office.

(2) The Vice-Chairman and any other appointed or elected member may resign his office by giving notice in writing to the Chairman; and, on such resignation being accepted by the Chairman, shall be deemed to have vacated his office.

(3) Subject to the provisions of this Act, the appointed or elected members shall hold office for a term of three years and may, on the expiration of such term, be re-appointed or re-elected.

(4) Notwithstanding the expiration of the term of three years mentioned in sub-section (3), an appointed or elected members shall continue to hold office until the vacancy caused by the expiration of the said term has been filled.

8. *Removal of members.*—(1) The ¹[Provincial Government] may, by notification, remove the Chairman, Vice-Chairman or any member of a Board if he—

(a) is absent without leave for more than four months continuously from the jurisdiction of the Board;

(b) refuses to act or becomes incapable of acting as a member of the Board;

(c) is declared insolvent;

(d) is convicted of any such offence or is subjected by a criminal court to any such order as in the opinion of the ¹[Provincial Government] implies a defect of character which unfits him to continue to be a Chairman, Vice-Chairman or member of a Board;
or

(e) without excuse sufficient in the opinion of the ¹[Provincial Government], is absent without the consent of the Board from more than four consecutive meetings of the Board.

¹ See foot-note 2 on p. 14, *ante*.

² See foot-note 3 on p. 14, *ante*.

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(2) The [Provincial Government] may fix a period during which any person so removed shall not be eligible for re-appointment or re-election.

9. *Casual vacancies.*—When the place of an appointed or elected member of a Board becomes vacant by his removal, resignation or death, a new member shall be appointed or elected in the manner provided in section 3, and shall hold office so long as the member whose place he fills would have been entitled to hold office if such vacancy had not occurred:

Provided that no act of the Board, or of its officers, shall be deemed to be invalid by reason only that the number of members of the Board at the time of the performance of such act was less than the number provided by section 3.

10. *Allowances and fees.*—The members and staff of the Board and the members of Committees appointed by the Board shall be paid travelling and daily allowances of the prescribed amount and on the prescribed conditions for attending meetings of the Board, and may also be paid fees of the prescribed amount and on the prescribed conditions for attending meetings of the Board, or for performing any duty assigned to them by the Board for the purposes of this Act.

11. *President at meetings.*—(1) The Chairman, or, in his absence, the Vice-Chairman, shall preside at every meeting of the Board, and shall have a second or casting vote in all cases of equality of votes.

(2) In the absence of both the Chairman and Vice-Chairman, the members present at any meeting may elect one of their number to preside, who shall have a second or casting vote in all cases of equality of votes.

12. *Interested members not to vote.*—No member of a Board shall vote on any question coming before the Board for consideration in which (otherwise than in its general application to all persons and properties within the province) he has a pecuniary interest.

13. *Delegation of functions of Chairman.*—(1) The Chairman, with the consent of the Board, may authorise the Vice-Chairman by an order in writing to exercise any of the powers conferred or to perform any of the duties imposed on the Chairman by this Act, and thereupon the responsibility of the Chairman in respect of such

¹ See foot-note 2 on p. 14, ante.

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powers and duties shall devolve upon the Vice-Chairman during the continuance of such order.

(2) When the office of Chairman is vacant, the Vice-Chairman shall exercise the functions of the Chairman until a new Chairman is appointed.

14. *Power of Board to make regulations.*—(1) The Board may make regulations in regard to the following matters, namely:—

- (i) the time and place of its meetings;
- (ii) the manner in which notice of meetings shall be given;
- (iii) the conduct of proceedings at meetings;
- (iv) the division of duties among the members of the Board;
- (v) the appointment, duties and procedure of special committees consisting wholly of members of the Board or partly of such members and partly of other persons; and
- (vi) generally, the carrying out of the purposes of this Act.

(2) Any regulation made under sub-section (1) which is repugnant to the provisions of any rule made under section 32 shall, to the extent of such repugnancy, but not otherwise, be void.

15. *Supersession of Board.*—(1) If at any time it appears to the ¹[Provincial Government] that the Board is not properly performing the duties imposed upon it by or under this Act, the ¹[Provincial Government] may, after considering any explanation offered by the Board, by an order in writing specifying the reasons for so doing, remove all appointed and elected members of such Board and direct that the vacancies shall thereupon be filled by election in respect of elected members and by appointment in respect of appointed members or that all the vacancies shall be filled by appointment.

(2) From the date of an order under sub-section (1) until the vacancies are filled, all powers and duties of the Board shall be exercised and performed by such person, in such manner, as the ¹[Provincial Government] may direct.

16. *Duty of Board.*—It shall be the duty of the Board to receive, and, after such inquiry, if any, as it deems necessary or may be required by this Act to report to the ¹[Provincial Government] upon, applications for State aid, to frame complete schemes and programmes for such State action as the Board considers necessary for the steady and progressive development of industries for

¹ See foot-note 2 on p. 14, ante.

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the consideration of the ¹[Provincial Government] and to advise the ¹[Provincial Government] on any other matter that may be referred to it.

17. *Documents and reports to be furnished to the Provincial Government.*—If the ¹[Provincial Government] so directs, the Chairman shall forward to the ¹[Provincial Government] any document and prepare and submit any report relating to the work of the Board.

18. [*Board to appoint, punish and dismiss its officers and servants.*] *Omitted by Sch. IV to the Government of India (Adaptation of Indian Laws) Order, 1937.*

19. *Forms of State aid.*—(1) Subject to the provisions of section 21, the ¹[Provincial Government] on the recommendation of the Board may grant State aid to an industry in all or any of the following forms, namely:—

(a) the grant of a loan to be secured and repaid in the prescribed manner and upon such terms as may be fixed by the order granting it:

Provided that no such loan shall exceed fifty *per cent.* of the net value of the assets of the industry to which it is granted after deducting all encumbrances thereon existing at the time when an application is made under section 16. Such value shall be ascertained by the Board in the prescribed manner:

Provided also that every such loan shall, unless the ¹[Provincial Government], for reasons to be recorded in writing, otherwise directs, be repayable within not more than ten or where the whole loan is secured on land or buildings or both within not more than twenty years after the date of the advance of the loan or, where the loan is advanced in instalments, after the date of the advance of the last instalment:

Provided also that the ¹[Provincial Government], for reasons to be recorded in writing, may, on the application of the owner of an industry to which such loan has been granted, in exceptional cases, vary the terms fixed by the order granting the loan;

(b) the guarantee of a cash credit, overdraft, or fixed advance with a bank to be secured and the amount realised thereunder by any industry to be repaid in the prescribed manner;

(c) the taking of shares and debentures:

¹ See foot-note 2 on p. 14, *ante*.

Provided that the amount paid by the ¹[Provincial Government] for such shares and debentures shall not exceed the amount already paid by other persons for shares and debentures in the same industry;

(d) the guarantee of interest on preference shares or debentures to be secured and the amount realised thereunder by any industry to be repaid in the prescribed manner;

(e) the guarantee of a minimum return on the whole or part of the capital of a joint stock company to be secured and the amount realised thereunder by any industry to be repaid in the prescribed manner;

(f) the grant on favourable terms of land, raw material, firewood, water or any other ²[property vested in His Majesty for the purposes of the Province];

(g) the payment of a subsidy for—

(i) the conduct of research;

(ii) the purchase of machinery; and

(h) subject to the prescribed conditions, the supply of machinery on the hire-purchase system.

(2) In the case of the grant of any of the forms of State aid specified in clauses (f) and (g) of sub-section (1), the ¹[Provincial Government] shall ordinarily in the order granting such aid fix a period of years and a rate of interest on the capital invested in the industry so aided, and, if within such period the industry pays a rate of interest or a dividend in excess of the rate so fixed, the value of the aid granted, as ascertained by the prescribed authority in the prescribed manner, shall be paid at the expiration of the said period by the owner of the industry to the ¹[Provincial Government].

(3) In no case shall the total value of all State aid granted to an industry, as ascertained by the prescribed persons in the prescribed manner, exceed the limit specified in the first proviso to clause (a) of sub-section (1).

¹ See foot-note 2 on p. 14, *ante*.

² These words were substituted for the words "property of the Local Government" by Sch. IV to the Government of India (Adaptation of Indian Laws) Order, 1937.

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20. [Delegation of power of Local Government to give State aid.] Omitted by Sch. IV to the Government of India (Adaptation of Indian Laws) Order, 1937.

21. *Industries which may be aided.*—State aid may be given—

(a) in any of the forms specified in sub-section (1) of section 19 to—

(i) a new or nascent industry,

(ii) an industry to be newly established in an area where such industries are undeveloped, and

(iii) a cottage industry, including industries conducted by groups or organisations of artisans;

(b) in the forms specified in clauses (b) and (g) (i) of the said sub-section to any industry except agriculture; and

(c) in the form specified in clause (h) of the said sub-section, to agriculture:

Provided that no State aid shall be given to any joint-stock company unless the company is registered in India with a rupee capital, and the ¹[Provincial Government] approves the composition of the Board of Directors of the company:

Provided further that every recipient of State aid shall make such provision for the training of apprentices as may be prescribed.

22. *Inspection and returns.*—The owner of any industry—

(i) when an application has been made for State aid to such industry; or

(ii) during the continuance of State aid to such industry in any of the forms specified in clauses (a), (b), (c), (d) and (e) of sub-section (1) of section 19 shall—

(a) comply with any general or special order of the ¹[Provincial Government] relating to the inspection of the premises, buildings or plant or stock-in-trade, employed, or to be employed, for the purposes of the industry;

(b) permit the inspection by the prescribed person of all accounts relating to the industry;

(c) submit the accounts relating to the industry to such audit as may be prescribed;

¹ See foot-note 2 on p. 14, *ante*.

(d) furnish in the prescribed manner to the prescribed person full returns of all products manufactured and sold both as regards description and quantity;

(e) maintain such special accounts as may be prescribed; and

(f) furnish such statements as the ¹[Provincial Government] may require.

23. *Disposal of profits during continuance of State aid.*—(1) During the continuance of State aid to any industry under section 19 the profits of such industry shall, if distributed, be distributed only after interest due on debentures and loans has been paid and an amount reasonable in the opinion of the ¹[Provincial Government] has been set aside for depreciation or obsolescence of plant and buildings and a further amount which shall not be less than twenty-five *per cent.* of the net surplus available after provision for depreciation or obsolescence has been carried to a reserve fund to be utilised in the prescribed manner and payment made to a sinking fund for the purpose of repayment in the prescribed manner of any loan granted under the provision of clause (a) of sub-section (1) of section 19 or of any sum guaranteed by the ¹[Provincial Government] under the provisions of clauses (b), (d) or (e) of that sub-section.

(2) No dividend shall be paid to shareholders and no profit shall be taken by the owner in excess of such percentage rate upon the amount of the paid-up capital invested in the industry as the ¹[Provincial Government] may fix from time to time, during the continuance of State aid to the industry.

24. *Power of Board to receive donations, etc.*—The Board shall have power to receive donations, endowments or contributions from the public on such conditions as may be approved by the ¹[Provincial Government].

25. *Method of recovery of money due.*—All arrears of monies payable to the ¹[Provincial Government] under this Act, including any interest chargeable thereon and costs, if any, incurred, shall be recoverable as a public demand.

26. *Power to Provincial Government to terminate aid on account of fault.*—If the ¹[Provincial Government] decides for

¹ See foot-note 2 on p. 14, *ante*.

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reasons to be recorded in writing to terminate aid in respect of an industry on any of the following grounds, namely:—

(i) that any portion of the aid given has been misapplied, or

(ii) that there has been a breach by the owner of the industry of the provisions of this Act or of any rule made thereunder or of any condition of the grant, or

(iii) that the application on which the aid has been granted contained, or was accompanied by, any material statement by the owner which he knew to be false, or any intentional concealment by him of any material fact, which in the opinion of the ¹[Provincial Government] it was his duty to disclose, or that any such false statement or concealment was intentionally made in any inquiry made under this Act by or with the connivance of the owner or in any return under this Act, or in reply to any requisition for information under this Act, or

(iv) that the industry is being managed in such a manner as to endanger the repayment of the value of State aid granted thereto repayable under this Act, the ¹[Provincial Government] may make an order that the aid be terminated and, notwithstanding anything contained elsewhere in this Act or in any other enactment, may proceed to recover from the owner as a public demand—

(a) the whole amount of any loan outstanding, together with such interest as may be due thereon, or

(b) in cases where the aid is given otherwise than by loan, the money value of the grant as fixed at the time when it was made, together with interest at a rate not exceeding twelve and a half *per cent.* from the date of the grant till the date of realisation, and

(c) in the cases mentioned in clause (a) or clause (b) the cost of recovery, and, if the ¹[Provincial Government] so directs, the cost of any inquiry made in connection therewith, and such order shall be final.

27. *Fees.*—The ¹[Provincial Government] may charge in respect of applications, inquiries, inspections and audit by whomsoever made under this Act, such fees, if any, as may be prescribed.

28. *Supervision of assisted industry.*—During the continuance of State aid to an industry in any of the forms specified in

¹ See foot-note 2 on p. 14, *ante.*

clauses (a), (b), (d) and (e) of sub-section (1) of section 19 the ¹[Provincial Government] may, by appointing directors or inspectors, or otherwise, take such steps as it deems advisable so to control the conduct of the industry as to safeguard the interest of the ¹[Provincial Government] therein.

29. *Recovery of sums due.*—All sums payable under this Act shall, unless otherwise provided therein, be recoverable as if they were public demands.

30. *Powers and protection of persons acting under this Act.*—Every person who acts on behalf of the ¹[Provincial Government] or the Board under this Act (including every person who conducts an inquiry under this Act) shall be deemed to be a public servant within the meaning of section 21 of the Indian Penal Code, and no suit, prosecution or other legal proceeding shall lie against any such or any other person for anything which is in good faith done or intended to be done under this Act.

31. *Finality of decision of Provincial Government.*—The decision of the ¹[Provincial Government] as to whether the conditions imposed by or under any of the provisions of this Act have been satisfied shall be final.

32. *Power of Provincial Government to make rules.*—(1) The ¹[Provincial Government] may, by notification, make rules for carrying out the purposes of this Act.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the manner of election of the members of the Board referred to in clauses (d), (e), (f) and (g) of sub-section (1) of section 3;

(b) the payment of travelling and daily allowances and fees referred to in section 10 and the conditions of such payment;

2* * * *

(e) the manner of securing and repaying the loans referred to in clause (a) of sub-section (1) of section 19;

¹ See foot-note 2 on p. 14, *ante*.

² Clauses (c) and (d) were omitted by Sch. IV to the Government of India (Adaptation of Indian Laws) Order, 1937.

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(f) the manner of ascertaining the value of the assets referred to in clause (a) of sub-section (1) of section 19;

(g) the manner of securing and repaying the amounts referred to in clauses (b), (d) and (e) of sub-section (1) of section 19;

(h) the conditions of the supply of machinery on the hire-purchase system under clause (h) of sub-section (1) of section 19;

(i) the authority by which and the manner in which the values referred to in sub-sections (2) and (3) of section 19 shall be ascertained;

(j) the provision for training referred to in the second proviso to section 21;

(k) the person referred to in sub-clause (b) of clause (ii) of section 22;

(l) the audit referred to in sub-clause (c) of clause (ii) of section 22;

(m) the person to whom and the manner in which the returns referred to in sub-clause (d) of clause (ii) of section 22 shall be furnished;

(n) the accounts referred to in sub-clause (e) of clause (ii) of section 22;

(o) the manner of utilising the amount carried to a reserve fund under sub-section (1) of section 23 and the manner of repayment of any loan or any sum guaranteed by the ¹[Provincial Government] referred to in that sub-section;

(p) the fees referred to in section 27; and

(q) generally, to regulate the conduct of its duties, the management of its proceedings, and the preparation and submission to the ¹[Provincial Government] of the minutes thereof by the Board.

¹ See foot-note 2 on p. 14, *ante*.

III. BIHAR AND ORISSA
THE BIHAR AND ORISSA STATE AID TO INDUSTRIES
ACT, 1923.¹

[BIHAR AND ORISSA ACT VI OF 1923]

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¹ This Act, passed before the separation of Orissa, is still in force in both provinces.

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THE BIHAR AND ORISSA STATE AID TO INDUSTRIES ACT, 1923.

[The assent of the Governor-General to this Act was published in the Bihar and Orissa Gazette of the 31st October, 1923]

AN ACT TO REGULATE THE GIVING OF STATE AID TO INDUSTRIES.

Preamble.—WHEREAS it is expedient to regulate the giving of State aid to industries;

AND WHEREAS the previous sanction of the Governor-General has been obtained under sub-section (3) of section 80-A of the Government of India Act to the passing of this Act;

It is hereby enacted as follows:—

CHAPTER I

PRELIMINARY

1. *Short title, extent and commencement.*—(1) This Act may be called the Bihar and Orissa State Aid to Industries Act, 1923.

(2) It shall extend to the whole of Bihar and Orissa including the Santal Parganas.

(3) It shall come into force on such date as the Local Government may by notification direct.

2. *Definitions.*—In this Act, unless there be something repugnant in the subject or context,—

(1) the “Board” means the Board of Industries constituted under section 3;

(2) “Director” means the Director of Industries, and includes any officer appointed by the Local Government, either by name or by virtue of his office, to perform any of the functions of the Director under this Act;

(3) “industry” means any industrial business or enterprise, including agriculture, conducted or undertaken either by an individual or by a company, association or body of individuals whether incorporated or not;

(4) “machinery” includes plant, apparatus, tools and other appliances required for the purpose of carrying on any industrial operation or process; and

(5) “prescribed” means prescribed by rules made under this Act.

CHAPTER II

GENERAL PROVISIONS REGARDING THE GIVING OF STATE AID

3. *Constitution of Board of Industries.*—(1) There shall be constituted a Board of Industries consisting of such number of members, not less than twelve, as the Local Government may by notification determine: provided that not less than two-thirds of the total number shall be non-officials.

(2) Three of the members shall be elected by the members of the Bihar and Orissa Legislative Council from among their own number, and such number as the Local Government may from time to time by notification determine shall be elected by such associations or other bodies as the Local Government may select as best representing any particular classes of industries or

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interests. The elections shall be made in such manner as may be determined, subject to the approval of the Local Government by the electing bodies.

(3) The Director of Industries shall be a member *ex officio*.

(4) The remaining members shall be appointed by the Local Government.

(5) The Chairman of the Board shall be appointed by the Local Government from among the members of the Board.

(6) The names of the members who have been elected and appointed shall be published in the Gazette.

4. *Forms of State aid.*—The forms of State aid which may be given are the following, namely:—

(a) the grant of a loan;

(b) the guarantee of a cash credit overdraft or fixed advance with a bank;

(c) the taking of shares or debentures;

(d) the guarantee of a minimum return on the whole or part of the capital of a joint-stock company;

(e) the grant on favourable terms of land, raw material, fire-wood, water or any other property of the Local Government;

(f) the payment of a subsidy for—

(i) the conduct of research, or

(ii) the purchase of machinery;

(g) the supply of machinery on the hire-purchase system.

5. *Industries to which several forms of State aid may be given.*—State aid may be given—

(a) in any of the forms specified in section 4, to—

(i) a new or nascent industry,

(ii) an industry to be newly established in an area where such industries are undeveloped, or

(iii) a cottage industry;

(b) in the form specified in clause (g) of the said section to agriculture; and

(c) in the forms specified in clauses (b) and (f) (i) of the said section, to any industry except agriculture:

Provided that no State aid shall be given to any joint-stock company unless the company—

(a) is registered in India with a rupee capital, and

(b) conforms to such rules as may be made under this Act requiring that a minimum proportion of the members of its Board of Directors shall be Indians;

Provided further that every recipient of State aid shall make such provision for the training of apprentices as the Local Government may prescribe.

6. *Delegation of power to give certain forms of State aid.*—The Local Government may, with regard to industries generally or any particular class of industries, and subject to such conditions or restrictions as it may deem fit to impose, delegate to any other authority its power to give State aid in the forms specified in clauses (a), (b) and (g) of section 4 of an amount or value not exceeding, in respect of any one industry, five thousand rupees.

7. *Application for State aid.*—(1) Applications for State aid shall be made to the Director in such form, and shall contain such information, as may be prescribed.

(2) Every application shall be placed before the Board at a meeting for its advice, and no application shall be allowed if two-thirds of the members of the Board present at the meeting advise its rejection.

(3) No State aid shall be given of an amount or value exceeding such sum as may be prescribed or, if the Local Government or the authority to which it has delegated the power to give State aid, as the case may be, so directs, of an amount or value less than such sum, unless the application therefor has been published in the prescribed manner together with a notice calling upon persons objecting to the giving of such aid to submit their objections in such manner as may be prescribed.

(4) The Local Government or the said authority, as the case may be, shall consider every such objection and, after making such inquiry, if any, as it may deem necessary, shall make an order either admitting or disallowing it.

8. *Member of the Board not to take part in proceedings in which he is pecuniarily or professionally interested.*—No member of the Board shall vote or take part in the discussion of any question coming up for consideration at a meeting of the Board if the question is one in which he or his partner has any direct or indirect pecuniary

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interest, or in which he is interested professionally on behalf of a client or as agent for any person other than the Government, a local authority or a railway company.

CHAPTER III

PROVISIONS REGULATING THE GIVING OF STATE AID OTHERWISE THAN BY THE SUPPLY OF MACHINERY ON THE HIRE-PURCHASE SYSTEM

9. *Limitation of amount of loans.*—(1) No loan shall be granted to any industry of an amount exceeding such percentage as may be prescribed of the net value of the assets of the industry after the deduction of the value of all encumbrances existing at the time when the application is made.

(2) The valuation of the assets under sub-section (1) shall be made by the Director in the prescribed manner. For the purpose of such valuation the additional assets which may be created by the grant of such State aid may be taken into account to such extent as may be prescribed.

10. *Loans, how secured.*—Every loan granted to an industry shall be secured by a mortgage or floating charge upon the whole of the assets of such industry, subject to any encumbrances existing at the time when the loan is granted, and by such collateral security, if any, as the Local Government may require.

11. *Inspection and returns.*—In any case in which an application for a loan has been made under this Chapter, the applicant, and at any time during the currency of a loan that has been granted, the grantee, shall be bound—

(a) to comply with any general or special order of the Local Government relative to the inspection of the premises, buildings, machinery and stock-in-hand of the industry;

(b) to permit the inspection of all accounts relative to the industry;

(c) to furnish full returns of all products manufactured or sold both as regards description and quantity;

(d) to maintain such special accounts and to furnish such statements as the Local Government may from time to time require; and

(e) to submit the accounts of the industry to such audit as the Local Government may prescribe.

12. *Power of Local Government to adjust security during currency of loan.*—If at any time the outstanding balance of the loan is found to exceed the percentage fixed under section 9, the Local Government may either recover so much of such balance as is in excess of such percentage, or accept such additional or collateral security as it may deem sufficient.

13. *Power of Local Government to recover loans.*—If the grantee fails to comply with any order under clause (a) of section 11, or does not permit or obstructs the inspection of the accounts of the industry, or makes default in respect of any of the particulars specified in clauses (c), (d) and (e) of the said section, or if on inspection of such accounts, returns and statements or audit the Local Government is of opinion that State aid should be withdrawn, or if the grantee disposes of any profits in contravention of the provisions of section 18, the Local Government may, after considering any representation the grantee may make within such time as the Local Government may allow in this behalf, proceed to recover the loan.

14. *Repayment of loans.*—(1) Every loan granted under this Chapter shall be made repayable by instalments within such period from the date of the actual advance of the loan or, when the loan is advanced in instalments from the date of payment of the last instalment, and shall bear interest at such rate and payable in such manner as may be fixed by the order granting the loan.

(2) The period fixed as aforesaid shall not exceed twenty years unless the Local Government, by general or special order, extends the same.

15. *Guaranteeing of cash credits, etc., with banks.*—The provisions of sections 9 to 13 (both inclusive) in respect of loans shall, subject to any rules that may be made under this Act, apply so far as may be to guarantees of cash credits, overdrafts or fixed advance with banks.

16. *Subscription for shares or debentures or guarantee of a minimum return on capital.*—The conditions of the taking of shares or debentures by the Local Government, or the guarantee of a minimum return on the whole or part of the capital of any industry, shall be—

(a) that the industry shall be subject to the conditions of section 11 in respect of inspection and returns; and

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(b) that for all shares and debentures taken by the Local Government there shall be taken by other persons shares or debentures on which an amount has been paid not less than that paid by the Local Government.

17. *Subsidies.*—(1) The condition of a grant of a subsidy for the conduct of research or the purchase of machinery or the grant on favourable terms of land, raw material, firewood, water or any other property of the Local Government, shall ordinarily be that an amount equal in value thereto shall be repaid to the Local Government at the close of such term of years as may be fixed by the Local Government in this behalf, if within that term the industry be shown to the satisfaction of the Local Government to be paying interest or a dividend upon the capital invested in such industry in excess of such rate as the Local Government may determine.

(2) No subsidy shall exceed forty *per centum* of the cost of the research or of the machinery, as the case may be.

18. *Disposal of profits when conditions on which State aid is given are not fulfilled.*—No recipient of State aid shall pay any dividend, or distribute or take any profits, in excess of such percentage rate upon the amount of the capital of the industry as the Government may from time to time fix, until the conditions on which the State aid has been granted are fulfilled. The balance of the profits, after proper amounts have been set aside for obsolescence or depreciation of machinery and buildings and for the payment of interest on debentures of loans, shall be carried to a reserve fund to be utilized in such manner as the Government may approve.

19. *Government control of industry aided.*—Notwithstanding anything elsewhere contained in this Chapter, if in any case the amount or value of the State aid given thereunder amounts to or exceeds two lakhs of rupees, the Local Government shall, and in any other case may by the appointment of Government directors or otherwise, take power to ensure such control over the conduct of the industry as shall suffice in its opinion to safeguard its interests.

20. *Recovery of moneys due under this Chapter.*—(1) All moneys recoverable under this Chapter, including any interest chargeable thereon and costs, if any incurred, if not paid when they are due may be recovered by the Director from the person aided and his surety, if any, as if they were public demands.

(2) When any sum due as aforesaid is paid to the Director by the surety or is recovered from him or out of his property by the Director, the Director shall, on the application of the surety so far as possible recover the sum from the person aided and pay it to the surety.

CHAPTER IV

SUPPLY OF MACHINERY ON THE HIRE-PURCHASE SYSTEM.

21. *Percentage of cost to be deposited by hirer.*—No machinery shall be supplied on the hire-purchase system unless the applicant therefor deposits with the Director such percentage of the cost thereof as may be prescribed.

22. *Particulars to be specified in order when application is allowed.*—When an application is allowed, the Director shall, subject to and in accordance with any rules that may be made under this Act, make an order specifying the following particulars, namely:—

(a) The amount of each instalment of rent to be paid for the hire of the machinery and the number of such instalments to be paid before the machinery shall become the property of the hirer;

(b) the amount of interest, if any, to be paid with each instalment of rent on the remaining unpaid instalments;

(c) the dates on which and the manner in which the aforesaid payments shall be made; and

(d) such other particulars as may be prescribed.

23. *Conditions of supply of machinery on hire purchase system.*—Until the hiring is terminated in the manner hereinafter provided, the following provisions shall apply, namely:—

(a) The hirer shall pay punctually without demand the instalments of rent and amount of interest specified in the order referred to in section 22.

(b) The hirer shall retain the machinery in his own possession in good and serviceable order and condition, and shall not without the previous written consent of the Director make any addition thereto, or alteration therein, nor remove the machinery from the premises specified in the application for the supply thereof.

(c) The machinery shall remain the sole and absolute property of Government, and any transfer thereof, or assignment of any right, title or interest therein, or the creation of any mortgage, encumbrance or any other charge thereon, by the hirer shall be void

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as against Government unless it has been made with the previous written consent of the Director.

(d) The machinery shall not be liable to distraint, attachment or sale by any process under any law for the time being in force.

(e) The machinery shall bear a metal plate in the prescribed form and any person who wilfully removes or defaces such plate shall be liable to a fine not exceeding five hundred rupees. It shall be presumed until the contrary is proved that machinery bearing such metal plate is the property of Government hired out under this Chapter.

(f) The hirer shall permit the Director, or any person authorized by the Director in this behalf, to inspect the machinery at all reasonable times, and the Director or such other person shall have all such powers of entry as may be necessary for the purpose of making an inspection.

(g) In addition to the foregoing conditions the hirer shall be bound by such other conditions consistent therewith as may be prescribed by rules made under this Act, or may be imposed by the Director in any particular case.

24. *Consequences of default by hirer.*—If the hirer makes default in paying the rent of the machinery, or any sum payable as interest or any other charges due from him under this Chapter, or fails to comply with any of the conditions contained in, or that may be imposed under, section 23, the Director may immediately terminate the hiring and he or any other officer authorized by him in this behalf may thereupon enter the premises in which the machinery is for the time being kept, whether such premises belong to the hirer or not, and seize and take away the same.

25. *Option of hirer to purchase machinery seized for default.*—If the machinery is seized and taken away under section 24, the hirer shall have the option to be exercised within one month after such seizure, or such longer period as may be allowed by the Director in this behalf, of purchasing the same by payment to the Director of the unpaid balance of the cost thereof, such proportion of the interest on such cost as may be prescribed, and the cost of and expenses incidental to such seizure and removal.

26. *Termination of hiring by hirer.*—The hirer may at any time terminate the hiring by returning the machinery to Government in the prescribed manner.

27. *Liability of hirer on termination of hiring under sections 24 and 26.*—If the Director terminates the hiring under section 24 and the hirer does not purchase the machinery under section 25, or if the hirer returns the machinery to Government under section 26, the hirer shall not be entitled to the refund of the sum deposited by him under section 21, or to the refund or remission of any payment made by or due from him during the hiring, and shall be liable to pay such amount, if any, as the Director may determine in respect of any loss or damage, other than by reasonable wear and tear, that may have been caused to the machinery during the hiring.

28. *Termination of hiring on payment of cost of machinery.*—When, after credit has been given for the amount deposited under section 21, the hirer has paid in full all the instalments of rent mentioned in clause (a) of section 22, and the amount of interest, costs, and other charges payable by him under this Chapter, he shall become the owner of the machinery and shall thereupon remove from the same the metal plate mentioned in clause (e) of section 23:

Provided that if at any time during the hiring the hirer pays in advance the remaining instalments of rent the interest payable in respect thereof shall be remitted.

29. *Penalty for omission to remove metal plate when machinery becomes property of hirer.*—If the hirer wilfully omits, after receiving due notice, to remove the metal plate from any machinery which has become his property under section 28, he shall be liable to a fine not exceeding fifty rupees.

30. *Recovery of sums due under this Chapter.*—All sums payable under this Chapter shall be recoverable as if they were public demands.

CHAPTER V

SUPPLEMENTAL,

31. *Finality of decision of Local Government and bar of suits and proceedings in Civil and Criminal Courts.*—(1) The decision of the Local Government as to whether the conditions laid down in or under any of the provisions of this Act have been satisfied shall be final, and no suit shall be brought in any civil court to set aside or modify any order made thereunder.

(2) No prosecution, suit or other proceeding shall lie against any Government officer or other authority vested with powers under

V] B. & O. STATE AID TO INDUSTRIES ACT

this Act for anything in good faith done or intended to be done thereunder.

32. *Power to make rules.*—(1) The Local Government may after previous publication make rules consistent with this Act for the carrying out of all or any of its purposes.

(2) In particular and without prejudice to the generality of the foregoing power, the Local Government may make rules regulating or determining all or any of the following matters, namely:—

(a) the conduct of proceedings of the Board including the manner in which notice of a meeting shall be given, the fixing of a quorum and the due record of proceedings;

(b) the particular classes of industries to which and the purposes for which State aid may be given under section 5;

(c) the delegation of the power to give State aid under section 6;

(d) the manner of making applications for State aid under sub-section (1) of section 7 and all matters relative to the publication of such applications, and the submission and disposal of objections under sub-sections (3) and (4) of the said section;

(e) the manner of ascertaining the net value of the assets of an industry and the percentage of such value which may be granted as a loan under section 9;

(f) the nature of the security to be taken and the conditions under which State aid may be given under section 10;

(g) the inspection under section 11 of the premises, buildings, machinery and stock-in-hand and the mode of keeping and auditing the accounts and of furnishing returns of any industry in respect of which State aid has been given;

(h) the guaranteeing by the Local Government of cash credits, overdrafts or fixed advances with banks under section 15, and the recognition of banks for this purpose;

(i) the fixing of the period for the repayment of loans under section 14 and the conditions and dates of the repayment of subsidies and grants under section 17;

(j) the application under section 18 of profits in the cases in which the conditions on which State aid has been given have not been fulfilled;

(k) the appointment and functions of Government directors under section 19 and the prescribing of other methods of control of industries to which State aid has been given;

(l) the percentage of the cost of machinery to be deposited under section 21;

(m) the additional particulars to be specified in the order referred to in section 22, and the conditions on which machinery may be supplied on the hire-purchase system;

(n) the form of the metal plate referred to in clause (e) of section 23;

(o) the proportion of the interest on the cost of the machinery payable under section 25;

(p) the manner in which machinery may be returned to Government under section 26; and

(q) the recovery of any sums payable under this Act.

33. *No State aid to be given save in accordance with provisions of Act.*—No State aid shall be given by the Local Government to any industry, except agriculture, save in accordance with the provision of this Act:

Provided that nothing in this Act shall apply to the power of the Local Government to—

(a) start or conduct an industry for experimental purposes or with a view to stimulate industrial development;

(b) assist an industry by agreement to purchase on business terms the whole or a portion of the products of the same;

(c) assist an industry by giving free of charge or on favourable terms, the services of Government officials or experts either in the capacity of advisers or for a limited period not exceeding one year for starting or conducting such industry;

(d) assist an industry in connexion with industrial education or the training of apprentices;

(e) acquire land under the provisions of the Land Acquisition Act, 1894, for a company; or

(f) assist a company formed for the purpose of supplying electricity, gas, water or any other service which in the opinion of the Local Government is likely to prove useful to the public.

IV. BOMBAY

1. RULES FOR GRANT OF SUBSIDIES AND LOANS TO
BACKWARD CLASS ARTISANS FOR PURCHASE
OF APPLIANCES AND TOOLS*(Paragraph (2) of Government Resolution)*

Improved types of tools and implements, etc., may be supplied and a loan to provide working capital may be given by the Director of Industries to deserving *bona fide* craftsmen on the following terms:—

(1) Fifty per cent. of the cost of equipment delivered and erected at site ready for operation and 50 per cent. of the working capital shall be met by Government and shall be considered as a subsidy to the craftsman.

(2) Fifty per cent. of the cost of equipment delivered and erected at site ready for operation and 50 per cent. of the working capital shall be treated as a loan free of any interest repayable in instalments by the craftsman, to Government.

(3) Repayment of the loan under (2) above may be spread over a period not exceeding five years in equal monthly instalments, payment of first instalment to commence after eighteen months from the date of disbursement of the loan.

(4) The Director of Industries or an officer of the Department of Industries deputed by him shall select and supply and give possession of the improved appliances and equipment to the craftsman.

(5) The craftsman shall accept and adopt in his works the equipment, apparatus and appliances mentioned in rule (4) above.

(6) The instalments referred to in rule (3) above shall be paid by the craftsman into the Local Treasury and a copy of the chalan shall be sent by him to the Director of Industries.

(7) The Director of Industries shall maintain a separate register and record therein all the cases in which appliances and loans have been given to craftsmen on the above terms.

(8) Copies of the order sanctioning the grant of improved appliances and a loan under these rules to craftsman shall be

forwarded by the Director of Industries to the District Industrial Officer of the district concerned or in his absence to such other subordinate officer of the Department of Industries stationed in the district as the Director of Industries may choose and it shall be the duty of that officer to ensure that instalments are duly paid into the treasury by the craftsman concerned.

(9) The Director of Industries under the rules 1 and 2 above may sanction a total expenditure not exceeding Rs. 400 in respect of the supply of improved appliances and working capital in any individual case.

(10) Recoveries of instalments under these rules shall be effected as arrears of land revenue.

(11) In the event of default in payment of instalments, it shall be open to the Director of Industries to take possession of the equipment and appliances and dispose of the same and credit the receipts to Government. The difference between the Government outlay and sale receipts shall be payable by the craftsman as arrears of land revenue.

(12) The craftsman shall execute an agreement in the attached form agreeing to the terms laid down before any equipment is supplied to him or loan money disbursed to him.

FORM OF APPLICATION FOR SUBSIDY AND LOAN TO BACKWARD CLASS ARTISANS UNDER BACKWARD CLASS SCHEME

(APPLICATION FROM THE BACKWARD CLASS TRAINEES UNDER THE
BACKWARD CLASS SCHEME ONLY WILL BE CONSIDERED.)

1. Full name of applicant.
2. Place of residence.
3. (a) Age; Date of birth.
(b) Caste with sub-caste.
4. Whether a hereditary craftsman.
(Proofs should be provided.)
5. Academical qualifications, if any.
6. Technical or business qualifications.
7. Name of the Institute of his Department
wherein the applicant was trained.
8. Place of work.
9. Date and year of starting of industry
or business, if any.

V] BOMBAY RULES FOR GRANTS & SUBSIDIES

10. Name and details of industry or business.
11. Names and details of tools, implements or machinery required.
12. Cost of tools, implements or machinery in detail.
13. Names of raw materials if known.
14. Sources of raw materials if known.
15. Approximate cost of production and estimated profits.
16. Capital invested or to be invested.
17. Market for finished goods.
18. Present value of the concern.
19. Amount of debts if any.
20. The form and extent of financial assistance required.
21. (a) The amount of subsidy and loan for the purchase of machinery and tools, etc.
(b) The amount of subsidy required for working capital.
22. Instalments by which the loan will be repaid.
23. Two references for ability to do business or to start industry.
24. Any other useful information.
25. Permanent postal address.

Date 19 . *Signature of applicant.*

(N.B.—Separate sheets may be attached if the space is found insufficient.)

2. RULES GOVERNING GRANTS TO EDUCATED UNEMPLOYED TO START INDUSTRIES OF THEIR OWN.*

(*Accompaniment to G. R., G. D., No. 4514-33 dated the 12th March, 1942.*)

1. Grants will be made by the Director of Industries to (i) educated persons who have been trained in a particular industry to set

* A short note on State aid to educated unemployed is given in the Appendix on pp. 47—8.

up in that industry or in business or trade connected therewith, and (ii) those already in business, industry or trade with a view to help them to develop and expand their activities.

2. Grants will be given—

(i) for the purchase of tools, implements, and appliances or machinery, including the cost of erection,

(ii) for enabling the recipient to tide over the early stages of manufacture on a commercial scale,

(iii) for helping the recipient to meet losses due to poor production in the beginning,

(iv) for working capital in special cases,

(v) for other similar purposes depending on the circumstances of each case.

3. (a) The grant shall not ordinarily exceed Rs. 1,000 and in no case Rs. 2,000 without the special sanction of Government provided that, if a grant is sanctioned for two or more persons for a joint undertaking, the total sum granted may be equal to what would have been admissible to each of them separately.

(b) Fifty per cent. of the grant stated above shall be considered as a subsidy to the educated unemployed.

(c) Fifty per cent. shall be treated as loan free of any interest payable in instalments by the educated unemployed to Government.

(d) Repayment of the Loan under (c) above may be spread over a period not exceeding five years in equal monthly instalments; payment of first monthly instalment should commence after 18 months from the date of the disbursement of the loan.

(e) The instalment referred to in rule 3 (d) above shall be paid by the grantee into the local Treasury and a copy of the chalan shall be sent by him to the Director of Industries.

“NOTE.—In considering individual applications, the Director of Industries may, in cases in which circumstances justify such a course, sanction a grant on the basis of recovery of the whole of the grant or any percentage higher than 50 notwithstanding the provisions contained in rules 3 (b) and 3 (c) above.”

4. No recurring grant shall be made but Government may, in special cases, give grants in two or more successive years to the same persons.

V] BOMBAY RULES FOR GRANTS & SUBSIDIES

5. Applications for grants giving information under prescribed heads should be submitted to the Director of Industries in prescribed form A. The Director may summarily reject applications which in his opinion are *prima facie* not fit cases for such grants. Applications from more than one person for a joint undertaking will be given preference.

6. Grants sanctioned under these rules will be paid after the applicant executes an agreement in form "B" applied to those rules and in instalments according to requirements of each case as determined by the Director of Industries. The payment of second and subsequent instalments in such cases shall be made only after it is proved to the satisfaction of the Director of Industries that a major portion of the last instalment has been actually utilised on the object or objects for which it was given.

7. The grantee shall maintain an account of the expenditure incurred out of the grant received by him in such form as may be prescribed by the Director of Industries and subject to such instructions as he may give in any case. In particular, such accounts will show the amount spent thereon and the undisbursed amount, if any. The grantee shall produce on demand, his accounts for the inspection of the Director of Industries or such other officer as the Director of Industries may authorise in this behalf.

8. The grantee shall submit to the Director of Industries:—

(i) a progress report of the work for which the grant was given with a statement showing item wise how the Government grant was being spent by him, at such time as may be directed by general or special order of the Director of Industries;

(ii) a final report after the work has been completed and grant spent;

(iii) such additional information as may be required by the Director of Industries.

9. (a) If the Director of Industries is satisfied that the conditions of the grant have not been fulfilled, the grantee will be bound to refund, in such manner as may be laid down, the whole or such portion of the grant as the Director of Industries may think fit.

(b) Recoveries to be made under the above sub-rule shall be made as an arrear of land revenue and provision to this effect shall be made in the agreement under Rule 6.

10. The Director of Industries shall within six months of the close of each financial year, submit to the Government a report on the grants made during the year. This report will, among other things, contain—

(a) a statement of the grants classified with reference to the various classes of industry promoted by the grants, and showing the manner in which each grant was spent;

(b) a statement showing the cases in which on account of the non-fulfilment of the conditions of the grant or on account of any other cases the grantees were required to refund the grants and the extent to which refunds were actually made together with a note of the reasons for non-realisation of any outstanding balances;

(c) a note explaining the extent to which the objects for which they were given were fulfilled and in the case of grants that failed in their purpose, a concise statement of the reasons for the failure.

DEPARTMENT OF INDUSTRIES

OLD CUSTOM HOUSE YARD, FORT, BOMBAY

FORM OF APPLICATION FOR GRANT-IN-AID TO EDUCATED UNEMPLOYED

(In filling up this form, give as much detailed information as possible.

Use separate sheets if space is inadequate)

1. Full name of applicant (s)
(with father's name)
2. Place of residence.
3. Age, date of birth and place of birth.
4. General educational qualifications.
5. Technical or business qualifications and practical experience.
(Names of institutions where trained and names of organisations where practical experience gained must be given. State the designation of the post held.)
6. Nature of industry or business in respect of which the grant is applied for.
7. Where do you propose to work?

V] BOMBAY RULES FOR GRANTS & SUBSIDIES

8. Is the industry or business already started? If so, give the date and year of starting.
9. Names, specifications and cost of tools, implements or machinery required. Use separate sheets and submit statement as below:—

| Name. | Specifications. | Cost. |
|-------|-----------------|-------|
| | | |

10. Names and value of raw materials required.
11. Sources of raw materials, whether local, provincial or purchased from outside the Province.
12. Approximate cost of production and estimated profits per unit. (Piece, dozen, seer, maund, etc.)
13. Capital invested or to be invested
 - (a) Fixed capital such as cost of machinery, tools, appliances, shed, etc.
 - (b) Working capital for the purchase of raw materials, payment of wages, etc.
 - (c) Annual turnover of the existing business.
14. Market for finished goods, whether local, provincial or all India.
15. Present value of the concern. Submit an up to date balance sheet showing details of assets and liabilities as well as profit and loss account.
16. Amount of debts, if any. (Disclose all details and rate of interest).

COTTAGE INDUSTRIES OF INDIA

[Sec.

17. The form and extent of financial assistance required

(a) for capital goods.

(b) for working capital.

18. The rate at which the returnable part of the grant will be repaid.

19. Two references for ability to do business or to start industry. (Must be respectable permanent residents of the Province).

20. Any other useful information.

21. Permanent postal address.

Date 19 . *Signature of the applicant.*

(Return this application to *Director of Industries when duly completed.*)

APPENDIX

A SHORT NOTE ON STATE-AID TO INDUSTRIES

1. Government were pleased to sanction a scheme for assistance to educated unemployed persons to start or develop industries of their own or to set up in business or trade connected therewith, in March, 1942. The Minimum qualifications generally required of an applicant for being eligible for assistance under the scheme are: (1) he should have obtained academic education upto a standard of what is known as non-matric, (2) he should have received systematic training in a technical or industrial institution in the particular industry, to start which industry or business or trade connected therewith he requires the assistance or (3) he should have very considerable experience in the industry, business or trade he is interested in.

2. The scheme has been in operation for over four years and upto this date grants have been sanctioned to 55 persons to enable them to start or develop their respective industries. The total amount so sanctioned upto the end of March, 1946 comes upto Rs. 62,115 out of which an amount of Rs. 17,757-8-0 is treated as subsidy and an amount of Rs. 44,357-8-0 is treated as loan, free of interest, repayable by monthly instalments spread over a period not exceeding five years. The statement below shows the number of persons assisted under the scheme, industry by industry and the amount of subsidy and loan therefor.

| Name of Industry. | Number of persons assisted. | Amount of Subsidy. | | Amount of interest free loan. | | Total amount of grant. | |
|-------------------|-----------------------------|--------------------|-------|-------------------------------|-------|------------------------|-------|
| | | Rs. | A. P. | Rs. | A. P. | Rs. | A. P. |
| Chemical. | 11 | 4,525 | 0 0 | 7,025 | 0 0 | 11,550 | 0 0 |
| Engineering. | 10 | 3,895 | 0 0 | 8,095 | 0 0 | 11,990 | 0 0 |
| Art crafts. | 7 | 2,787 | 8 0 | 3,787 | 8 0 | 6,575 | 0 0 |
| Weaving. | 5 | 1,000 | 0 0 | 5,300 | 0 0 | 6,300 | 0 0 |
| Oil Extraction. | 5 | 2,000 | 0 0 | 5,000 | 0 0 | 7,000 | 0 0 |

| Name of Industry. | Number of persons assisted. | Amount of Subsidy. | | Amount of interest free loan. | | Total amount of grant. | |
|---------------------------------|-----------------------------|--------------------|-------|-------------------------------|-------|------------------------|-------|
| | | Rs. | A. P. | Rs. | A. P. | Rs. | A. P. |
| Dyeing and Printing | 4 | .. | | 4,000 | 0 0 | 4,000 | 0 0 |
| Dairy and Confectionery. | 4 | 500 | 0 0 | 3,500 | 0 0 | 4,000 | 0 0 |
| Paper Manufacturing. | 3 | 2,250 | 0 0 | 2,250 | 0 0 | 4,500 | 0 0 |
| Tanning. | 3 | .. | | 3,100 | 0 0 | 3,100 | 0 0 |
| Hosiery. | 1 | 500 | 0 0 | 500 | 0 0 | 1,000 | 0 0 |
| Slate pencil. | 1 | .. | | 1,500 | 0 0 | 1,500 | 0 0 |
| Card board slate manufacturing. | 1 | 300 | 0 0 | 300 | 0 0 | 600 | 0 0 |
| | 55 | 17,757 | 8 0 | 44,357 | 0 0 | 62,115 | 0 0 |

3. Out of the 55 persons assisted, some persons did not utilise the grants for the purpose for which they were granted, and as such they were asked to refund the grants.

4. In conclusion, the scheme is working satisfactorily and there is ample scope.

V. CENTRAL PROVINCES AND BERAR

1. THE CENTRAL PROVINCES STATE AID TO
INDUSTRIES ACT, 1933

[CENTRAL PROVINCES ACT No. XII OF 1933]

[As amended in 1946]

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THE CENTRAL PROVINCES STATE AID TO
INDUSTRIES ACT, 1933.

[CENTRAL PROVINCES ACT No. XII OF 1933.]

An Act to regulate the grant of State aid to Industries.

Preamble.—Whereas it is expedient to regulate the grant of State aid to industries in the Central Provinces;

And whereas the previous sanction of the Governor-General required under sub-section (3) of section 80-A of the Government of India Act and the previous sanction of the Governor required under section 80-C of the said Act have been obtained to the passing of this Act;

It is hereby enacted as follows:—

CHAPTER I.

PRELIMINARY.

1. *Short title, extent and commencement.*—(1) This Act may be called the Central Provinces Aid to Industries Act, 1933.

(2) It extends to the whole of the Central Provinces.

(3) It shall come into force on such date as the Local Government may, by notification, appoint in this behalf.

2. *Definitions.*—In this Act, unless there be something repugnant in the subject or context,—

(1) the “Committee” means the Provincial Industries Committee constituted under section 3;

(2) “Director” means the Director of Industries, and includes any officer appointed by the Local Government, either by name or by virtue of his office, to perform any of the functions of the Director under this Act;

(3) “industry” means any industrial business or enterprise, conducted or undertaken either by an individual or by a company, association or body of individuals whether incorporated or not;

V] C. P. STATE AID TO INDUSTRIES ACT

(4) "machinery" includes plant, apparatus, tools and other appliances required for the purpose of carrying on any industrial operation or process; and

(5) "prescribed" means prescribed by rules made under this Act.

CHAPTER II.

GENERAL PROVISIONS REGARDING THE GIVING OF STATE AID.

3. *Constitution of Provincial Industries Committee.*—(1) There shall be constituted a Provincial Industries Committee consisting of the following members, namely:—

(a) the Minister for Commerce and Industry who shall be the President of the Committee;

(b) the members representing the commerce constituencies in the Legislative Assembly of the Province;

(c) the members representing the labour constituencies in the Legislative Assembly of the Province;

(d) one member to be elected in the prescribed manner by each of the following organisations:—

(i) the Nagpur Chamber of Commerce;

(ii) the Berar Chamber of Commerce;

(iii) the Mahakoshal Chamber of Commerce; and

(iv) the Central Provinces and Berar Mining Association;

(e) not less than five and not more than ten members to be appointed by the Provincial Government, three of whom shall be persons qualified to advise on the technical aspects of industry;

(f) the Director;

(g) the Secretary to Government in the Development Department:

Provided that the Committee shall have power to co-opt for the discussion of any particular question before it not more than four members specially qualified to advise on the matter in question or having special knowledge of local conditions in the area where an industry in question is or is to be situated:

Provided further that for any meeting of the Committee the Minister shall have the power to co-opt any person for a discussion on any particular question.

(2) Any person so co-opted shall have no vote.

(3) The Director shall be *ex officio* Secretary to the Committee.

4. *Term of office.*—(1) The members of the Committee elected under clause (d) of sub-section (1) of section 3 or appointed under clause (e) of sub-section (1) of that section shall hold office for a term of three years from the date of their election or appointment, as the case may be, and may, on the expiration of such term, be re-elected or re-appointed, as the case may be.

(2) Notwithstanding the expiration of the term of three years mentioned in sub-section (1), the appointed or elected member shall continue to hold office until the vacancy caused by the expiration of the said term has been filled.

4-A. *Dissolution of Committee.*—Upon a dissolution of the Legislative Assembly of the Province, the Committee shall stand dissolved.

5. *Casual vacancies.*—A casual vacancy in the Committee shall be filled by a new member under the provision of section 3 appropriate to the category of the vacancy and the new member shall hold office for the remaining term of his predecessor:

Provided that no act of the Committee shall be deemed to be invalid by reason only that the number of members at the time of the performance of such act was less than the number provided by section 3.

6. *Forms of State aid.*—The forms of State aid which may be given are the following, namely:—

(a) the grant of a loan;

(b) the guarantee of a cash credit, overdraft or fixed advance with a bank;

(c) the guarantee of a minimum return on the whole or part of the capital of a joint-stock company for a period fixed in accordance with rules made under this Act;

(d) the guarantee of principal and interest on debentures issued for or by limited joint stock company;

(e) the acquisition of shares in a limited joint-stock company either by the payment of money or in consideration of the grant of any facility specified in clause (d) according as the Provincial Government may deem fit;

V] C. P. STATE AID TO INDUSTRIES ACT

(f) the grant, on favourable terms, of land, raw material, fuel, water or any other property or right of the Local Government, subject to the provisions of any law, rule or order for the time being in force;

(g) the grant, free of charge or on favourable terms, of the services of experts or Government officials for starting or advising an industry;

(h) the payment of subsidy for—

(i) the conduct of research or

(ii) the purchase of machinery.

7. *Industries to which several forms of State aid may be given.*

—(1) State aid may be given—

(a) in any of the forms specified in section 6, to—

(i) a new or nascent industry;

(ii) an industry to be newly established in an area where such industries are undeveloped, or

(iii) a cottage industry;

(b) in the forms specified in clauses (b), (d), (f), (g) and

(h) (i) of the said section, to any industry:

Provided that no State aid shall be given to any joint-stock company unless—

(a) the company is registered in British India with a rupee capital;

(aa) the company requires that such percentage of its share capital as the Provincial Government may fix shall be held by residents of the Province;

(b) not less than two-thirds of the members composing the board of directors of the company are Indians; and

(c) not less than two-thirds of the members composing the Managing Agency of the company are Indians:

Provided further that every recipient of State aid shall make such provision for the training of apprentices as the Local Government may prescribe.

(2) The Provincial Government may, before giving State aid under this Act, require any person to locate his head office in the province.

8. *Formation of a Company.*—(1) The Provincial Government may take such steps as are necessary or desirable to secure the for-

mation of a limited company conforming to the prescribed conditions and have it registered under the Indian Companies Act, 1913, with the object of providing industrial credit.

Delegation of powers of Provincial Government to a company.—

(2) The Provincial Government may, with regard to industries generally or to any particular class of industries, and subject to such conditions or restrictions as it may deem fit to impose, delegate to the company its power to give State aid in the forms specified in clauses (a), (b) and (d) of section 6, and such powers under this Act and the rules made thereunder as it may think fit.

(3) Upon such delegation all references to the Provincial Government in this Act or the rules made thereunder under which the power is delegated, shall be construed as references to the company.

(4) Rules shall be made under this section regulating the conditions subject to which a company shall be formed under this section and such rules may provide that a breach of any such rule or condition shall be punishable with fine which may extend to one hundred rupees.

9. *Form and contents of application for State aid.—*(1) Applications for State aid shall be made to the Secretary of the Committee in such form and shall contain such information as may be prescribed.

Application to be placed before Committee.—(2) Every application shall be placed before the Committee for its advice and no application shall be allowed if two-thirds of the members of the Committee present at the meeting advise its rejection.

(3) No State aid shall be given to an applicant before—

(a) in the case of an existing industry, owners of other units in the industry are given an opportunity to apply for the said aid; and

(b) in the case of a new industry, applications for the said aid are invited by publication of a notice in the manner prescribed.

(4) The Provincial Government may refer to the Committee any matter relating to the establishment of an industry in the Province or to the grant of State aid under this Act to any industry and it shall be the duty of the Committee to examine the matter referred to it and to advise the Provincial Government on it.

V] C. P. STATE AID TO INDUSTRIES ACT

10. *Member of the Board not to take part in proceedings in which he is pecuniarily interested.*—No member of the Committee shall vote or take part in the discussion of any question coming up for consideration at a meeting of the Committee if the question is one in which he has any direct or indirect pecuniary interest.

CHAPTER III.

PROVISIONS REGULATING THE GIVING OF STATE AID.

11. *Limitations of amount of loans.*—(1) No loan shall be granted to any industry of an amount exceeding 66 per cent. of the net value of the assets of the industry after the deduction of the value of all encumbrances existing at the time when the application is made.

(2) The valuation of the assets under sub-section (1) shall be made by such persons and in such manner as may be prescribed. For the purpose of such valuation the additional assets which may be created by the grant of such State aid may be taken into account to such extent as may be prescribed.

12. *Loan how secured.*—Every loan granted to an industry shall be secured by a mortgage or floating charge upon the whole of the assets of such industry subject to any encumbrances existing at the time when the loan is granted, and by such collateral security, if any, as the Local Government may prescribe.

13. *Inspection and returns.*—In any case in which an application for a loan has been made under this chapter, the applicant and, at any time during the currency of a loan that has been granted, the grantee shall be bound—

(a) to comply with any general or special order of the Local Government relative to the inspection of the premises, buildings, machinery and stock in hand of the industry;

(b) to permit the inspection of all accounts relative to the industry;

(c) to furnish full return of all products manufactured or sold both as regards description and quantity;

(d) to maintain such special accounts and to furnish such statements as the Local Government may, from time to time, require; and

(e) to submit the accounts of the industry to such audit as the Local Government may prescribe.

14. *Power of Local Government to adjust security during currency of loans.*—If at any time the outstanding balance of the loan is found to exceed the percentage fixed under section 11, the Local Government may either recover so much of such balance as is in excess of such percentage, or accept such additional or collateral security as it may deem sufficient.

15. *Power of Local Government to recover loans.*—If the grantee fails to comply with any order under clause (a) of section 13, or does not permit or obstructs the inspection of the accounts of the industry, or makes default in respect of any of the particulars specified in clauses (c), (d) and (e) of the said section, or if on inspection of such accounts, returns and statements or audit the Local Government is of opinion that State aid should be withdrawn, or if the grantee disposes of any profits in contravention of drawn, or if the grantee disposes of any profits in contravention of sidering any representation the grantee may make within such time as the Local Government may allow in this behalf, forthwith proceed to recover the loan.

16. *Repayment of loans.*—(1) Every loan granted under this chapter shall be made repayable by instalments within such period from the date of the actual advance of the loan or, when the loan is advanced in instalments, from the date of payment of the last instalment, and shall bear interest at such rate and payable in such manner as may be fixed by the order granting the loan.

(2) The period fixed as aforesaid shall not exceed twenty years unless the Local Government, by general or special order, extends the same.

17. *Guaranteeing of cash credits, etc., with banks.*—The provisions of sections 11, 12, 13, 14 and 15 in respect of loans shall, subject to any rules made under this Act, apply so far as may be to the guarantee of debentures issued to the public, a cash credit, and an overdraft or fixed advance with a bank.

18. *Guarantee of a minimum return on capital.*—The condition of the guarantee of a minimum return on the whole or part of the capital of any industry shall be that the industry shall be subject to the conditions of section 13 in respect of inspection or returns and that an amount equal to the sum paid or part thereof as may be determined by the Local Government shall be repaid to the Local Government at the close of such term of years as may be fixed by

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the Local Government in this behalf, if within that term the industry be shown to the satisfaction of the Local Government to be paying interest or a dividend upon the capital invested in such industry in excess of such rate as the Local Government may determine.

19. *Subsides.*—(1) The condition of a grant of a subsidy for the purchase of machinery shall ordinarily be that an amount equal in value thereto shall be repaid to the Local Government at the close of such term of years as may be fixed by the Local Government in this behalf, if within that term the industry be shown to the satisfaction of the Local Government to be paying interest or a dividend upon the capital invested in such industry in excess of such rate as the Local Government may determine.

(2) The condition of a grant of a subsidy for the conduct of research or the grant, on favourable terms, of land, raw material, fuel, water or any other property or right of the Local Government or the grant, on favourable terms, of the services of experts or Government officials may be that an amount not exceeding the value thereof shall be repaid to the Local Government at the close of such term of years as may be fixed by the Local Government in this behalf, if within that time the industry be shown to the satisfaction of the Local Government to be paying interest or a dividend upon the capital invested in such industry in excess of such rate as the Local Government may determine.

(2-a) Without prejudice to the provisions of sub-section (2), the condition of a grant of a subsidy for the conduct of a research may further be that the Provincial Government shall have a share not exceeding twenty-five per cent. in the patent rights arising out of such research.

(3) No subsidy for the purchase of machinery shall exceed forty per cent of the cost thereof.

20. *Disposal of profits when condition of State aid is not fulfilled.*—(1) Until the conditions on which aid has been granted are fulfilled, the profits of the industry in respect of which aid has been granted shall, if taken or distributed, be taken or distributed only after interest due on debentures and loans has been paid and a reasonable amount has been set aside for depreciation or obsolescence of plant and buildings and a further reasonable amount has been carried to reserve fund to be utilized in such manner as the Government may approve.

(2) No recipient of State aid shall pay any dividend or distribute or take any profit in excess of such percentage rate upon the amount of the capital of the industry as the Government may from time to time fix until the conditions on which State aid has been granted are fulfilled:

Provided that the Local Government may relax the provision of this section in the case of any industry aided by the grant, on favourable terms, of land, raw material, fuel, water, or any other property the right of the Local Government or the grant, free of charge or on favourable terms, of the services of experts or Government officials or by the payment of a subsidy for the conduct of research.

21. *Government control of industry aided.*—Notwithstanding anything contained in this chapter, if in any case the amount or value of the State aid given thereunder amounts to or exceeds one lakh of rupees, or the face value of the shares held by the State exceeds 25 per cent. of the authorised share capital, the Provincial Government shall, and in any other case may, by the appointment of Government directors or otherwise, take power to ensure such control over the conduct of the industry as shall suffice in its opinion to safeguard its interests.

22. *Recovery of moneys due under this chapter.*—(1) All moneys recoverable under this chapter, including any interest chargeable thereon and costs, if any, incurred, if not paid when they are due may be recovered by the Deputy Commissioner, on a requisition from the Director, from the person aided and his surety, if any, as if they were arrears of land revenue.

(2) When any sum due as aforesaid is paid to the Director by the surety or is recovered from his or out of his property by the Director, the Director shall, on the application of the surety, so far as possible, recover the sum from the person aided and pay it to the surety.

23. *Savings.*—Save as otherwise may be prescribed, nothing in sections 11, 12, 13, 14, 15 and 17 shall apply to industries with a capital outlay not exceeding five thousand rupees or to cottage industries.

CHAPTER IV.—SUPPLEMENTAL.

24. *Finality of decision of Local Government and bar of suits and proceedings in Civil and Criminal Courts.*—(1) The decision of

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the Local Government as to whether the conditions laid down in or under any of the provisions of this Act have been satisfied shall be final, and no suit shall be brought in any Civil Court to set aside or modify any order made thereunder.

(2) No prosecution, suit, or other proceedings shall lie against any Government officer or other authority vested with powers under this Act for anything in good faith done or intended to be done thereunder.

25. *Power to make rules.*—(1) The Local Government may, after previous publication, make rules consistent with this Act for the carrying out of all or any of its purposes.

(2) In particular and without prejudice to the generality of the foregoing power, the Local Government may make rules regulating or determining all or any of the following matters, namely:—

(a) the manner of election of members of the Committee referred to in clause (d) of sub-section (1) of section 3, and the conduct of proceedings of the Committee, including the manner in which notice of a meeting shall be given, the fixing of a quorum and the due record of proceedings;

(b) the fixing of the period of the guarantee of a minimum return under section 6;

(c) the particular classes of industries to which and the purposes for which State aid may be given under section 7 fixing the percentage of the share capital of a company to be held by the residents of the province and defining the expression residents of the Province; and the provision for the training of apprentices under the said section;

(d) regulating the conditions subject to which a company shall be formed under section 8;

(e) the manner of making applications for State aid under sub-section (1) of section 9 and the manner of publishing the notice under sub-section (3) of the said section;

(f) the manner of ascertaining the net value of the assets of an industry and the percentage of such value which may be granted as a loan under section 11;

(g) the nature of the security to be taken and the condition under which State aid may be given under section 12;

(h) the inspection under section 13 of the premises, buildings, machinery and stock-in-hand and the mode of keeping and auditing

the accounts and of furnishing returns of any industry in respect of which State aid has been given;

(i) the guaranteeing by the Local Government of debentures issued to the public and of cash credits, overdrafts or fixed advances with banks under section 17, and the recognition of banks for this purpose;

(j) the fixing of the period for the repayment of loans under section 16 and the conditions and dates of the repayment of sums paid under the guarantee of a minimum return under section 18 and of subsidies and grants under section 19;

(k) the application under section 20 of profits in the cases in which the conditions on which State aid has been given have not been fulfilled;

(l) the appointment and functions of Government directors under section 21 and the prescribing of other methods of control of industries to which State aid has been given;

(m) the conditions under which and the security on which loans may be granted or guarantees of debentures or of a cash credit, overdraft or fixed advance with a bank given to the industries specified in section 23;

(n) the recovery of any sum payable under this Act.

26. *No State aid to be given save in accordance with the provisions of Act.*—No State aid shall be given by the Local Government to any industry save in accordance with the provisions of this Act:

Provided that nothing in this Act shall apply to the power of the Local Government to—

(a) start or conduct an industry for experimental purposes or with a view to stimulate industrial development or start or conduct an industry either as a State monopoly or as a State-managed unit;

(b) assist an industry by agreement to purchase on business terms the whole or a portion of the products of the same;

(c) assist an industry in connection with industrial education or the training of apprentices.

NOTE.—The Act came into force in the Central Provinces from the 1st September 1934.

RULES FRAMED UNDER THE ACT
CENTRAL PROVINCES

In exercise of the powers conferred by sub-section (2) of section 25 of the Central Provinces State Aid to Industries Act, 1933 (XII of 1933), the Local Government is pleased to make the following rules to regulate the grant of State aid to industries in the Central Provinces:—

RULES.

1. (i) These rules may be called the Central Provinces State Aid to Industries Rules, 1934.

(ii) In these rules, words and expressions have the same meaning as in the Central Provinces State Aid to Industries Act, 1933 (XII of 1933), hereinafter referred to as the Act.

SECTION 25 (2) (a)

2. The election of the members to represent the Nagpur Chamber of Commerce and the Berar Chamber of Commerce under clauses (e) and (f) of section 3 (1) of the Act shall be held at a meeting of the members of the Chamber concerned, convened in accordance with the rules of such Chamber.

3. (i) The representative of the factory owners in the Central Provinces and Berar under clause (g) of section 3 (1) of the Act shall be elected by a majority of votes by the owners of factories situated in the Central Provinces and Berar which are subject to the Indian Factories Act, 1911, and the same Act as applied to Berar.

(ii) The Director shall cause to be prepared an electoral roll of all factory owners entitled to vote, post a copy thereof by registered post to each voter and invite nominations by a date to be fixed by him. He shall then issue a voting paper by registered post to each voter, who shall mark it in accordance with the instructions thereon and return it to the Director by the date fixed by the Director.

(iii) After scrutiny of the voting papers and counting the votes recorded on those that are validly marked, the Director shall report to the Local Government the name of the candidate who has secured

a majority of the votes cast. In the case of an equality of votes the Director shall determine the result by lot.

4. The following shall be the procedure for the conduct of the proceedings of the Board:—

(a) The Chairman shall make arrangements with respect to the place, day, hour, notice, management and generally with respect to the transaction of business of the Board as he may think fit. If there is not sufficient business for holding a meeting, he may ascertain the opinion of the members in his discretion by circulation of papers to avoid delay and expense. The majority of opinions thus obtained shall be deemed to be the decision of the Board.

(b) The Chairman shall, upon the written request of not less than one-third of the total number of members of the Board, call a special meeting of the Board.

(c) One-third of the total number of members of the Board will form a quorum and no business shall be transacted unless a quorum is present.

(d) Every meeting shall be presided over by the Chairman, if present, and during his absence by such one of the members present as may be chosen by the meeting.

(e) All questions shall be decided by a majority of votes of the members present, the Chairman having a second or casting vote in case of equality of votes.

(f) If a poll be demanded, the names of the members voting and the nature of their votes shall be recorded by the Chairman of the meeting.

(g) The minutes and the names of the members present and the proceedings at each meeting shall be kept by the Secretary in a book to be provided for the purpose, which shall be signed, as soon as practicable, by the Chairman of such meeting and shall be open to inspection by any member during office hours.

Details relating to matters decided by the Chairman by circulation of papers under clause (a) shall be recorded by the Secretary over the Chairman's signature in the minute-book.

(h) At least 10 days' notice of all meetings with the agenda shall be given to every member, provided that the accidental failure of service of notice on any member shall not invalidate the proceeding of any meeting.

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No business except as stated in the agenda shall be transacted at the meeting except with the assent of the members present.

5. The Director shall maintain a register in Form I annexed of all loans granted under the Act.

SECTION 25 (2) (d)

6. The Director may give aid in the forms specified in clauses (a) and (b) of section 6 of the Act of an amount or value not exceeding five thousand rupees in respect of any one industry, provided that, without the special sanction of the Local Government, the Director shall not grant a loan for a longer period than 10 years.

SECTION 25 (2) (e)

7. (1) Every application for aid shall be made to the Director in the form annexed and shall contain a declaration signed by the applicant that the statements made therein are true to the best of his information and belief. It shall also contain information on the following points:—

(a) The nature of the industrial concern for which aid is sought.

(b) The administrative, technical and executive staff existing or to be appointed with qualifications.

(c) The facilities available for development of the industry, such as sources of raw materials, transport conveniences and marketing of the products, with estimate of anticipated profits.

(d) The nature of the processes to be employed.

(e) The total estimated cost of the undertaking.

(f) Why the business cannot be financed without State assistance.

(g) The nature and extent of the aid applied for.

(h) The security for the aid. On this point information shall be furnished as to the financial resources of the applicant, the assets and revenues which will be available as security for the loan and particulars of any existing charges thereon and debts and as, to the additional assets which may be created by the utilization of the aid applied for. These particulars shall be supplemented by recent balance sheets and profit and loss accounts of the concern. Information should also be furnished as to the collateral security offered in the event of the above being found insufficient.

(i) The period, if any, over which the payment of the loan or subsidy should be spread.

(j) The additional net income expected to be earned as a result of the proposed expenditure.

(k) If the applicant is a Joint-Stock Company, the application should be accompanied by a copy of the prospectus and memorandum and the articles of association with information as to the amount of capital actually subscribed and paid up, number of shares held by each of the directors and their salary and fees and other perquisites, a list containing the names and descriptions of the directors, and particulars of the managing agency. In the case of cottage industries or small concerns not using steam or other power, it will be sufficient if such information is given as is, in the opinion of the Board or the Director, necessary to permit of an estimate being made of the feasibility of the proposal, e.g., in the case of a small hand-weaving establishment, the number of operatives to be employed, the sources of raw materials, the number of hand looms, the cost price of materials, selling price of the finished articles, the method of marketing the products, etc.

(2) The notice under section 9 (3) inviting objections to the grant of a loan or other aid under the Act shall be published by the Director in at least three consecutive issues of at least one daily newspaper published in Nagpur and in such mofussil newspapers as the Director thinks fit in the circumstances of each case and once in the *Central Provinces Gazette*. The notice shall specify the name and address of the applicant for loan or other aid, the nature of the aid and the nature of the business or enterprise in respect of which the application is made. It shall state that any one desiring to make any objection to the loan or other aid may do so by presenting a statement of his objections in writing at the office of the Director within thirty days of the publication of the notice in the gazette. The statement shall furnish details regarding the name, address and calling of the objector and grounds of objection.

(3) The Director shall hear the objections, if any, at such time and place as he may notify and place the objections before the Board with his opinion.

SECTION 25 (2) (f)

8. (i) The value of the assets of an industry shall, so far as they do not consist of money, be taken to be—

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(a) in the case of fixed assets acquired by purchase for cash, such as land, buildings, leasehold, railway sidings, plant and machinery, development of property, trade marks and designs, etc.,—the price at which these assets were acquired subject to proper deductions for wear and tear; such deductions shall be calculated in the case of buildings, machinery and plant at the rates fixed as allowable depreciation under section 10 (2) of the Indian Income-tax Act, 1922; appreciable increase or decrease in the market value of the site, machinery and buildings may also be taken into consideration;

(b) in the case of fixed assets acquired by purchase otherwise than for cash—the value of the consideration at the time the assets were acquired;

(c) in the case of stores, spare gear or tools not taken into use—the cost price or price of replacement whichever is less;

(d) in the case of stores, spare gear and tools which have been used but are still in stock—the cost price less a proper deduction for wear and tear;

(e) in the case of stock in trade, if of manufactured stock—the cost of manufacture or the market selling price, whichever is less; if purchased stock—the cost price or price of replacement, whichever is less;

(f) in the case of book debts—the nominal amount of those debts; but the debts shall be classed as good and doubtful and no account shall be taken of doubtful debts; all debts which shall have been due and recoverable for over two years shall be classed as doubtful;

(g) in the case of investments, the market value of those investments on the day on which the valuation is made;

(h) in the case of any other assets which have not been acquired by purchase—the value of the assets at the time when they became assets of the business subject to proper deduction for wear and tear, provided that no value shall be placed upon the goodwill, patents or secret processes of any business.

(ii) The value of the assets, so far as they consist of money, shall be all cash, with bankers or on hand, the value of cash in other countries being taken at the rate of exchange ruling on the day on which the valuation is made.

(iii) The value of the additional assets that will be created by the application of the loan granted by the Local Government shall be money expended on the acquisition of immoveable property and machinery of a permanent nature and on the liquidation of encumbrances on existing fixed assets which contributes to the enhancement of the capital value of the concern.

(iv) The assets having been valued as above, all debts and liabilities of the business shall be deducted, other than accumulated profits and reserves, and the balance shall represent the net value of the surplus of assets and shall be the value of the business for the purposes of the Act.

9. The assets shall be valued by a competent person or persons authorized in this behalf by the Local Government.

SECTION 25 (2) (g)

10. The interest charged on the loans advanced under the Act shall not be less than one-half per cent. above the rate at which the Local Government has last borrowed for the Provincial Loan Account.

11. Whenever a loan is granted under this Act to a person in respect of any industrial business or enterprise and is secured by a mortgage or floating charge upon the assets of such business or enterprise, the grantee of the loan shall be bound to put up at his place or places of business or enterprise, a prominent sign post containing the firm's name of such business or enterprise, with the addition of the word "State Aided" within brackets. Such notice when so displayed shall be deemed to signify that the business or enterprise is in receipt of a loan secured as provided by section 12.

12. When the assets are valued by the person or persons appointed under rule 9, the costs of making such valuation shall be recoverable from the applicant.

13. Every loan shall be applied to the purpose for which it is granted. If, at any time, it is proved to the satisfaction of the Local Government that the loan or any part of it has been misapplied, the whole unpaid balance of the loan with interest and costs, if any, shall become immediately payable and shall be recovered in the manner laid down in sub-section (1) of section 22.

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14. (1) The recipient of any State aid shall maintain in good and substantial repair the premises, buildings, machinery, plant and all other properties mortgaged to the Local Government as security for the loan. He shall, unless exempted by the Local Government, insure the mortgage properties, against loss or damage by fire and shall duly and punctually pay the premia payable in respect thereof as and when they become due and payable. In the event of failure to carry out any repairs or to effect the insurance or to pay the premia when due, the Director may himself do so or cause them to be done and incur the expenditure necessary therefor. The expenditure so incurred shall be recovered in accordance with the provisions of sub-section (1) of section 22.

(2) It shall be open to the Director, to insist on the recipients of any aid effecting the insurance before the actual grant of the aid.

(3) The company with whom the insurance is effected as also the amount secured by the insurance shall have the prior approval of the Director.

SECTION 25 (2) (h)

15. The recipient of any State aid under the Act shall be bound to permit the Director, or any person deputed by him by general or special order in writing or any other person authorized in this behalf by the Local Government, to inspect the premises, buildings, plant, stock-in-hand and accounts of the industrial business or enterprise in respect of which the aid has been granted and to grant facilities for all or any of these purposes.

16. The accounts of any industrial business or enterprise in respect of which State aid has been granted shall be examined and audited at least once in every year by an auditor approved by the Local Government and it shall be the duty of such auditor to outline the method in which the books of the particular industrial business or enterprise shall be kept. If the books of any such industrial business or enterprise are not kept in the manner outlined by the auditor, the Local Government may, at the cost of such industrial business or enterprise and for such period as it may consider necessary, appoint an auditor, accountant or other officer for the preparation of such books.

17. A return shall be made once in every year certified by such auditor and the return shall show—

- (1) a full and complete statement of the assets and liabilities of the business,
- (2) a valuation of the assets as prescribed by rule 8 above, and
- (3) a working or manufacturing account showing—
 - (a) the outturn of the industrial business or enterprise with the cost per unit of outturn and
 - (b) the profit or the loss on the marketing of the products.

SECTION 25 (2) (i)

18. Every guarantee under clause (b) of section 6 of the Act shall be for a fixed period. At the expiration of such period if the cash credit or overdraft is not cleared or the fixed advance not repaid and if the bank with which the guarantee has been made so desires, the amount outstanding, both of the principal and the interest, shall be immediately recoverable.

SECTION 25 (2) (j)

19. Loans shall be recoverable by fixed annual instalments in discharge of both principal and interest. The date of the payment of each annual instalment shall be fixed so as to coincide with the time of making out a balance-sheet. Subject to the above conditions the Local Government shall have discretion to fix the date of payment of the first instalment, provided that such instalment shall not be payable at an earlier date than one full year from the date of disbursement of the loan or of the last instalment of the loan.

20. (1) Nothing in rule 19 shall debar a borrower from repaying at any time a larger sum than the amount of an annual instalment or from discharging the whole loan in a single payment. If any sum in excess of the amount of any instalment be paid, it shall be credited in reduction of the principal, the number of future instalments being, if necessary, reduced, but no postponement of subsequent instalments shall be permitted nor shall any alteration in the amount of subsequent instalments be allowed except in the final instalment if such alteration is necessary to adjust the balance due.

(2) If the amount due for any instalment is paid before the date fixed for the payment thereof, such payment shall not entitle the borrower to any concession and it shall be treated for all purposes as having been made on the said date.

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21. All repayments of loan and interest under these rules shall be made at the nearest Government treasury to the credit of the Local Government.

22. On every instalment of interest or of principal and interest which is not paid on the date fixed for payment, a penalty at the rate of 12 per cent. per annum shall be levied from the said date: provided that the authority granting the loan may, in cases in which he finds sufficient reason for doing so, remit such penalties in whole or in part subject to the payment of interim interest during the moratorium period.

23. The repayment of an annual instalment may be suspended by the authority sanctioning the loan whenever from causes beyond the borrower's control such payment of the instalment becomes unduly burdensome. Whenever the payment of an instalment is suspended, all the remaining instalments due on the loan shall be postponed for one instalment period, provided that nothing in this rule shall enable the Director to make any order which will have the effect of extending the period of repayment to over 10 years or the Local Government to extend the period to over 20 years, except in the manner specified in sub-section (2) of section 16: provided also that the suspension of repayment shall not carry with it the suspension of interest except under the orders of the Local Government and in exceptional circumstances.

SECTION 25 (2) (k)

24. In cases in which the conditions under which loans or grants have been made have not been fulfilled, no profit shall be appropriated without the sanction of the Local Government.

SECTION 25 (2) (m)

25. In the case of any industry to which section 23 applies—

(a) no loan shall be granted and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given unless the value of the security offered is at least equal to the amount applied for;

(b) every loan, guarantee of a cash credit, overdraft or fixed advance with a bank shall be secured by—

(i) a mortgage or floating charge upon the whole of the assets of the industry, or

(ii) a mortgage or floating charge upon the other assets belonging to the applicant, or

(iii) a mortgage or floating charge upon the assets of the surety or sureties of the applicant, or

(iv) the personal security of the applicant or the joint personal security of the applicant and one or more persons up to the extent of Rs. 500, provided that such security shall ordinarily be taken as collateral security only, or

(v) a combination of the forms of the security mentioned in sub-clauses (i) to (iv).

(c) no loan shall be disbursed and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given to an applicant unless he and his surety, if any, execute the necessary bond to the satisfaction of the Director;

(d) the provisions of rules made under clauses (e), (f), (h), (j) and (k) of sub-section (2) of section 25 shall apply to all loans and guarantees of cash credit, overdraft or fixed advance with a bank; and

(e) a return shall be made once a year by the recipient of the loan or the guarantee of a credit, overdraft or fixed advance with a bank furnishing—

(i) a full and complete statement of the assets and liabilities of the business, the assets being valued as prescribed under rule 8, and

(ii) a statement giving the income and expenditure of the business.

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FORM I OF REGISTER OF LOANS GRANTED UNDER
THE STATE AID TO INDUSTRIES ACT, 1933
(XII OF 1933)

Name and address of the borrower—

Amount of loan sanctioned—

Number and date of letter sanctioning the loan—

Repayable on the equated system in.....instalments
of Rs.....commencing with 19.....and ending with
19

| Year. | Amount of fixed instalments paid. | Amount of fixed instalments not paid. | Chalan No. and date and name of treasury. | Balance of fixed instalments. | Any other moneys due from the borrower. | Date of payments towards dues mentioned in column 2. | Remarks. |
|-------|-----------------------------------|---------------------------------------|---|-------------------------------|---|--|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | |

ANNEXURE

FORM OF APPLICATION FOR AID UNDER THE STATE
AID TO INDUSTRIES ACT, 1933 (XII OF 1933)

1. Name of applicant and his full address.
2. Nature of the industrial concern for which aid is sought.
3. The administrative, technical and executive staff existing or to be appointed with qualifications.
4. The facilities available for the development of the industry.
5. The nature of the processes to be employed.
6. Details of plant and machinery installed or proposed to be installed at the works.
7. The total estimated cost of the undertaking and the probable time that will be occupied in its execution (details of recurring and non-recurring expenditure should be furnished separately).
8. Approximate number of operatives employed or to be employed.
9. Estimated net expenditure per annum in running the works.
10. Estimated net profits accruing.
11. Reasons why the business cannot be financed without State assistance.
12. Nature and extent of State aid applied for. (The particular clause of section 6 under which the aid is applied for should be stated).
13. Security offered:—
 - (a) If land—
 - (1) Survey No.
 - (2) Extent.
 - (3) Assessment.
 - (4) In whose name registered.
 - (b) Nature and description of other security, if any, offered.
14. Nature and extent of the applicant's right in the concern whether as co-sharer or proprietor or otherwise, and his financial sources.
15. Nature and extent of the applicant's right the property offered as security.
16. Nature and extent of encumbrances of the immovable property offered as security, primary or collateral.

17. Whether any arrears are due on the immovable property offered as security primary or collateral, and if so, the nature and extent of such arrears.

18. Period within which and the number of instalments in which the applicant proposes to repay the loan.

19. Approximate additional net income expected to be earned as a result of the proposed expenditure.

20. If the application is from a Joint Stock Company, the amount of capital actually subscribed and paid up and the number of shares held by each of the Directors and their salary and fees and other perquisites should be stated.

NOTE.—The application should be accompanied by a copy of the prospectus and memorandum and the articles of association with a list containing the names and description of the Directors.

21. Any other remarks.

Declaration.

I declare that the statements made above are true to the best of my information and belief.

Dated.....19
Signature of applicant.

2. BERAR—ADOPTION OF THE C. P. ACT

NOTIFICATIONS

GOVERNMENT OF INDIA
FOREIGN AND POLITICAL DEPARTMENT

New Delhi, the 26th November, 1933

No. 615-I.—In exercise of the powers conferred by the Indian (Foreign Jurisdiction) Order in Council, 1902, and of all other powers enabling him in that behalf, the Governor-General in Council is pleased to direct that the following further amendment shall be made in the First Schedule to the Notification of the Government of India in the Foreign Department, No. 3510-I.B., dated the 3rd November 1913, applying certain enactments to Berar, namely:—

After entry No. 189 the following entry shall be inserted, namely:—

"190. The Central Provinces State Aid to Industries Act, 1933 (C.P. Act XII of 1933)."

B. J. GLANCY,
Offg. Political Secretary to the Government of India.

Simla, the 2nd August 1934

No. 379-I.—In exercise of the powers conferred by the Indian (Foreign Jurisdiction) Order in Council, 1902, and of all other power enabling him in that behalf, the Governor-General in Council is pleased to direct that the following further amendment shall be made in the First Schedule to the Notification of the Government of India in the Foreign Department No. 3510-I.B., dated the 3rd November 1913, applying certain enactments to Berar, namely:—

In the said Schedule for entry No. 190, the following entry shall be substituted, namely:—

"190. The Central Provinces
State Aid to Industries Act,
1933 (C.P. Act XII of
1933).

(1) For clause (1) of section 2, the following clause shall be substituted, namely:—

(1) the "Board" means the Board of Industries constituted under section 3 of the Central Provinces State Aid to Industries Act, 1933.

(2) Sections 3, 4, 5 and clause (a) of sub-section (2) of section 25 shall be omitted."

R. E. L. WINGATE,
Offg. Political Secretary to the Government of India.

NOTE.—The Act will come into force in Berar from the 1st January, 1935.

THE BERAR STATE AID TO INDUS. RULES*

Notification No. 2400-1248-XIII, dated the 19th November, 1934.

—In exercise of the powers conferred by sub-section (2) of section 25 of the Central Provinces State Aid to Industries Act, 1933 (XII of 1933), as applied to Berar, the Local Government is pleased to make the following rules to regulate the grant of State aid to industries in Berar:—

RULES

1. (i) These rules may be called the Berar State Aid to Industries Rules, 1934.

(ii) In these rules, words and expressions have the same meaning as in the Central Provinces State Aid to Industries Act, 1933 (XII of 1933), as applied to Berar, hereinafter referred to as the Act.

SECTION 25 (1)

2. The Director shall maintain a register in Form I annexed of all loans granted under the Act.

SECTION 25 (2) (d)

3. The Director may give aid in the forms specified in clauses (a) and (b) of section 6 of the Act of an amount or value not exceeding five thousand rupees in respect of any one industry, provided that, without the special sanction of the Local Government, the Director shall not grant a loan for a longer period than 10 years.

SECTION 25 (2) (e)

4. (1) Every application for aid shall be made to the Director in the form annexed and shall contain a declaration signed by the applicant that the statements made therein are true to the best of his information and belief. It shall also contain information on the following points:—

(a) The nature of the industrial concern for which aid is sought.

*Note.—The Berar State Aid to Industries Rules, 1934, were published in Part III of the *Central Provinces Gazette*, dated the 23rd November, 1934, and are the same as the Central Provinces Rules with this exception that the former rules do not contain any provisions relating to the constitution of the Board of Industries in view of the fact that the Board for Berar will be the Board constituted for the Central Provinces.

(b) The administrative, technical and executive staff existing or to be appointed with qualifications.

(c) The facilities available for development of the industry such as sources of raw materials, transport conveniences and marketing of the products with estimate of anticipated profits.

(d) The nature of the processes to be employed.

(e) The total estimated cost of the undertaking.

(f) Why the business cannot be financed without State assistance.

(g) The nature and extent of the aid applied for.

(h) The security for the aid. On this point information shall be furnished as to the financial resources of the applicant, the assets and revenues which will be available as security for the loan and particulars of any existing charges thereon and debts and as to the additional assets which may be created by the utilization of the aid applied for. These particulars shall be supplemented by recent balance sheets and profit and loss accounts of the concern. Information should also be furnished as to the collateral security offered in the event of the above being found insufficient.

(i) The period, if any, over which the payment of the loan or subsidy should be spread.

(j) The additional net income expected to be earned as a result of the proposed expenditure.

(k) If the applicant is a Joint Stock Company, the application should be accompanied by a copy of the prospectus and memorandum and the articles of association with information as to the amount of capital actually subscribed and paid up, number of shares held by each of the directors and their salary and fees and other perquisites, a list containing the names and descriptions of the directors, and particulars of the managing agency. In the case of cottage industries or small concerns not using steam or other power, it will be sufficient if such information is given as is in the opinion of the Board or the Director necessary to permit of an estimate being made of the feasibility of the proposal, *e.g.*, in the case of a small handweaving establishment, the number of operatives to be employed, the sources of raw materials, the number of hand looms, the cost price of materials, the selling price of the finished articles, the method of marketing the products, etc.

V] BERAR STATE AID TO INDUSTRIES RULES

(2) The notice under section 9 (3) inviting objections to the grant of a loan or other aid under the Act shall be published by the Director in at least three consecutive issues of at least one daily newspaper published in Nagpur and in such mofussil newspapers as the Director thinks fit in the circumstances of each case and once in the *Central Provinces Gazette*. The notice shall specify the name and address of the applicant for loan or other aid, the nature of the aid and the nature of the business or enterprise in respect of which the application is made. It shall state that any one desiring to make any objection to the loan or other aid may do so by presenting a statement of his objections in writing at the office of the Director within thirty days of the publication of the notice in the Gazette. The statement shall furnish details regarding the name, address and calling of the objector and grounds of objection.

(3) The Director shall hear the objections, if any, at such time and place as he may notify and place the objections before the Board with his opinion.

SECTION 25 (2) (f)

5. (i) The value of the assets of an industry shall, so far as they do not consist of money, be taken to be—

(a) in the case of fixed assets acquired by purchase for cash, such as land, buildings, lease-hold, railway sidings, plant and machinery, development of property, trade marks and designs, etc.—the price at which these assets were acquired subject to proper deductions for wear and tear; such deductions shall be calculated in the case of buildings, machinery and plant at the rates fixed as allowable depreciation under section 10 (2) of the Indian Income-tax Act, 1922, as applied to Berar; appreciable increase or decrease in the market value of the site, machinery and buildings may also be taken into consideration;

(b) in the case of fixed assets acquired by purchase otherwise than for cash—the value of the consideration at the time the assets were acquired;

(c) in the case of stores, spare gear or tools not taken into use—the cost price or price of replacement whichever is less;

(d) in the case of stores, spare gear and tools which have been used but are still in stock—the cost price less a proper deduction for wear and tear;

(e) in the case of stock in trade, if of manufactured stock—the cost of manufacture or the market selling price whichever is less; if purchased stock—the cost price or price of replacement whichever is less;

(f) in the case of book debts—the nominal amount of those debts; but the debts shall be classed as good and doubtful and no account shall be taken of doubtful debts; all debts which shall have been due and recoverable for over two years shall be classed as doubtful;

(g) in the case of investments—the market value of those investments on the day on which the valuation is made;

(h) in the case of any other assets which have not been acquired by purchase—the value of the assets at the time when they became assets of the business subject to proper deduction for wear and tear, provided that no value shall be placed upon the goodwill, patents or secret processes of any business.

(ii) The value of the assets, so far as they consist of money, shall be all cash with bankers or on hand, the value of cash in other countries being taken at the rate of exchange ruling on the day on which the valuation is made.

(iii) The value of the additional assets that will be created by the application of the loan granted by the Local Government shall be money expended on the acquisition of immoveable property and machinery of a permanent nature and on the liquidation of encumbrances on existing fixed assets which contributes to the enhancement of the capital value of the concern.

(iv) The assets having been valued as above, all debts and liabilities of the business shall be deducted, other than accumulated profits and reserves, and the balance shall represent the net value of the surplus of assets and shall be the value of the business for the purposes of the Act.

6. The assets shall be valued by a competent person or persons authorized in this behalf by the Local Government.

SECTION 25 (2) (g)

7. The interest charged on the loans advanced under the Act shall not be less than one-half per cent. above the rate at which the Local Government has last borrowed for the Provincial Loan Account.

V] BERAR STATE AID TO INDUSTRIES RULES

8. Whenever a loan is granted under this Act to a person in respect of any industrial business or enterprise and is secured by a mortgage or floating charge upon the assets of such business or enterprise, the grantee of the loan shall be bound to put up at his place or places of business or enterprise, a prominent sign post containing the firm's name of such business or enterprise with the addition of the word "State Aided" within brackets. Such notice when so displayed shall be deemed to signify that the business or enterprise is in receipt of a loan secured as provided by section 12.

9. When the assets are valued by the person or persons appointed under rule 6, the costs of making such valuation shall be recoverable from the applicant.

10. Every loan shall be applied to the purpose for which it is granted. If, at any time, it is proved to the satisfaction of the Local Government that the loan or any part of it has been misapplied, the whole unpaid balance of the loan with interest and costs, if any, shall become immediately payable and shall be recovered in the manner laid down in sub-section (1) of section 22.

11. (1) The recipient of any State aid shall maintain in good and substantial repair the premises, buildings, machinery, plant and all other properties mortgaged to the Local Government as security for the loan. He shall, unless exempted by the Local Government, insure the mortgaged properties, against loss or damage by fire and shall duly and punctually pay the premia payable in respect thereof as and when they become due and payable. In the event of failure to carry out any repairs or to effect the insurance or to pay the premia when due, the Director may himself do so or cause them to be done and incur the expenditure necessary therefor. The expenditure so incurred shall be recovered in accordance with the provisions of sub-section (1) of section 22.

(2) It shall be open to the Director to insist on the recipients of any aid effecting the insurance before the actual grant of the aid.

(3) The company with whom the insurance is effected as also the amount secured by the insurance shall have the prior approval of the Director.

SECTION 25 (2) (h)

12. The recipient of any State aid under the Act shall be bound to permit the Director, or any person deputed by him by

general or special order in writing or any other person authorized in this behalf by the Local Government, to inspect the premises, buildings, plant, stock in hand and accounts of the industrial business or enterprise in respect of which the aid has been granted and to grant facilities for all or any of these purposes.

13. The accounts of any industrial business or enterprise in respect of which State aid has been granted shall be examined and audited at least once in every year by an auditor approved by the Local Government and it shall be the duty of such auditor to outline the method in which the books of the particular industrial business or enterprise shall be kept. If the books of any such industrial business or enterprise are not kept in the manner outlined by the auditor, the Local Government may, at the cost of such industrial business or enterprise and for such period as it may consider necessary, appoint an auditor, accountant or other officer for the preparation of such books.

14. A return shall be made once in every year certified by such auditor and the return shall show—

(1) a full and complete statement of the assets and liabilities of the business,

(2) a valuation of the assets as prescribed by rule 5 above, and

(3) a working or manufacturing account showing—

(a) the outturn of the industrial business or enterprise with the cost per unit of such outturn, and

(b) the profit or the loss on the marketing of the products.

SECTION 25 (2) (i)

15. Every guarantee under clause (b) of section 6 of the Act shall be for a fixed period. At the expiration of such period if the cash credit or overdraft is not cleared or the fixed advance not repaid and if the bank with which the guarantee has been made so desires, the amount outstanding, both of the principal and the interest, shall be immediately recoverable.

SECTION 25 (2) (j)

16. Loans shall be recoverable by fixed annual instalments in discharge of both principal and interest. The date of the payment of each annual instalment shall be fixed so as to coincide with the

V] BERAR STATE AID TO INDUSTRIES RULES

time of making out a balance sheet. Subject to the above conditions the Local Government shall have discretion to fix the date of payment of the first instalment, provided that such instalment shall not be payable at an earlier date than one full year from the date of disbursement of the loan or of the last instalment of the loan.

17. (1) Nothing in rule 16 shall debar a borrower from repaying at any time a larger sum than the amount of an annual instalment or from discharging the whole loan in a single payment. If any sum in excess of the amount of any instalment be paid, it shall be credited in reduction of the principal, the number of future instalments being, if necessary, reduced, but no postponement of subsequent instalments shall be permitted nor shall any alteration in the amount of subsequent instalments be allowed except in the final instalment if such alteration is necessary to adjust the balance due.

(2) If the amount due for any instalment is paid before the date fixed for the payment thereof, such payment shall not entitle the borrower to any concession and it shall be treated for all purposes as having been made on the said date.

18. All repayment of loan and interest under these rules shall be made at the nearest Government treasury to the credit of the Local Government.

19. On every instalment of interest or of principal and interest which is not paid on the date fixed for payment a penalty at the rate of 12 per cent. per annum shall be levied from the said date, provided that the authority granting the loan may, in cases in which he finds sufficient reason for doing so, remit such penalties in whole or in part subject to the payment of interim interest during the moratorium period.

20. The repayment of an annual instalment may be suspended by the authority sanctioning the loan whenever from causes beyond the borrower's control such payment of the instalment becomes unduly burdensome. Whenever the payment of an instalment is suspended, all the remaining instalments due on the loan shall be postponed for one instalment period, provided that nothing in this rule shall enable the Director to make any order which will have the effect of extending the period of repayment to over 10 years or the Local Government to extend the period to over 20 years except in the manner specified in sub-section (2) of section 16; provided also that the suspension of repayments shall not carry with it the suspension of interest except under the orders of the Local Government and in exceptional circumstances.

SECTION 25 (2) (k)

21. In cases in which the conditions under which loans or grants have been made have not been fulfilled, no profit shall be appropriated without the sanction of the Local Government.

SECTION 25 (2) (m)

22. In the case of any industry to which section 23 applies—

(a) no loan shall be granted and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given unless the value of the security offered is at least equal to the amount applied for;

(b) every loan, guarantee of a cash credit, overdraft or fixed advance with a bank shall be secured by—

(i) a mortgage or floating charge upon the whole of the assets of the industry, or

(ii) a mortgage or floating charge upon the other assets belonging to the applicant, or

(iii) a mortgage or floating charge upon the assets of the surety or sureties of the applicant, or

(iv) the personal security of the applicant or the joint personal security of the applicant and one or more persons up to the extent of Rs. 500, provided that such security shall ordinarily be taken as collateral security only, or

(v) a combination of the forms of the security mentioned in sub-clauses (i) to (iv).

(c) no loan shall be disbursed and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given to an applicant unless he and his surety, if any, execute the necessary bond to the satisfaction of the Director;

(d) the provisions of rules made under clauses (e), (f), (g), (h), (j) and (k) of sub-section (2) of section 25 shall apply to all loans and guarantees of cash credit, overdraft or fixed advance with a bank; and

(e) a return shall be made once a year by the recipient of the loan or the guarantee of a cash credit, overdraft or fixed advance with a bank furnishing—

(i) a full and complete statement of the assets and liabilities of the business, the assets being valued as prescribed under rule 5, and

(ii) a statement giving the income and expenditure of the business.

V] BERAR STATE AID TO INDUSTRIES RULES

FORM I OF REGISTER OF LOANS GRANTED UNDER THE STATE AID TO INDUSTRIES ACT, 1933 (XII OF 1933), AS APPLIED TO BERAR

Name and address of the borrower—

Amount of loan sanctioned—

Number and date of letter sanctioning the loan—

Repayable on the equated system in.....instalments of
Rs.....commencing with 19and ending with
19

| Year. | Amount of fixed instalments paid. | Amount of fixed instalments not paid. | Chalan No. and date and name of treasury. | Balance of fixed instalments. | Any other monies due from the borrower. | Date of payments towards dues as mentioned in column 2. | Remarks. |
|-------|-----------------------------------|---------------------------------------|---|-------------------------------|---|---|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
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ANNEXURE

FORM OF APPLICATION FOR AID UNDER THE STATE
AID TO INDUSTRIES ACT, 1933 (XII OF 1933),
AS APPLIED TO BERAR

1. Name of applicant and his full address.
2. Nature of the industrial concern for which aid is sought.
3. The administrative, technical and executive staff existing or to be appointed with qualifications.
4. The facilities available for the development of the industry.
5. The nature of the processes to be employed.
6. Details of plant and machinery installed or proposed to be installed at the works.
7. The total estimated cost of the undertaking and the probable time that will be occupied in its execution (details of the recurring and non-recurring expenditure should be furnished separately).
8. Approximate number of operatives employed or to be employed.
9. Estimated net expenditure per annum in running the works.
10. Estimated net profits accruing.
11. Reasons why the business cannot be financed without State assistance.
12. Nature and extent of State aid applied for. (The particular clause of section 6 under which the aid is applied for should be stated.)
13. Security offered—
 - (a) If land—
 - (1) Survey No.
 - (2) Extent.
 - (3) Assessment.
 - (4) In whose name registered.
 - (b) Nature and description of other security, if any, offered.
14. Nature and extent of the applicant's right in the concern whether as co-sharer or proprietor or otherwise and his financial resources.
15. Nature and extent of the applicant's right to the property offered as security.

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16. Nature and extent of encumbrances of the immoveable property offered as security primary or collateral.

17. Whether any arrears are due on the immoveable property offered as security primary or collateral, and if so, the nature and extent of such arrears.

18. Period within which and the number of instalments in which the applicant proposes to repay the loan.

19. Approximate additional net income expected to be earned as a result of the proposed expenditure.

20. If the application is from a Joint Stock Company, the amount of capital actually subscribed and paid up and the number of shares held by each of the Directors and their salary and fees and other perquisites should be stated.

NOTE.—The application should be accompanied by a copy of the prospectus and memorandum and the articles of association with a list containing the names and description of the directors.

21. Any other remarks.

Declaration.

I declare that the statements made above are true to the best of my information and belief.

Dated 19

Signature of applicant.

THE MADRAS STATE AID TO INDUSTRIES ACT, 1922
(MADRAS ACT NO. V OF 1923)

As modified up to the 1st July, 1947

PASSED BY THE LEGISLATIVE COUNCIL OF MADRAS

[Received the assent of the Governor on the 19th January, 1923, and that of the Governor-General on the 1st March, 1923; the assent of the Governor-General was first published in the *Fort St. George Gazette* of the 3rd March, 1923.]

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19. Power to make rules.

20. Powers of the Provincial Government as regards starting or conducting industries and giving aid of certain kinds.

An Act to regulate State aid to industries

[3rd March, 1923.]

Preamble.—Whereas it is expedient to give power to the Local Government to assist in the establishment and development of industries in the Presidency of Madras; and whereas the previous sanction of the Governor-General has been obtained under section 80-A of the Government of India Act to the passing of this Act; It is hereby enacted as follows:—

1. *Short title.*—(1) This Act may be called the Madras State Aid to Industries Act, 1922.

(2) It extends to the whole of the Presidency of Madras.

¹[1-A. *Definitions.*—In this Act—

(i) 'cottage industry' means any industry carried on by a worker in his own home; and

(ii) 'village industry' means any industry which forms the normal occupation, whether whole time or part time, of any class of the rural population of the Province.]

2. *Director of Industries.*—The ²[Provincial Government] may appoint any officer or other person to perform all or any of the functions of the Director of Industries under this Act.

3. *Board of Industries.*—(1) (a) There shall be constituted a Board of Industries consisting of not less than ten and not more than twelve members including the Chairman and the ex-officio members. Not more than three of the members shall be Government officials.

(b) One of the members shall be elected by the members for the time being of the Madras Chamber of Commerce; one by the members for the time being of the Southern India Chamber of

¹ This section was inserted by section 2 of the Madras State Aid to Industries (Amendment) Act, 1937 (Madras Act XIII of 1937).

² These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

Commerce; one by the members for the time being of the Madras Trades Association; and two by the members of the Madras¹[Legislative Assembly]. The election shall be conducted in such manner as may be prescribed. A return of the name of every person so elected shall be made to the²[Provincial Government] by the Chairman of the Chamber or Association concerned and by the Secretary to the¹[Legislative Assembly], respectively, and such return shall be published in the³[Official Gazette].

(c) The Director of Industries, Madras, and the Secretary to the Government of Madras in the Finance Department shall be ex-officio members of the Board of Industries.

(2) The Chairman and the remaining members shall be appointed by the²[Provincial Government] by notification in the³[Official Gazette], provided that if banking or mufassal interests and cottage industries are not represented by election, members so appointed shall include, as far as possible, persons who represent such interests or industries.

(3) The Board of Industries shall assist the²[Provincial Government] in dealing with applications for the grant of State aid under this Act.

(4) No member shall vote on or take part in the discussion of any question coming up for consideration at a meeting of the Board of Industries if the question is one in which he has any direct or indirect pecuniary interest by himself or his partner or in which he is interested professionally on behalf of a client or as agent for any person other than the Government, a local authority or a Railway Company.

4. *No aid except in accordance with the provisions of the Act.*—No aid shall be given by the²[Provincial Government] to any industrial business or enterprise except in accordance with the provisions of this Act.

¹These words were substituted for the words "Legislative Council" by the Second Schedule to *ibid.*

²These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

³These words were substituted for the words "*Fort St. George Gazette*" by paragraph 4 (1) *ibid.*

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5. *Industries to be aided.*—(1) The industries to which aid may be given under this Act shall be such as have an important bearing on the economic development of the country and shall be:

- (a) new or nascent industries, or
- (b) industries to be newly introduced into areas where such industries are undeveloped, or
- (c) cottage industries ¹[, or
- (d) old or established industries:

Provided that aid shall not be given to any old or established industry unless the ²(Provincial Government) are satisfied that special reasons exist for giving such aid.]

(2) No such aid shall be given to any joint-stock company unless:

- (a) the same is registered in India on a rupee capital, and
- (b) the company conforms to such rules as may be made by the ²[Provincial Government] from time to time requiring that a minimum number or a proportion of the members of its board of management shall be Indians:

Provided further that every recipient of aid under this Act shall make such provision for the training of apprentices as the ²[Provincial Government] may, from time to time, prescribe.

(3) The decision of the ²[Provincial Government] as to whether the conditions of this section are fulfilled shall be final and ³[shall not be called in question in any Court of law].

6. *Method of giving State aid.*—Subject to the provisions of this Act and of the rules framed thereunder, the ²[Provincial Government] shall have power to give aid to an industrial business or enterprise in one or more of the following ways:—

- (a) by granting a loan;
- (b) by guaranteeing a cash credit, overdraft or fixed advance with a bank;

¹ This was added by section 2 (i) of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

² These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

³ These words were added by section 2 (ii) of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

¹[(c) by paying a subsidy, in the case of a cottage industry for any purpose, and in the case of any other industry for the conduct of research or the purchase of machinery;]

(d) by subscribing for shares or debentures;

(e) by guaranteeing a minimum return on part of the capital of a joint-stock company;

(f) by making a grant on favourable terms of land, raw material, firewood or water, ²[the property of the Crown for the purposes of the Province];

³[(g) by supplying at concessional rates electric energy from a source ⁴[the property of the Crown for the purposes of the Province.]]

⁵[7. Omitted].

8. *Application for State aid and procedure in dealing with applications.*—(1) Any person desiring to obtain a loan or other aid for any industrial business or enterprise shall make his application to the Director of Industries in such form and shall furnish such information concerning his business as may be prescribed.

(2) If the extent of the aid applied for exceeds Rs. 50,000 and in any other case in which he considers this procedure necessary, the Director of Industries shall publish a notice in the prescribed manner calling upon any person who objects to the grant of the aid applied for to state his objections at a time or place to be specified, and shall hear such objection and make such inquiry as may be necessary.

(3) Every application for aid shall be placed before the Board of Industries for advice.

¹ This clause was substituted for the original clause (c) by section 3 of the Madras State Aid to Industries (Amendment) Act, 1937 (Madras Act XIII of 1937).

² These words were substituted for the words "the property of the Local Government" by the Second Schedule to the Government of India (Adaptation of Indian Laws) Order, 1937.

³ Clause (g) was added by section 2 of the Madras State Aid to Industries (Amendment) Act, 1935 (Madras Act X of 1935).

⁴ These words were substituted for the words "belonging to the Local Government" by the Second Schedule to the Government of India (Adaptation of Indian Laws) Order, 1937.

⁵ This section was omitted by the Second Schedule to *ibid.*

V] MADRAS STATE AID TO INDUSTRIES ACT

(4) The ¹[Provincial Government] may constitute district committees for the purpose of advising on applications for aid.

(5) No aid shall be granted under this Act if the Board by a unanimous resolution at a meeting advises the rejection of the application.

9. *Grant of loans.*—No loan shall be granted of an amount exceeding 50 per cent. of the ²[net value of the assets of the industrial business or enterprise and of any other property offered as collateral security for the loan, after deducting in both cases existing encumbrances], such value to be ascertained by such person as may be appointed by the ¹[Provincial Government] and in accordance with such rules as may be prescribed; for the purpose of this valuation the additional assets which may be created by the expenditure of the sums granted may be taken into account to such extent as may be prescribed. ³[.]

10. *Loans how secured.*—Every loan granted under this Act shall be secured by a mortgage or floating charge upon the whole of the assets of the business or enterprise, subject to any encumbrance existing at the time of the grant, and by such collateral security, if any, as may be required by the ¹[Provincial Government], and shall bear interest payable on such dates and at such rates as the ¹[Provincial Government] may determine.

11. *Inspection and returns.*—In any case in which a loan has been applied for under this Act, the applicant, and at any time during the currency of a loan that has been granted under it, the grantee, shall be bound—

(a) to comply with any general or special order of the ¹[Provincial Government] relative to the inspection of the premises, build-

¹ These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

² These words were substituted for the words "net value of the asset of the industrial business or enterprise after deducting existing encumbrances" by section 3 (i) of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

³ The proviso was omitted by section 3 (ii) of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

ings, or plant or stock in hand of the industrial business or enterprise;

(b) to permit the inspection of all accounts relative to the industrial business or enterprise;

(c) to furnish full returns of all products manufactured or sold both as regards description and quantity;

(d) to maintain such special accounts or to furnish such statements as the ¹[Provincial Government] may from time to time require;

(e) to submit the accounts of the industrial business or enterprise to such audit as the ¹[Provincial Government] may prescribe.

12. *Control of business assisted.*—In any case in which a loan or loans is or are granted under this Act amounting to two lakhs of rupees or upwards, the ¹[Provincial Government] shall, and in any other case may, by the appointment of Government directors or otherwise, take power to ensure such control over the conduct of the business or enterprise as shall suffice in their opinion to safeguard their interests.

13. *Repayment of loans.*—(1) Every loan granted under this Act shall be made repayable by instalments within such period from the date of the actual advance of the loan, or when the loan is advanced in instalments from the date of payment of the last instalment, as may be fixed by the order granting the loan.

(2) The period fixed as aforesaid shall not exceed twenty years unless the ¹[Provincial Government] shall, by general or by special order, extend the same.

14. *Guaranteeing of loans by banks.*—No guarantee of a cash credit, overdraft or fixed advance with a bank shall be given except under the conditions prescribed in sections 9 to 12 in respect of loans.

²[14-A. *Exemption of small and cottage industries.*—Save as otherwise may be prescribed by rules made under this Act, nothing

¹These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

²This section was inserted by section 2 of the Madras State Aid to Industries (Amendment) Act, 1928 (Madras Act VIII of 1928).

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in sections 9, 10, 11 and 14 shall apply to any industrial business or enterprise with a capital outlay not exceeding ¹(two thousand rupees) or to cottage industries.]

15. *Subscriptions for shares or debentures or guarantee of a minimum return on capital.*—The condition of subscription for shares and debentures by the ²[Provincial Government] or the guarantee of a minimum return on the capital of any industrial business or enterprise shall be that the business or enterprise shall be subject to the conditions of section 11 in respect of inspection and returns as well as of the provisions of section 12 in respect of Government control:

Provided (a) that for all shares subscribed by the Government there must be taken up and fully paid for not less than an equal number of shares;

(b) that for all capital on which a return is guaranteed by Government there shall be paid up not less than an equal amount of capital which carries no guarantee.

16. *Subsidy by the Provincial Government.*—The condition of a grant of subsidy or of any payment under guarantee of a minimum return on the paid-up capital or of the grant of Government land, raw material, firewood or water on favourable terms, ³[or of the supply from a Government source of electric energy at concessional rates] shall ordinarily be that an amount equal to the sum paid or to the value of the grant ⁴[or concession as fixed at the time when it is made shall be repaid to the ²[Provincial Government] at the close of a fixed term of years if within that term the industrial business or enterprise shall be shown to be paying interest or a dividend upon the capital invested in excess of such rate as the ²[Provincial Government] may fix.

¹ These words were substituted for the words "one thousand rupees" by section 4 of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

² These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

³ These words were inserted by section 3 of the Madras State Aid to Industries (Amendment) Act, 1935 (Madras Act X of 1935).

⁴ These words were inserted by section 4 of the Madras State Aid to Industries (Amendment) Act, 1937 (Madras Act XIII of 1937).

No subsidy ¹[to an industry other than a cottage industry] shall exceed 40 per cent. of the cost of the research or of the cost of the machinery as the case may be.

17. *Disposal of profits when condition of State aid is not fulfilled.*—No recipient of State aid shall pay any dividend or distribute or take any profits in excess of such percentage rate upon the amount of the capital of the industrial business or enterprise as ²[the Provincial Government] may fix from time to time until the conditions on which the State aid has been granted are fulfilled. The balance of the profits, after setting aside proper amounts for depreciation or obsolescence of plant and buildings, and for the payment of interest on debentures of loans, shall be carried to a reserve fund to be utilized in such manner as ²[the Provincial Government] may approve.

³[17-A. *Grant of aid to cottage industries by the Board of Revenue.*—(1) The Board of Revenue may, if so empowered by the Provincial Government and subject to such conditions, restrictions and limitations, if any, as may be laid down by them, grant aid, in accordance with such rules as may be made under this Act for the purpose, to any cottage industry in one or more of the ways specified in clause (a), clause (b), clause (c) or clause (f) of section 6 up to an amount or value not exceeding five hundred rupees in each case.

(2) The decision of the Board of Revenue to grant or not to grant aid in any case under sub-section (1) shall not be called in question in any Court of law.

(3) The powers conferred on the Provincial Government by section 12 may also be exercised by the Board of Revenue in cases where aid is granted by the Board under sub-section (1).

(4) Nothing contained in sections 3 and 8, and save as otherwise may be prescribed by rules made under this Act, nothing contained in sections 9, 10, 11, 14, 14-A and 17 shall apply to any appli-

¹ These words were inserted by section 4 of the Madras State Aid to Industries (Amendment) Act, 1937 (Madras Act XIII of 1937).

² These words were substituted for the words "the Government" by the Second Schedule to the Government of India (Adaptation of Indian Laws) Order, 1937.

³ Section 17-A was inserted by section 2 of the Madras State Aid to Industries (Amendment) Act, 1941 (Madras Act II of 1941).

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cation for the grant of aid under sub-section (1) or to any case where aid is granted under that sub-section.]

18. *Methods of recovery of money due.*—(1) All moneys payable under this Act, including any interest chargeable thereon and cost, if any, incurred, if not paid when due, may be recovered from the person aided and his surety, if any, under the law for the time being in force as if they were arrears of land revenue.

(2) When any sum due as aforesaid is paid by the surety or is recovered from him or out of his property under sub-section (1) the Collector shall, on the application of the surety, so far as possible recover the same from the person aided and pay the same to the surety.

19. *Power to make rules.*—(a) The ¹[Provincial Government] may make rules to carry out all or any of the purposes of this Act not inconsistent therewith.

(b) In particular and without prejudice to the generality of the foregoing power, they may make rules regulating all or any of the following matters:—

(1) the classes of industrial business or enterprises to which and the purposes for which aid may be given;

(2) the constitution of the Board of Industries, the term of office of its members, the quorum at the Board's meetings, the method of arriving at its decisions, the appointment of its staff, the remuneration of its members and all other matters relative to the conduct of its business; and the constitution and functions of district committees;

²[(3)]

(4) the manner of making applications for State aid and the information to be given in such applications, provided that no such rules shall require any applicant or grantee of aid to divulge any information relating to the technical details of any process or any patent owned by him;

(5) the manner of conducting inquiries and the matters to be specially inquired into in dealing with applications for State aid and

¹ These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

² This clause was omitted by the Second Schedule to *ibid.*

the powers to be exercised by the Director of Industries conducting such inquiries;

(6) the mode of ascertaining the value of the assets of an industrial business or enterprise; ¹[or of any property offered as collateral security for a loan;]

(7) the nature of the security to be taken for the due application of loans and grants and the rates of interest at which and the conditions under which loans or grants may be given, and the creation of a mortgage, floating charge or collateral security under section 10;

(8) the inspection of the premises, buildings, plant and stock on hand and the accounts of any industrial business or enterprise for which State aid has been granted;

(9) the mode of keeping and auditing the accounts and furnishing returns of any industrial business or enterprise in respect of which State aid has been granted;

(10) the appointment and functions of Government directors or the prescribing of other methods of control of industrial business or enterprises in respect of which State aid has been granted;

(11) the application of profits in cases in which the conditions under which loans or grants have been made have not been fulfilled;

(12) the guaranteeing by the ²[Provincial Government] of cash credits, overdrafts or fixed advances by banks and the recognition of banks for this purpose;

(13) the fixing of the period for the repayment of loans and the conditions and dates of the repayment of subsidies and grants;
³[]

(14) the recovery of any moneys due under this Act; ⁴[]

¹ These words were added by section 5 of the Madras State Aid to Industries (Amendment) Act, 1936 (Madras Act VII of 1937).

² These words were substituted for the words "Local Government" by paragraph 4 (1) of the Government of India (Adaptation of Indian Laws) Order, 1937.

³ The word "and" was omitted by section 4 of the Madras State Aid to Industries (Amendment) Act, 1928 (Madras Act VIII of 1928).

⁴ The word "and" was omitted by clause (i) of section 3 of the Madras State Aid to Industries (Amendment) Act, 1941 (Madras Act II of 1941).

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¹[(15) the conditions under which and the security on which loans shall be granted or guarantees of a cash credit, overdraft or fixed advance with a bank given to the industries referred to in section 14-A]; ²[and

(16) all matters connected with, or relating to, the grant of aid by the Board of Revenue under section 17-A, including all matters referred to in the foregoing clauses which are applicable to such grant:]

Provided that such rules are laid on the table of the Legislative ³[Assembly] and notified in the ⁴[Official Gazette] one month after which they shall have the force of law unless amended by the Legislative ³[Assembly] within that period, or, if the ³[Assembly] is not sitting during that period, at its next meeting.

20. *Powers of the Provincial Government as regards starting or conducting industries and giving aid of certain kinds.*—Nothing in this Act shall be held to debar ⁵[the Provincial Government]

(a) from starting or conducting industrial enterprise for experimental purposes or with a view to stimulate industrial development;

(b) from assisting an industrial business or enterprise by agreements to purchase on business terms the whole or a portion of the products of the same;

(c) from assisting an industrial business or enterprise by giving gratis or on favourable terms, the services of Government officials or experts either in the capacity of advisers or for a limited

¹ Clause (15) was inserted by section 3 of the Madras State Aid to Industries (Amendment) Act, 1928 (Madras Act VIII of 1928).

² The word “and” and clause 16 were inserted by clause (ii) of section 3 of the Madras State Aid to Industries (Amendment) Act, 1941 (Madras Act II of 1941).

³ This word was substituted for the word “Council” by the Second Schedule to the Government of India (Adaptation of Indian Laws) Order, 1937.

⁴ These words were substituted for the words “Fort St. George Gazette” by paragraph 4 (1) *ibid.*

⁵ These words were substituted for the words “the Government” by the Second Schedule to *ibid.*

period not exceeding one year for starting or conducting such business or enterprise;

(d) from assisting all industrial business or enterprise in connexion with industrial education or the training of apprentices;

¹[(e) from assisting a village industry in any manner which may be determined by the Provincial Government.]

RULES MADE BY THE PROVINCIAL GOVERNMENT UNDER THE ACT

In exercise of the powers conferred by section 19 of the State Aid to Industries Act, 1922 (Act No. V of 1923), the Government are pleased to make the following rules:—

RULES

SECTION 19 (a)

1. (1) The Notice under section 8 (2) inviting objections to the grant of a loan or other aid under the Act shall be published by the Director of Industries in at least three consecutive issues of at least two daily newspapers published in Madras and in such mufassal newspapers as the Director of Industries thinks fit in the circumstances of each case and once in the Official Gazette. The notice shall specify the name and address of the applicant for the loan or other aid, the nature of the aid and the nature of the business or enterprise in respect of which the application is made. It shall state that any one desiring to make any objection to the loan or other aid may do so by presenting a statement of his objections in writing at the office of the Director of Industries within thirty days of the publication of the notice. The statement shall furnish details regarding the name, address and calling of the objector and grounds of objection. The Director shall hear the objections, if any, at such time and place as he may notify and place the objections before the Board of Industries with his opinion thereon.

¹ This clause was added by section 5 of the Madras State Aid to Industries (Amendment) Act, 1937 (Madras Act XIII of 1937).

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¹[(2) The cost of publication of the notice referred to in sub-rule (1) shall be borne by the applicant for the loan or other aid.

(3) The Director of Industries shall by order in writing require the applicant for the loan or other aid to deposit the cost of publication of the notice within fourteen days of the date of such order. If the applicant fails to deposit the amount within the period aforesaid the notice shall not be published and with the approval of the Provincial Government, further consideration of the application shall be dropped.]

2. The election of the members to represent the Madras Chamber of Commerce, the Southern India Chamber of Commerce and the Madras Trades Association under section 3 (1) (b) of the Act shall be held at a meeting of the members of the Chamber or Association concerned, convened in accordance with the rules of such Chamber or Association.

3. The election of the members to represent the Madras Legislative Assembly shall be conducted in accordance with the regulations made by the Speaker under rule 144 of the Madras Assembly Rules.

4. A Joint-Stock Company shall not be given aid under the Act unless at least one-third of the members of its Board of Management are Indians.

SECTION 19 (b) (2)

5. The Chairman of the Board of Industries shall hold office during the pleasure of the Provincial Government and the members elected or appointed under sub-sections (1) (b) and (2) of section 3 shall hold office for a period of three years from the date of notification; but the Provincial Government may at any time accept the resignation of any member, provided, however, that a member, elected in his capacity as a member of a particular body, shall hold office so long only within the said period of three years as he continues to be a member of that body.

6. The Provincial Government may declare that any member who has absented himself from three consecutive meetings of the Board or from India for three months has ceased to be a member and his office shall thereupon be deemed to be vacant. Any such member shall, however, be eligible for re-election or re-appointment.

¹ G.O. No. 895, Development, dated 23rd April, 1940.

7. Any vacancy in the office of a member shall be reported by the Chairman to the Chairman or Speaker of the body concerned in the case of elected members and to the Provincial Government in the case of members appointed so that the vacancy may be filled up by fresh election or appointment as the case may be.

8. Every non-official member of the Board shall be entitled to a fee of Rs. 15 for each day of attendance at the meeting of the Board or of any committee thereof. Such of the members as attend from the mufassal shall also be entitled to travelling allowance and mileage at the rates shown below for their journeys to and from the place of meeting:—

(1) Those who are members of the Madras Legislature—

(a) If they have relinquished the whole of their salary as such—Travelling allowance at the rates prescribed in rule 7 (2) of the Madras Legislature Travelling Allowance Rules.

(b) If they have not relinquished the whole of their salary as such—One second-class and one third-class fare for journeys by railway and mileage at 4 annas a mile for journeys by road.

(2) Those who are not members of the Madras Legislature—

One first-class and one third-class fare for journeys by railway and mileage at 8 annas a mile for journeys by road.

The Director of Industries shall be the Controlling Officer in respect of their travelling allowance bills.

9. The following procedure shall be observed with respect to the Proceedings of the Board:—

(1) The Board shall meet and shall make from time to time such arrangements with respect to the place, day, hour, notice, management and adjournment of its meetings, and generally with respect to the transaction of business, as it may think fit, subject to the following conditions, namely:—

(a) the Chairman may, whenever he thinks fit, and shall upon the written request of not less than four members, call a special meeting of the Board;

(b) four members shall form a quorum and no business shall be transacted unless a quorum is present;

(c) every meeting shall be presided over by the Chairman, if present and, during his absence, by such one of the members present as may be chosen by the meeting;

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(d) all questions shall be decided by a majority of votes of the members present, the Chairman having a second or casting vote in all cases of equality of votes;

(e) if a poll be demanded, the names of the members voting and the nature of their votes shall be recorded by the Chairman of the meeting;

(f) minutes shall be kept of the names of the members present and of the proceedings at each meeting in a book to be provided for the purpose, which shall be signed, as soon as practicable by the Chairman of such meeting and shall be open to inspection by any member during office hours; and

(g) the Chairman may, with the consent of any meeting, adjourn it.

(2) If there should not be sufficient business for holding a meeting, the Chairman may, to avoid delay and expense, ascertain the opinion of the members of the Board by circulation of papers; if desired by any member, he shall recirculate the papers and, unless on such recirculation any member specially desires discussion the majority opinion thus ascertained shall be deemed to be decision of the Board.

(3) The Board may co-opt an official or non-official to assist it in the discussion or elucidation of a particular subject or for the duration of a meeting. Co-opted members will not be entitled to vote, but shall be entitled to the fees and travelling allowances payable to members under rule 8.

(4) The Board may from time to time appoint a committee consisting of not less than three of its number to make a report to it on any particular matter that may be referred to it.

(5) An officer deputed by the Director of Industries from among his subordinates will act as Secretary to the Board.

(6) The Board may refer to a district committee as hereinafter constituted for advice any application placed before it.

(7) District committees may be constituted whenever necessary.

(8) Such committees shall consist of not less than three nor more than five members. The members shall be appointed from time to time when occasions arise by the Provincial Government on the advice of the Director of Industries in consultation with the

District Collector. Their functions will be to advise on specific applications for aid under the Act when the Board or Director of Industries considers the assistance of such a committee necessary. No honorarium will be paid to members of such district committees, but travelling allowance will be paid on the scale provided in rule 8 supra and the Collector shall be the Controlling Officer for the travelling allowance of members of such committees.

9-A. The Director shall maintain a register in Form I annexed of all loans granted under the Act.

SECTION 19 (b) (4)

10. Every application for aid shall be made to the Director of Industries in Form II annexed and shall contain a declaration signed by the applicant that the statements made therein are true to the best of his information and belief. It shall also contain information on the following points:—

(a) the nature of the industrial concern for which aid is sought;

(b) the administrative, technical and executive staff existing or to be appointed with qualifications;

(c) the facilities available for development of the industry such as sources of raw materials, transport conveniences and marketing of the products, with estimate of anticipated profits;

(d) the nature of the processes to be employed;

(e) the total estimated cost of the undertaking;

(f) why the business cannot be financed without State assistance;

(g) the nature and extent of the aid applied for;

(h) the security for the aid; on this point information shall be furnished as to the financial resources of the applicant, the assets and revenues which will be available as security for the loan and particulars of any existing charges thereon and debts and as to the additional assets which may be created by the utilization of the aid applied for. These particulars shall be supplemented by recent Balance Sheets and Profit and Loss accounts, where such exist, certified by an auditor entitled to audit the accounts of companies under the Indian Companies Act. Information should also be furnished as to the collateral security offered in the event of the above being found insufficient;

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(i) the period, if any, over which the payment of the loan or subsidy should be spread;

(j) the additional net income expected to be earned as a result of the proposed expenditure;

(k) if the applicant is a Joint Stock Company, the application should be accompanied by a copy of the prospectus and memorandum and the Articles of Association with information as to the amount of capital actually subscribed and paid up; number of shares held by each of the Directors and their salary and fees and other perquisites and a list containing the names and descriptions of the Directors.

In the case of cottage industries or small concerns not using steam or other power, it will be sufficient if such information is given as in the opinion of the Board or the Director of Industries necessary to permit of an estimate being made of the feasibility of the proposal, e.g., in the case of a small hand-weaving establishment, the number of operatives to be employed, the sources of raw materials, the number of handlooms, the cost price of material, the selling price of the finished articles, the method of marketing the product, etc.

SECTION 19 (b) (6)

11. (i) The value of the assets of an industrial business or enterprise or of any property offered as collateral security shall, so far as they do not consist of money, be taken to be—

(a) in the case of fixed assets acquired by purchase for cash such as land, buildings, leaseholds, railway sidings, plant and machinery, development of property, trade marks and designs, etc., the price at which these assets were acquired, subject to proper deductions for wear and tear; such deductions shall be calculated in the case of buildings, machinery and plant at the rates fixed as allowable depreciation under section 10 (2) of the Income-tax Act of 1922; appreciable increase or decrease in the market value of the site, machinery and buildings may also be taken into consideration;

(b) in the case of fixed assets acquired by purchase otherwise than for cash, the value of the consideration at the time the assets were acquired;

(c) in the case of stores, spare gear or tools not taken into use, the cost price or price of replacement whichever is less;

(d) in the case of stores, spare gear and tools which have been used but are still in stock, the cost price less a proper deduction for wear and tear;

(e) in the case of stock in trade, if of manufactured stock, the cost of manufacture or the market selling price whichever is less; if purchased stock, the cost price or price of replacement whichever is less;

(f) in the case of book debts, the nominal amount of those debts; but the debts shall be classed as good and doubtful and no account shall be taken of doubtful debts; all debts which shall have been due and recoverable for over two years shall be classed as doubtful;

(g) in the case of investments the market value of those investments on the day on which the valuation is made;

(h) in the case of any other assets which have not been acquired by purchase, the value of the assets at the time when they became assets of the business subject to proper deductions for wear and tear provided that no value shall be placed upon the goodwill, patents or secret processes of any business.

(ii) The value of the assets so far as they consist of money shall be all cash with bankers or on hand, the value of cash in other countries being taken at the rate of exchange ruling on the day on which the valuation is made.

(iii) The value of the additional assets that will be created by the application of the loan granted by the Provincial Government shall be money expended on the acquisition of immovable property and machinery of a permanent nature and on the liquidation of encumbrances on existing fixed assets which contributes to the enhancement of the capital value of the concern.

(iv) The assets having been valued as above, all debts and liabilities of the business shall be deducted, other than accumulated profits and reserves, and the balance shall represent the net value of the surplus of assets and shall be the value of the business for the purposes of the Act.

12. The assets shall be valued by the Director or by a competent person or persons authorized in this behalf either by the Director or by the Provincial Government.

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SECTION 19 (b) (7)

13. The interest charged on the loans advanced under the Act shall not be less than one-half per cent. above the rate at which the Madras Government have last borrowed for the Provincial Loan Account.

14. Whenever a loan or subsidy is granted under this Act to a person in respect of any industrial business or enterprise and is secured by a mortgage or floating charge upon the assets of such business or enterprise the grantee of the loan or subsidy shall be bound to put up at his place or places of business or enterprise a prominent sign-post containing the firm name of such business or enterprise with the addition of the word "State-aided" within brackets. Such notice when so displayed shall be deemed to signify that the business or enterprise is in receipt of a loan or subsidy granted under the Act, and also that any such loan is secured as provided by section 10 of the Act.

14-A. Every loan or subsidy shall be applied to the purposes for which it is granted. If, at any time, it shall be proved to the satisfaction of the Provincial Government that the loan or subsidy or any part of it has been misapplied, the whole unpaid balance of the loan or subsidy with interest and costs, if any, shall become immediately payable and shall be recovered in the manner laid down in sub-section (1) of section 18.

14-B. The recipient of any State aid under the Act, in respect of concerns other than cottage and village industries, shall ensure a minimum standard of labour conditions to the employees in his concern, the Government decision as to what constitutes the minimum standard being final.

SECTION 19 (b) (8)

15. The recipient of any State aid under the Act shall be bound to permit the Director of Industries, or any person deputed by him by general or special order in writing or any other person authorized in this behalf by the Provincial Government, to inspect the premises, buildings, plant, stock in hand and accounts of the industrial business or enterprise in respect of which the aid has been granted and to grant facilities for all or any of these purposes.

15-A. (1) The recipient of any State aid shall maintain in good and substantial repair the premises, buildings, machinery, plant and all other properties mortgaged to the Provincial Government as

security for the loan. He shall, unless exempted by the Provincial Government, insure the mortgaged properties against loss or damage by fire and shall duly and punctually pay the premia payable in respect thereof as and when they become due and payable. In the event of failure to carry out any repairs or to effect the insurance or pay the premia when due, the Director of Industries may himself do so or cause them to be done and incur the expenditure necessary therefor. The expenditure so incurred shall be recovered in accordance with the provisions of sub-section (1) of section 18 of the Act.

(2) It shall be open to the Director of Industries to insist on the recipients of any aid effecting the insurance before the actual grant of the aid.

(3) The company with whom the insurance is effected as also the amount secured by the insurance shall have the prior approval of the Director of Industries.

SECTION 19 (b) (9)

16. The accounts of any industrial business or enterprise in respect of which State aid has been granted shall be examined and audited at least once in every year by an Auditor approved by the Provincial Government and it shall be the duty of such Auditor to outline the method on which the books of the particular industrial business or enterprise shall be kept. If the books of any such industrial business or enterprise are not kept in the manner outlined by the Auditor, the Provincial Government may, at the cost of such industrial business or enterprise and for such period as they may consider necessary, appoint an auditor, accountant or other officer for the preparation of such books.

17. A return shall be made once in every year certified by such auditor and the return shall show

(1) a full and complete statement of the assets and liabilities of the business;

(2) a valuation of the assets as prescribed by rule 11 above;
and

(3) a working or manufacturing account showing

(a) the outturn of the industrial business or enterprise with the cost per unit of such outturn; and

(b) the profit or the loss on the marketing of the products produced.

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SECTION 19 (b) (11)'

18. In cases in which the conditions under which loans or grants have been made have not been fulfilled, no profit shall in any way be appropriated without the sanction of the Provincial Government.

SECTION 19 (b) (13)

19. Loans shall be repayable by fixed annual instalments in discharge of both principal and interest. The date of the payment of each annual instalment shall be fixed so as to coincide with the time of making out a balance sheet. Subject to the above conditions the Provincial Government shall have discretion to fix the date of payment of the first instalment: Provided that such instalment shall not be payable at an earlier date than one full year from the date of disbursement of the loan or of the last instalment of the loan.

19-A. Subject to the provisions of section 16 of the Act—

(i) a subsidy shall be repayable at the close of the term of years fixed in that behalf by the Provincial Government in one or more instalments as determined by them; and

(ii) the date of repayment of the subsidy or of each instalment thereof, as the case may be, shall be so fixed as to coincide with the time of making out a balance sheet for the business or enterprise aided by the subsidy.

20. (1) Nothing in rule 19 shall debar a borrower from repaying at any time a larger sum than the amount of an annual instalment or from discharging the whole loan in a single payment. If any sum in excess of the amount of any instalment be paid, it shall be credited in reduction of the principal, the number of future instalments being, if necessary, reduced, but no postponement of subsequent instalments shall be permitted nor shall any alteration in the amount of subsequent instalments be allowed except in the final instalment if such alteration is necessary to adjust the balance due.

(2) If the amount due for any instalment is paid before the date fixed for the payment thereof, such payment shall not entitle the borrower to any concession and it shall be treated for all purposes as having been made on the said date.

21. All repayments of loan and interest, under these rules, shall be made at the nearest Government treasury to the credit of the Provincial Government.

22. On every instalment of interest or of principal and the interest which is not paid on the dates fixed for payment a penalty at the rate of 10 per cent. per annum until the 1st day of January 1938 and at the rate of $7\frac{1}{2}$ per cent. per annum after that date shall be levied from the said date provided that the authority granting the loan may in cases in which he finds sufficient reason for doing so remit such penalties in whole or in part subject to the payment of interim interest during moratorium period.

23. The repayment of annual instalment may be suspended by the authority sanctioning the loan whenever from causes beyond the borrower's control such repayment of the instalment becomes unduly burdensome. Whenever the payment of an instalment is suspended, all the remaining instalments due on the loan shall be postponed for one instalment period and no additional interest shall be charged by reason of such suspension:

Provided that nothing in this rule shall enable the said authority to make any order which will have the effect of extending the period of repayment to over twenty years except in the manner specified in section 13 of the Act.

SECTION 19 (b) (15)

24. In the case of any industrial business or enterprise with a capital outlay not exceeding two thousand rupees and cottage industries,

(a) no loan shall be granted and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given unless the value of the security offered is at least equal to the amount applied for;

(b) every loan, guarantee of a cash credit, overdraft or fixed advance with a bank shall be secured by

(i) a mortgage or floating charge upon the whole of the assets of the business or enterprise or cottage industry, or

(ii) a mortgage or floating charge upon the other assets belonging to the applicant, or

(iii) a mortgage or floating charge upon the assets of the surety or sureties of the applicant, or

(iv) the personal security of the applicant or the joint personal security of the applicant and one or more persons, up to the ex-

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tent of Rs. 500, provided that such security shall ordinarily be taken as collateral security only, or

(v) a combination of the forms of the security mentioned in sub-clauses (i) to (iv) ;

(c) no loan shall be disbursed and no guarantee of a cash credit, overdraft or fixed advance with a bank shall be given to an applicant unless he and his surety, if any, execute the necessary bond to the satisfaction of the Director ;

(d) the provisions of rules made under clauses (6), (7), (8), (11) and (13) of sub-section (b) of section 19 of the Act shall apply to all loans and guarantee of cash credit, overdraft or fixed advance with a bank, provided that in the case of any industrial business or enterprise with a capital outlay not exceeding five hundred rupees, it shall not be necessary, unless the Director of Industries for special reasons otherwise directs, to insure the properties mortgaged to the Provincial Government against loss or damage by fire; and

(e) a return shall be made once a year by the recipient of the loan, or the guarantee of a cash credit, overdraft or fixed advance with a bank furnishing

(i) a full and complete statement of the assets and liabilities of the business, the assets being valued as prescribed by rule 11; and

(ii) a statement giving the income and expenditure.

THE MADRAS COTTAGE INDUSTRIES LOANS AND SUBSIDY RULES, 1941

In exercise of the powers conferred by clause (16) of sub-section (b) of section 19 of the Madras State Aid to Industries Act, 1922 (Madras Act V of 1923), His Excellency the Governor of Madras is hereby pleased to make the following rules:—

RULES

I. *Short title and commencement.*—(1) These rules may be called the Madras Cottage Industries Loans and Subsidy Rules, 1941.

(2) They shall come into force on the 15th September, 1941.

II. *Definitions.*—In these rules unless there is anything repugnant in the subject or context—

(i) 'the Act' means the Madras State Aid to Industries Act, 1922;

(ii) 'Form' means a form appended to these rules; and

(iii) 'Government' means the Government of Madras.

III. *Objects for which loans or subsidy may be granted.*—Any cottage industrialist may apply to the Collector of the district in which he proposes to start, or carries on a cottage industry which has an important bearing on the economic development of the country for a loan or subsidy not exceeding Rs. 500 for the purpose of starting or carrying on the cottage industry.

IV. *Mode of application for loans or subsidy.*—(a) Every application for a loan or subsidy under these rules shall be made in Form III annexed to these rules. It shall be accompanied by a statement containing the following particulars, namely, the sources of raw materials, the cost price of such materials, the selling price of finished articles, the method of marketing the finished articles and such other information as the Board of Revenue may, by general or special order, direct.

(b) The loan or subsidy granted shall—

(i) be a multiple of Rs. 10 when the amount of the loan or subsidy exceeds Rs. 25 but does not exceed Rs. 250;

(ii) be a multiple of Rs. 50 if the amount of the loan or subsidy exceeds Rs. 250.

Where the amount of the loan or subsidy applied for is not a multiple of Rs. 10 or Rs. 50 as the case may be, the application shall be treated as one for a loan for the multiple of Rs. 10 or Rs. 50 next below the amount applied for.

V. *Local enquiry.*—(1) On receipt of an application for a loan or subsidy, the Collector shall cause a notice thereof to be put up in the village chavadi of the village in which the applicant proposes to start, or carries on, the cottage industry or in a conspicuous place in the village if there is no village chavadi. The notice shall specify the date on which and the place at which the local enquiry mentioned in sub-rule (2) will be made. It shall also specify the date on which, the place at which, and the officer to whom, objections, if any, to the grant of the loan or the subsidy may be preferred.

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(2) As soon as may be after the receipt of an application for a loan or subsidy, the Collector shall cause local enquiry to be made into the correctness of the particulars furnished in the application, the nature and adequacy of the security offered and the general feasibility of the undertaking in respect of which the loan or subsidy is applied for. Such local enquiry shall be made jointly by the Tahsildar and the Supervisor of the Industries department of the subdivision. These officers shall also enquire into the objection, if any, to the grant of the loan or subsidy preferred under sub-rule (1). They shall submit to the Collector a report of the local enquiry together with their remarks on the objections, preferred.

VI. *Enquiry into the sufficiency of security offered.*—The bonafides and the solvency of the applicant and the sufficiency of the security offered shall be carefully ascertained before sanctioning a loan or subsidy.

VII. *The nature of the security required.*—(1) No loan or subsidy shall be granted unless the value of the security offered is at least equal to the amount applied for. The grant of subsidy will be limited to 75 per cent. of the cost of the research or of the cost of the machinery as the case may be.

(2) Every loan or subsidy shall be secured by—

(i) a mortgage or floating charge upon the whole of the assets of the cottage industry, or

(ii) a mortgage or floating charge upon the other assets belonging to the applicant, or

(iii) a mortgage or floating charge upon the assets of the surety or sureties of the applicant, or

(iv) the personal security of the applicant or the joint personal security of the applicant and one or more persons, up to the extent of Rs. 500 provided that such security shall ordinarily be taken as collateral security only, or

(v) a combination of all or any of the forms of security mentioned in clauses (i) to (iv).

(3) no loan or subsidy shall be disbursed to an applicant unless he and his surety, if any, execute the necessary bond to the satisfaction of the Collector.

VIII. *Grant of loan or subsidy and execution of mortgage deed or bonds.*—The Collector shall forward the application together

with the connected records of enquiry and his own recommendation to the Board of Revenue, which shall pass orders sanctioning or rejecting the application.

IX. *Rate of interest.*—The interest charged on the loans advanced under these rules shall not be less than one-half per cent. above the effective rate of interest of the Government's borrowing of the year adopted for levy of interest on loans and advances from the Provincial Loan Account. The rate of interest charged on loans shall be notified by the Government from time to time in the *Fort St. George Gazette* and the District Gazettes. Except as otherwise stated in the rules, the rate of interest charged shall be the rate in force on the date on which the loan is sanctioned. The applicants whose applications are pending disposal when the rate of interest is raised shall be given an opportunity of agreeing to the altered rate or of withdrawing their applications.

X. *Calculation of interest.*—Interest shall accrue from the date of disbursement of the loan. If the loan is disbursed in instalments, interest on each instalment shall run from the date of disbursement of such instalment. In calculating interest, the calendar month shall be the unit, period of fifteen days and over in one calendar month being treated as one calendar month and periods of less than fifteen days being ignored. If the amount of interest payable contains a fraction of an anna, it shall be rounded off to the nearest whole anna, six pies counting as the next higher anna.

XI. *Method of repayment by equal annual instalments.*—(a) Loans shall be repayable by fixed annual instalments in discharge of both principal and interest. The Board of Revenue shall have discretion to fix the date of payment of the first and subsequent instalments with reference to the circumstances of each case:

Provided that the first instalment shall not be payable at an earlier date than one full year from the date of disbursement of the loan or of the last instalment of the loan.

(b) Subject to the provisions of section 16 of the Act—

(i) a subsidy shall be repayable at the close of the term of years fixed in that behalf by the Board of Revenue in one or more instalments as determined by it, and

(ii) the Board of Revenue shall have discretion to fix the date of repayment of the subsidy or each instalment thereof, as the case may be, with reference to the circumstances of each case.

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XII. *Repayment in excess or in advance of the instalments.*—

(1) Nothing in rule XI shall debar the recipient of a loan or subsidy from repaying at any time a larger sum than the amount of an instalment or from repaying the whole loan or subsidy in a single payment. If any sum in excess of the amount of any instalment is paid, it shall be credited in reduction of the principal of the loan or in reduction of the subsidy, the number of future instalments being, if necessary, reduced but no postponement of subsequent instalments shall be permitted, nor shall any alteration in the amount of subsequent instalments be allowed except in the final instalment if such alteration is necessary to adjust the balance due.

(2) If the amount due for any instalment is paid before the date fixed for the payment thereof, such payment shall not entitle the recipient of the loan or subsidy to any concession and it shall be treated for all purposes as having been made on the side date.

XIII. *Where payment has to be made.*—All repayments of loan and interest or subsidy under these rules shall be made at the nearest Government treasury to the credit of the Government. The Board of Revenue may, if it sees fit, authorize repayment at any other Government treasury.

XIV. *Interest on overdue instalments.*—On every instalment of interest or of principal and the interest which is not paid on the dates fixed for payment a penalty at the rate of $7\frac{1}{2}$ per cent. per annum shall be levied from the said date provided that the Board of Revenue may in cases in which it finds sufficient reason for doing so remit such penalties in whole or in part subject to the payment of interim interest during moratorium period.

XV. *Suspension of instalment.*—The payment of any instalment of the loan or subsidy may be suspended by the Board of Revenue whenever from causes beyond the control of the recipient of the loan or subsidy payment of the instalment becomes unduly burdensome. Whenever the payment of an instalment is suspended, all the remaining instalments due on the loan or subsidy shall be postponed for one instalment period and in the case of a loan no additional interest shall be charged by reason of such suspension:

Provided that nothing in this rule shall enable the Board of Revenue to make any order which will have the effect of extending the period of repayment of a loan to over twenty years except in the manner specified in section 13 of the Act.

XVI. *Summary recovery for breach of conditions.*—(1) Every loan or subsidy shall be applied to the purposes for which it is granted. If at any time, it shall be proved to the satisfaction of the Board of Revenue that the loan or subsidy or any part of it has been misapplied, the whole unpaid balance of the loan or subsidy with interest and costs, if any, shall become immediately payable and shall be recovered in the manner laid down in sub-section (1) of section 18 of the Act.

(2) When a subsidy is ordered to be recovered summarily under sub-rule (1), interest shall be charged at a rate not less than one-half per cent. above the effective rate of interest of the Government's borrowing of the year adopted for levy of interest on loans and advances from the Provincial Loan Account. Interest shall be calculated from the date of disbursement of the subsidy. If the subsidy was disbursed in instalments, interest on each instalment shall be calculated from the date of disbursement of such instalment. In calculating interest the calendar month shall be the unit, periods of fifteen days and over in one calendar month being treated as one calendar month and periods of less than fifteen days being ignored. If the amount of interest payable contains a fraction of an anna, it shall be rounded off to the nearest whole anna, six pies counting as the next higher anna.

XVII. *Submission of return by the recipient of State aid.*—A return shall be made to the Board of Revenue through the Collector of the district once a year by the recipient of a loan or subsidy furnishing—

(1) a full and complete statement of the assets and liabilities of the business, and

(2) a statement giving the income and expenditure.

The Board of Revenue shall maintain a register in Form IV annexed to these rules of all loans or subsidies granted under section 17-A of the Act.

XVIII. *Miscellaneous.*—(1) The recipient of a loan or subsidy shall be bound to permit the Collector or any person deputed by him by a general or special order in writing or any other person authorized in this behalf by the Board of Revenue to inspect the premises, buildings, plant, stock in hand and accounts of the cottage industry in respect of which the loan or subsidy has been granted and to grant facilities for all or any of these purposes. A person deputed or

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authorized under this rule shall be an officer of the Revenue department not below the rank of Revenue Inspector or an officer of the Industries department not below the rank of Supervisor.

(2) The recipient of any loan or subsidy shall maintain in good and substantial repair the premises, buildings, machinery, plant and all other properties mortgaged to the Government as security for the loan or subsidy.

(3) It shall be open to the Board of Revenue to insist on the recipient of any loan or subsidy insuring the properties given as security against loss or damage by fire before the actual grant of the loan or subsidy. The company with whom the insurance is effected as also the amount secured by the insurance shall have the prior approval of the Board of Revenue.

FORM I

Name and address of the borrower.

Amount of loan sanctioned.

Number and date of Government Order sanctioning the loan.

Repayable on the equated system in instalments of Rs. commencing with 19 and ending with 19 .

| Year. | Amount of fixed instalments. | Amount of fixed instalments paid. | Chalan number & date & name of treasury. | Balance of fixed instalments. | Any other moneys due from the borrower. | Date of payments towards dues mentioned in column (6). | Remarks. |
|-------|------------------------------|-----------------------------------|--|-------------------------------|---|--|----------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

FORM II

Form of application for aid under the Madras State Aid to Industries Act, 1922 (Madras Act V of 1923)

1. Name of applicant and his full address.
2. Nature of the industrial concern for which aid is sought.
3. The administrative, technical and executive staff existing or to be appointed with qualifications.
4. The facilities available for the development of the industry.

5. The nature of the processes to be employed.
6. Details of plant and machinery installed or proposed to be installed at the works.
7. The total estimated cost of the undertaking and the probable time that will be occupied in its execution. (Details of recurring and non-recurring expenditure should be furnished separately.)
8. Approximate number of operatives employed or to be employed.
9. Estimated net expenditure per annum in running the works.
10. Estimated net profits accruing.
11. Reasons why the business cannot be financed without State assistance.
12. Nature and extent of State aid applied for. (The particular clause of section 6 under which the aid is applied for should be stated.)
13. Security offered—
 - (a) If land,
 - (1) Survey number.
 - (2) Extent.
 - (3) Assessment.
 - (4) In whose name registered.
 - (b) Nature and description of other security, if any, offered.
14. Nature and extent of the applicant's right in the concern whether as co-sharer or proprietor or otherwise and his financial resources.
15. Nature and extent of the applicant's right to the property offered as security.
16. Nature and extent of encumbrances on the immovable property offered as security—primary or collateral.
17. Whether any arrears are due on the immovable property offered as security—primary or collateral and, if the nature and extent of such arrears.
18. Period within which and the number of instalments in which the applicant proposes to repay the loan.
19. Approximate additional net income expected to be earned as a result of the proposed expenditure.
20. If the application is from a joint stock company, the amount of capital actually subscribed and paid up and the number of shares

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held by each of the directors and their salary and fees and other perquisites should be stated.

NOTE.—The application should also be accompanied by a copy of the prospectus and memorandum and the Articles of Association with a list containing the names and descriptions of the Directors.

21. Any other remarks.

Declaration.—I, _____, declare that the statements made above are true to the best of my information and belief.

FORM III.

(See Rule IV of the Madras Cottage Industries Loans and Subsidy Rules, 1941.)

APPLICATION FOR LOAN OR SUBSIDY

Form of application for loan or subsidy under section 17-A of the Madras State Aid to Industries Act, 1922 (Madras Act V of 1923)

1. Name of applicant, father's name and residence of applicant and his full address.
2. Nature of the cottage industry for which aid is sought.
3. The facilities available for the development of the industry.
4. The nature of the processes employed.
5. Estimated net expenditure per annum in running the work
6. Estimated net profits accruing.
7. Reasons why the business cannot be financed without State assistance and the amount of loan or subsidy required.
8. Nature and extent of State aid applied for (the particular clause of section 6 under which the aid is applied for should be stated).
9. Security offered—
 - (a) If land,
 - (1) Village survey number (wet or dry).
 - (2) Extent.
 - (3) Assessment.
 - (4) In whose name registered.
 - (b) Nature and description of other security, if any, offered.

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10. Nature and extent of the applicant's right in the concern whether as co-sharer or proprietor or otherwise and his financial resources.

11. Nature and extent of the applicant's right to the property offered as security.

12. Nature and extent of encumbrances on the immovable property offered as security—primary or collateral.

13. Whether any arrears are due on the immovable property offered as security—primary or collateral and, if so, the nature and extent of such arrears.

14. Period within which and the number of instalments in which the applicant proposes to repay the loan or subsidy.

15. Approximate additional net income expected to be earned as a result of the proposed expenditure.

16. Any other remarks.

Declaration.

I, _____, declare that the statements made above are true to the best of my information and belief.

Signature of the applicant.

FORM IV

(See Rule XVII of the Madras Cottage Industries Loans and Subsidy Rules, 1941.)

Name and address of the recipient of loan or subsidy.

Amount of loan or subsidy sanctioned.

Number and date of Board's proceedings sanctioning the loan or subsidy.

Repayable on the equated system in instalments of Rs. _____ commencing with 19 _____ and ending with 19 _____.

| Year. | Amount of fixed instalments. | Amount of fixed instalments paid. | Chalan number & date & name of treasury. | Balance of fixed instalments. | Any other money due from the recipient of the loan or subsidy. | Date of payments towards dues mentioned in column (6). | Remarks. |
|-------|------------------------------|-----------------------------------|--|-------------------------------|--|--|----------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

VII. SIND .

STATE-AID TO SMALL INDUSTRIES RULES, 1938 .

No. 1727-G. B. 36.—Government are pleased to approve the following Rules for the purpose of granting loans to small industries in Sind :—

1. *Short title.*—These rules may be called the Sind State-Aid to Small Industries Rules, 1938.

2. *Coming into operation.*—They shall come into force on such date as Government may appoint in that behalf.

3. *Purposes for which loans may be granted.*—Loans may be granted to small industries and in particular to cottage industries for the following purposes, namely :—

(i) construction of buildings, godowns, ware-houses, wells, tanks and other works necessary for industrial operations.

(ii) purchase and erection of machinery, plant and appliances,

(iii) purchase of raw materials.

4. *Application.*—Every application for a loan shall be made in writing to the Assistant Director of Industries and shall contain information on the following points :—

(a) the amount of the loan and the purpose for which it is required,

(b) the total estimated capital required for running the industrial concern,

(c) the date before which and the period for which the loan is required,

(d) the manner in which the loan is proposed to be repaid, and

(e) the details of the collateral security proposed to be provided.

5. *Disposal of applications.*—(1) Loans for amounts not exceeding Rs. 2,000 in each case will be sanctioned by the Assistant Director of Industries provided that the aggregate amount of such loans sanctioned by him during the course of a year does not exceed Rs. 5,000 and provided further that reports of the full details of each case are submitted by him to Government as soon as the loan is sanctioned.

(2) The Assistant Director shall forward to Government for sanction all other applications received under rule 4 which cannot

be disposed of by him under sub-clause (1) with his remarks and recommendation.

6. *Maximum amount of loan.*—No loan exceeding five thousand rupees shall be granted to any person.

7. *Security for loan.*—Before the granting of a loan, the borrower shall agree to pledge to Government any buildings that may be erected or any plant purchased from the loan money and in addition the borrower shall provide collateral security by mortgaging his lands or buildings and/or by providing personal or other security of persons other than the applicant. The collateral securities shall be such as in the opinion of Government or Assistant Director of Industries are adequate to cover the full amount of the loan.

8. *Valuation certificates of securities.*—(1) The Assistant Director of Industries shall obtain valuation certificates of the applicant's property as follows:—

(i) In the case of land, from the Collector,

(ii) in the case of buildings, valuation certificates prepared on the basis of detailed survey of buildings and net letting value from the Executive Engineer.

NOTE.—Land will not be accepted as security for an amount greater than half its market value.

(2) The applicant shall furnish a true declaration to the officer concerned of any encumbrance or charge or any of interest or claim by way of inheritance, gift or otherwise howsoever to which the property to be valued is subject.

(3) The Collector and the Executive Engineer, as the case may be, shall furnish to the Assistant Director of Industries on a request made by him, the valuation certificates, required under sub-rule (1) above free of charge.

(4) Government or the Assistant Director of Industries, as the case may be, may at any time re-valuate the securities and in case the security taken has, in its opinion, become inadequate require the borrower to furnish additional security.

9. *Disbursement of loan.*—After the loan is sanctioned under rule 5, the Assistant Director of Industries shall issue an order in the form appended to these rules which will set forth all the conditions regulating the grant of loan and disburse the loan in one or more

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instalments according to actual requirements of the borrower after obtaining his signature at the end of the order referred to and also after taking from him and/or from the person other than the applicant a mortgage deed or deeds under rule 7 in one or more forms appended to these rules subject to such variation as may be sanctioned by Government or the Assistant Director of Industries as the case may be in individual cases.

10. *Interest.*—Loans granted under these rules shall bear compound interest at the same rate of interest as Takavi loans granted under the Land Improvement Loans Act, 1883 (XIX of 1883). Interest on a loan shall accrue from the date of the disbursement of the loan and when the loan is disbursed in instalments, interest shall accrue on each instalment from the date of the disbursement of such instalment.

11. *Period of loan.*—Every loan shall be repayable within such period as may be fixed in the order granting the loan:

Provided that the period so fixed shall in no case exceed ten years from the date of the disbursement of the loan, or, if it is disbursed in instalments, from the date of the last instalment.

12. *Manner of repayment.*—Loans shall be repaid by instalments fixed in the orders granting the loans:

Provided that a borrower may repay a loan on an earlier date, or in instalments larger than those fixed in the order granting the loan. A corresponding remission of interest in respect of complete months only shall be granted to the borrower so repaying a loan.

13. *Recovery as arrears of land revenue if instalment not paid.*—Unless otherwise directed by Government, the amount of a loan or balance thereof and all moneys payable under the order granting the loan including interest and costs, if any incurred, if not paid when due, may be recovered as an arrear of land revenue under the law for the time being in force.

14. *Recovery as arrears of land revenue if loan is applied to different purposes.*—All sums disbursed under rule 9 must be expended in accordance with the objects for which the loan was sanctioned. The borrower shall submit, within three months from the date on which any instalment of the loan is paid to him, certificates showing the amount actually spent by him and the purpose for which it has been spent. If at any time the Assistant Director of Industries is satisfied that a loan is not being applied to the purpose for

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of _____) for the purpose of _____ , subject to the conditions in the following clause of this order.—

II.—The conditions referred to in clause I are as follows:—

(1) The sum of the said loan shall be paid to the said _____ on the execution of the necessary mortgage deed or deeds by him and/or surety, and/or of the surety bond as required by the Sind State-Aid to Small Industries Rules, 1938, in the following instalments—

(a) Rs. _____ on _____

(b) Rs. _____ on _____ , etc.,

and he shall forthwith on making purchases of machinery, plants, appliances, etc., execute a deed of mortgage in respect thereof as required by the Sind State-aid to Small Industries Rules, 1938.

(2) The said _____ shall give such further or additional security for the due repayment of the loan hereby granted as shall from time to time, be required by the Government of Sind,

(3) If it shall appear to the satisfaction of the Assistant Director of Industries, Sind, that any portion of the said loan has been mis-applied to any purpose other than the purpose specified above, the whole of the said loan paid to the said _____ with compound interest payable thereon and the costs shall become due and payable at once and shall be recoverable summarily as arrears of land revenue or otherwise.

(4) The said loan shall bear compound interest at the same rate of interest as is payable on Takavi loans granted under the Land Improvement Loans Act, 1883 (XIX of 1883). Such interest shall accrue from the respective dates of the instalments mentioned in sub-clause (1) above and the loan shall be repaid with compound interest by equal annual instalments of Rs. _____ each falling due on the dates specified below:—

The said _____ shall be at liberty to repay the said loan by larger instalments.

(5) The annual payments mentioned in the foregoing sub-clause shall be made at Sub-Treasury Treasury.

(6) If default in payment of any instalment of principal or interest occurs or if the said _____ shall contravene any of the conditions under which the said loan is granted, the unpaid instalments or balance of loan and interest shall, at the option of the Government of Sind, be recoverable summarily as an arrear of land revenue or otherwise.

(7) The buildings, etc., erected and the machinery, plants, appliances and materials purchased with the said loan shall be maintained in good working order and repairs and renewals as directed by the Assistant Director of Industries, from time to time, shall be carried out without undue delay at the cost of the said. .

Failure to comply with such order shall render the loan and interest accrued thereon recoverable summarily as arrears of land revenue or otherwise.

(8) The said _____ shall submit to the Assistant Director of Industries within three months from the date on which any instalment of the loan is paid to him, certificate showing the amount actually spent by him and the purpose for which it has been spent and annually send to the Assistant Director of Industries information regarding the working and general condition of the undertaking in aid of which the said loan is made in the form as may be approved by him, from time to time.

(9) The said _____ shall permit the Assistant Director of Industries or any person deputed by him by general or special order in writing or any other person authorised in this behalf by the Government of Sind, at all reasonable times to inspect the buildings, etc., and account books, machinery, plants, appliances, furniture, stock and stores and all other belongings and things connected with the industrial undertaking in aid of which the said loan has been granted and grant all reasonable facilities therefor.

Dated. _____ The Assistant Director of Industries.

I|We have understood and agreed to the above terms and conditions.

Dated. _____ Signature of borrower.

Signature of surety.

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II

Mortgage deed to be executed by a borrower mortgaging the property purchased out of the loan.

This indenture made the _____ day of _____ 19____ between _____ of [hereinafter called "the Mortgagor(s)"] of the one part and the Governor of Sind (hereinafter called the Governor) of the other part; Whereas the Mortgagor(s) has|have received from the Assistant Director of Industries of the Government of Sind, an Order, dated the _____ under the Sind State-Aid to Small Industries Rules, 1938 (hereinafter referred to as "the said order"), _____ in virtue of which the said _____ is|are entitled to receive the sum of Rs. _____ as a loan from the Government of Sind for the purpose of purchasing _____ and whereas the Mortgagor(s) has|have purchased from the said loan the articles and things described in the Schedule "A" hereto, And Whereas security for the punctual repayment of the same according to the terms of the said order has been demanded by Government of Sind and in order to furnish such security the Mortgagor(s) has|have agreed to execute these presents.

Now this Indenture witnesseth as follows:—

1. In consideration of the said loan and in pursuance of the said agreement the Mortgagor(s) doth|do hereby assign to the Governor articles and things described in the said Schedule "A" hereto subject to a proviso for redemption hereinafter contained.
2. And it is hereby agreed that if the Mortgagor(s), his|their heirs, executors, administrators or assigns shall duly comply with the said terms on which the said loan has been granted and shall duly repay the amount of the said loan together with any interest which may have become payable thereon or any part thereof and all costs incurred by the Government of Sind or the Assistant Director of Industries, as the case may be, in making the said loan or in connection therewith, the Governor shall thereupon reassign the said articles and things described in the Schedule "A" hereto and hereby assigned to the Mortgagor(s), his|their heirs, executors, administrators or assigns as he or they shall direct.
3. Provided always and it is hereby agreed that in case the Mortgagor(s) shall fail to comply with the terms on which the said loan has been granted or if any instalment of principal and|or

interest shall be in arrear for a period of seven days after it has become due it shall be lawful for the Governor to recover such of the instalments of principal and/or interest as shall be in arrear as aforesaid or the whole of the loan then remaining due as an arrear of Land Revenue under the provisions of the Bombay Act V of 1879

_____ and any amendments thereof: Provided always that this II of 1876

power shall not in any way limit or affect the power of sale or any other powers reserved unto the Governor by the Transfer of Property Act, 1882, or by any other law for the time being in force.

4. Provided also and it is hereby agreed that—

(a) the Mortgagor(s) will at all times during the continuance of these presents keep the property hereby assigned in good state and repair.

(b) The Mortgagor(s) shall not allow or permit the property hereby charged to be taken in execution for any judgment.

In witness whereof the Mortgagor(s) has|have hereunder set his|their hands and seals the day and year first abovewritten.

| | |
|---|--------|
| Schedule "A" above referred to | |
| Description of articles and things. | Value. |
| Signed, sealed and delivered by the abovenamed, | |
| in the presence of— | |

III

Mortgage deed to be executed by Borrower in respect of his landed property.

This Indenture made the _____ day of _____ 19 . between _____ of _____ (hereinafter called "the Mortgagor(s)") of the one part and the Governor of Sind (hereinafter called The Governor) of the other part, Whereas the Mortgagor(s) has|have received from Assistant Director of Industries of the Government of Sind an order, dated the _____, under the Sind State-Aid to Small Industries Rules, 1938 (hereinafter referred to as "the said order") in virtue of which the Mortgagor(s) is|are entitled to receive the sum of Rs. _____ as a loan from the Government of Sind for the purpose of _____ and whereas security for the due application of the said loan and for the punctual repayment of the same according to the terms of the

V. SIND STATE AID TO INDUSTRIES: RULES

said order which have been accepted and are hereby confirmed by the Mortgagor(s) has been demanded by the Government of Sind and in order to furnish such security the Mortgagor(s) has|have agreed to execute these presents.

Now this indenture witnesseth as follows:—

1. In consideration of the said loan and in pursuance of the said agreement the Mortgagor(s) doth|do hereby transfer and assign to the Governor. All the land hereditaments and premises described in the Schedule "A" hereunder written with the appertinances thereto subject to a proviso for redemption hereinafter contained:—

2. Provided always and it is hereby agreed and declared that if the Mortgagor(s), his|their heirs, executors, administrators or assigns shall duly comply with the terms embodied in the said order in every respect and shall duly repay the amount of the said loan together with any interest which may have become payable thereon or any part thereof and all costs, charges and expenses if any incurred by the Governor of Sind in making the said loan or otherwise in connection therewith the Governor of Sind shall at the request and costs of the Mortgagor(s) transfer the said land hereditaments and premises described in the said Schedule "A" hereto to the Mortgagor(s), his|their heirs, executors, administrators or assigns or as he or they shall direct.

3. Provided also and it is hereby agreed that the Mortgagor(s) will at all times during the continuance of this security keep the property hereby transferred in good state and repair.

4. Provided also and it is hereby agreed that if the Mortgagor(s) shall fail to comply with the said terms or if any instalment or principal and|or interest shall be in arrear for a period of seven days after it has become due it shall be lawful for the Governor of Sind to recover such of the instalments of principal and|or interest as shall be in arrear as aforesaid or the whole of the loan then remaining due as an arrear of land revenue under the

provisions of the Bombay $\frac{\text{V of 1879}}{\text{II of 1876}}$ and any amendments thereof:

Provided always that this power shall not in any way limit or affect the power of sale or any other powers reserved unto the Governor of Sind by the Transfer of Property Act, 1882, or by any other law for the time being in force.

In witness whereof the Mortgagor(s) has|have hereunder set his (their respective) hand(s) and seal(s) the day and the year first above written.

The Schedule "A" above referred to.

in the presence of—

Signed, sealed and delivered by the abovenamed,

IV.

Mortgage deed to be executed by surety in respect of his landed property.

This Indenture made the _____ day of _____ 19____ between _____ of _____ (hereinafter called "the Mortgagor(s)") of the one part and the Governor of Sind (hereinafter called the Governor) of the other part whereas has|have received from the Assistant Director of Industries of the Government of Sind an order dated the _____ under the Sind State-Aid to Small Industries Rules, 1938 (hereinafter referred to as "the said order") in virtue of which the said is|are entitled to receive the sum of Rs.

as a loan from the Government of Sind for the purpose of _____ and whereas security for the due application of the said loan and for the punctual repayment of the same according to the terms of the said order which are fully understood by the Mortgagor(s) has been demanded by the Government of Sind in order to furnish such security the Mortgagor(s) has|have agreed to execute these presents.

Now this indenture witnesseth as follows:—

1. In consideration of the said loan granted to the said _____ and in pursuance of the said agreement the Mortgagor(s) doth|do hereby transfer and assign to the Governor all the land hereditaments and premises described in the Schedule "A" hereunder written with the appertainances thereto subject to a proviso for redemption hereinafter contained.

2. Provided always and it is hereby agreed and declared that if the said _____ his|their heirs, executors, administrators or assigns shall duly comply with the terms embodied in the said order in every respect and the said _____ his|their heirs, executors, administrators or assigns or the Mortgagor(s), his|their heirs, executors, administrators or assigns shall duly repay the amount of the said loan together with any interest which may have become

The Schedule "A" above referred to.
Signed, sealed and delivered

by the abovenamed

In the presence of—

V

SURETY BOND

1. Whereas _____ has|have received from the Assistant Director of Industries of the Government of Sind on behalf of the Government of Sind and order dated the _____ under the Sind State-Aid to Small Industries Rules, 1938 (hereinafter referred to as "the said order"), in virtue of which the said _____ is|are entitled to receive the sum of Rs. _____ as a loan from the Government of Sind for the purpose of _____ and whereas _____ surety for the due application of the said loan and for the punctual repayment of the same according to the terms of the said order which fully understood by me (us) has been demanded by the Government of Sind and in order to furnish surety I

(We _____ jointly and severally) _____ am Surety (are Sureties) of the said _____ and do hereby agree that if the said _____ shall make the default in paying the said loan or any portion thereof as contemplated by the aforesaid terms then the amount of default shall be recoverable from me (us jointly and severally) either as an arrear of Land

Revenue under the provisions of Bombay Act V of 1879
II of 1876
and any amendments thereof or by a suit.

2. This surety shall be without prejudice to and shall not be affected nor shall I (we) be released or exonerated by any time given or extended to the said _____ or other indulgence granted to or compromise or composition or arrangement made with the said _____ with or without my|our consent or notice to me|us.

Dated this

day of _____ 19 .

By order of His Excellency the Governor,

(Sd.).....

Secretary to Government.

VIII. UNITED PROVINCES
ORDER BY THE DIRECTOR OF INDUSTRIES
AND COMMERCE, UNITED PROVINCES

No. 1967-I|XVI—R (1)—30th May, 1940

The Board of Industries has decided to help pioneer industries of the United Provinces by sanctioning grants-in-aid. Rules (printed below) and other information on the subject may be obtained from the Director of Industries, United Provinces. Grants-in-aid will ordinarily be to meet a part (not exceeding half) of the expenses connected with researches or experiments to cover a portion of loss in the initial stage of the pioneering industries or to afford a subsidy for marketing. The Board has selected the following industries in the first instance as suitable for development in this province and they will be given preference over other industries for purposes of giving grants from the funds placed at its disposal:

- (1) Leather-boards.
- (2) Leather-belting.
- (3) Felting of wool.
- (4) Making of wire-gauges for sugar factories.
- (5) Metal pressing.
- (6) Making of small machines for cottage industries.
- (7) Press-lock making.
- (8) Scissors and cutlery.
- (9) Sand-paper and emery cloth paper.
- (10) Belting (other than leather).
- (11) Subsidiary industries to sugar.

Applications in the prescribed forms should be addressed to the Director of Industries, United Provinces, Cawnpore. The next meeting of the Board of Industries for considering such applications is expected to be held shortly.

RULES FOR GRANTS-IN-AID BY THE BOARD OF INDUSTRIES, UNITED
PROVINCES OUT OF THE ALLOTMENT AT ITS DISPOSAL.

1. *Powers of the Board.*—The United Provinces Government place at the disposal of the Board of Industries a certain sum of money annually to be utilized by the Board at its discretion subject to the rules prescribed hereafter.

2. The allotment is intended for—

(a) grants to new industries, that is, industries that have not so far been established on a firm basis in this province;

(b) grants to new or experimental types of industrial organizations;

(c) grants for the testing of new but promising processes, tools, plant, machinery, etc., and

(d) grants for the marketing of products and for experimental or research schemes which would, in the opinion of the Board, contribute towards the industrial developments of the province.

3. No grant shall be made from this allotment for the maintenance or equipment of technical or industrial educational institutions. If a non-Government institution, however, undertakes to carry out any special experiments which come within the purview of rule 2 above, the Board may sanction a grant for the extra expenditure involved for such experiments or researches only.

4. Loans should not be given from this allotment, but a grant may, in special cases, be made repayable on certain conditions; the accounting procedure for a repayable grant be such as may be prescribed from time to time by Government.

5. No recurring grant may be given out of this allotment. The Board will have full discretion to decide whether a grant should be given towards the financing of an object of a recurring character, but in no case shall the Board commit itself or the Government to a continuance of the grant in succeeding years.

6. No grant shall ordinarily be made unless the grantee is prepared to spend an equal amount. The Board of Industries shall have the power of waiving this condition, especially where experimental or pioneering work is undertaken.

7. *Applications for grants.*—All applications for grant shall be submitted to the Director of Industries in a prescribed form (Appendix A) but any member of the Board shall be at liberty to make proposals for the utilization of the money at the disposal of the Board.

8. The Director may summarily reject applications which, in his opinion, are *prima facie* not fit to be placed before the Board. If, however, such an application has been received from or through

a member of the Board, it shall not be summarily rejected without the consent of such member.

9. On receipt of an application, the Director will make, or direct to be made by a gazetted officer or member of his staff, an enquiry on the spot, unless the application is summarily rejected by him.

10. *Conditions and requirements.*—As soon as a grant is sanctioned by the Board, a copy of the resolution sanctioning the same shall be sent to the Accountant General.

11. The grant will be paid in such instalments as may be fixed by the Board of Industries when sanctioning the grant. No further instalment shall be paid unless and until the Director of Industries is satisfied that the previous instalment has been spent on the purpose and in the manner prescribed by the Board.

12. The grantee shall execute an agreement in the prescribed form (Appendix B) binding himself his heirs, executors, and assigns, to abide by the general conditions imposed by these rules and any special condition which the Board of Industries may lay down when sanctioning any particular grant.

13. The grantee shall hypothecate to Government all machinery, tools, or equipment purchased with the aid of a grant made specifically for the purpose.

14. The grantee shall, if the Board of Industries so desire, purchase machinery, tools, plant, or furniture, etc., from a firm approved by the Director of Industries.

NOTES.—(1) When the machinery or other articles of equipment have been purchased, a bill for the grants-in-aid equal to the price thereof should be presented by the grantee duly receipted by him. The firm's bill and a certificate that the machinery or other articles of equipment have been received in good condition should be attached to the bill. The bill will thereafter be countersigned by the Director of Industries, and cashed at the treasury with instructions to issue an R. T. R. or demand draft, as the case may be, in favour of the firm.

(2) If under the provisions of rule 6 of these rules the grantee is required to spend an equal amount on the object for which a grant-in-aid is given the grantee should be asked to pay his portion first to the firm, the part payment being acknowledged in the

firm's bill. The payment of the Board's grant will be made in accordance with the procedure indicated in the preceding paragraph.

(3) The Director of Industries (or the Stores Purchase Officer acting in his behalf) may at his discretion himself place the order with a firm. In doing so, the firm should be asked to present the bill for the cost of the machinery, etc., to the grantee, so as to enable the latter to adopt the procedure outlined above.

15. The grantee shall spend the grant solely on the object or objects for which it is given.

16. The grantee shall complete the work for which a grant is given within the time fixed for the purpose by the Board of Industries and within six months of the date of receipt of the grant if no such time is fixed. This time limit may be extended by the Director of Industries up to a period of six months; but for longer periods of extension the matter should be referred to the Board.

17. The grantee shall carry on his trade, business or profession, towards which a grant is sanctioned, for such minimum period (if any), as may be fixed by the Board.

18. The grantee shall, from his own side, spend such proportion of the total expenditure as may be required by the Board.

19. The grantee shall maintain accounts of the grant received by him and of his own share of the expenditure in the form prescribed (Appendix C) showing the amount allotted for each item in the original scheme, the amount spent thereon, and the undisbursed amount, if any.

20. The work for which the grant has been received, and all account books and registers, showing the manner in which grants made by the Board have been spent, shall be open to inspection at all reasonable times by the Director of Industries, by a gazetted member of his staff, and by any member of the Board of Industries, the accounts shall also be made available for audit by any officer of the audit department.

21. The grantee shall submit to the Director of Industries:

(i) a statement every quarter showing itemwise how the Board's grant and his own share are being spent by him;

(ii) a progress report, every quarter, of the work for which the grant was given;

(iii) a final report, after the work has been completed and the grant spent; and

(iv) such additional information as may be required by the Director of Industries.

22. If the Board are satisfied that the conditions of the grant have not been fulfilled, the grantee will be bound, if so required by the Board, to refund, in such manner as may be directed by the Board, the whole or such portion of the grant as they think fit.

23. *Supervision and control.*—The Director of Industries shall obtain periodical reports on the progress of the work, at such intervals as he thinks fit, from any Government official, not below the rank of a naib-tahsildar, or from a member of the Board of Industries, and shall submit to the Board the final report made by the grantee, indicating how far in his opinion the work has been successful and how often a departmental officer visited and inspected the works and what technical help was given. An account of the expenditure of the entire grant shall also be appended to the Director's report showing that it has been in accordance with the agreement mentioned in rule 12.

24. The Director of Industries, shall within six months of the close of every financial year submit for the information of the Board of Industries, a statement showing the grants made during the year and the manner in which they were spent. A copy of the statement shall be forwarded to the Government and to the Accountant-General, for information.

25. *General.*—If towards the close of the financial year, the Director finds that the whole amount of the Board's allotment has not been, or is not likely to be, utilized, or if at any time the Board resolve that they do not require the balance of the allotment, the Director may utilize the balance for the purpose mentioned in rule 2 or re-appropriate such savings in accordance with the rules in the United Provinces Budget Manual.

26. If in any year the Board require a further grant before the close of the financial year, an application for re-appropriation or for a supplementary grant may be made to Government by the Director in accordance with the rules in the United Provinces Budget Manual.

APPENDIX A

*Form of application for grant-in-aid by the Board of Industries,
United Provinces, for Industrial Purposes*

1. Name of applicant.
2. Qualifications and experience of applicant.
3. Particulars of the industry and the period for which attached to the industry.
4. Experiments, if any, conducted in the industry with results.
5. Method of manufacture employed or proposed to be employed by the applicant.
6. Machinery used by the applicant so far.
7. Machinery proposed to be used, with details, prices and purpose.
8. Whether the industry is new or nascent or is to be newly introduced or revived into the area, or cottage industry, with full explanation supported by facts and figures.
9. Give full reasons to show that the industry is undeveloped or decaying in the area.
10. What is the benefit to the general public derived from such industry if help is given by the Board of Industries?
11. Whether the industry, if assisted by the Board would be able to supply the existing deficiency in the interests of national safety or in the case of an

industry of which the extension was desirable in the interests of consumers or producers over a wide area? Give full reasons supported by facts and figures.

12. What time and amount the scheme would require to mature?

13. What amount of grant is required and how it is proposed to be spent?

14. What amount is the applicant prepared to invest from his own resources and how is it to be spent?

15. What are the sources of supply of raw materials and what are the markets for the products?

16. What time will the experiments take to establish the industry?

17. Any other additional information.

(2) ¹ That the said grant will be spent and utilized for the purpose for which it is granted within a period of.....from the date of receipt of the grant.

OR

² That every instalment of the said grant will be spent and utilized for the purpose for which it is granted before the next instalment falls due.

(3) That the said grant will be applied solely for the purpose for which it is given and not for any other purpose except with the previous consent of the Board.

(4) That the work for which the grant is made shall be open to inspection by the officers of the Industries and Audit Departments of the United Provinces and members of the Board.

(5) That the grantee shall expend at least Rs..... out of his own pocket on the work for which the grant is made.

(6) That the grantee shall furnish within a reasonable time statements and reports prescribed in rule 21 of the Rules and such information concerning the said grant or the work for which the same is made or the way in which the same is spent or intended to be spent and other matters connected with the grant as the Director of Industries, United Provinces, may require.

(7) That the grantee will maintain a register of grants in the form prescribed by Government and shall keep it open for audit by the officials of the Industries and Audit Departments and members of the Board.

³ (8) That the Board will be at liberty to withhold payment of any instalment of the grant until the Chairman of the Board is satisfied that all previous instalments have been spent for the purpose for which they were paid and in the manner prescribed by Rules.

(9) That all articles to be purchased from the grant shall be obtained, if so required by the Board, through the Stores Purchase Department of the Government of the United Provinces in the manner prescribed in the Rules. All such machinery, tools and equipments so purchased with the aid of the grant will remain

¹ To be used when a grant is paid in one lump sum.

² To be used *when* a grant is paid in instalments.

³ To be used when the grant is paid by instalments.

hypothecated with the grantor till such time as the terms and conditions of this agreement have been fulfilled.

(10) In any of the following cases the Board shall be at liberty to stop the payment of any further grant or of any portion of the grant which remains to be paid and to call upon the grantee to refund the whole or such portion of the grant as has already been paid and/or to return all serviceable materials including tools or equipment purchased from the grant and if and when so called upon the grantee will refund the said grant or portion of the grant, as the case may be and/or will return such materials.

(a) if the work, trade or business for which the grant has been made ceases to exist within.....¹from the date of payment (of any instalments).²

(b) if the grantee commits a breach of any of the covenants herein contained, or any other condition that may be laid down by the Board.

AND IT IS HEREBY AGREED between the parties that the stamp duty payable under the law in respect of this agreement shall be borne by the grantee.

IN WITNESS WHEREOF the grantee has put his signature below on the date hereinbefore first mentioned.

(The Schedule herein referred to)

(Instalments in which the grant will be paid)

Date *Amount*

Signed by

(Grantee).....

In the presence of.....

and of.....

Signed by.....

Signed by.....

Chairman.

In the presence of.....

and of.....

¹ To be filled in.

² To be used in case the grant is paid in instalments.

IX. COCHIN
THE COCHIN STATE AID TO INDUSTRIES
REGULATION.

REGULATION X OF 1111.

Passed by His Highness the Maharaja on the 23rd day of Vrischigam 1111 corresponding to the 9th day of December, 1935.

Preamble.—Whereas it is expedient to provide and regulate State aid to assist in the establishment and development of industries in the State, it is hereby enacted as follows:—

1. *Short title and extent.*—(i) This Regulation may be called the Cochin State Aid to Industries Regulation, X of 1111.

(ii) It extends to the whole of Cochin State.

1—A. In this Act—

(i) 'Cottage industry' means any industry carried on by a worker in his own home; and

(ii) 'Village industry' means any industry which forms the normal occupation, whether whole time or part time, of any class of the rural population of the Cochin State.

2. *Director of Industries.*—The Government may appoint any officer or other person to perform all or any of the functions of the Director of Industries under this Regulation.

3. *No aid except in accordance with the provisions of the Regulation.*—No aid shall be given by the Government to any industrial business or enterprise except in accordance with the provisions of this Regulation.

4.—*Industries to be aided.*—(i) The industries to which aid may be given under this Regulation shall be such as have an important bearing on the economic development of the country and shall be:

(a) new or nascent industries, or

(b) industries to be newly introduced into areas where such industries are undeveloped, or

(c) cottage industries.

(ii) No such aid shall be given to any joint-stock company unless:

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(a) the same is registered in the Cochin State on a rupee capital, and

(b) the company conforms to such rules as may be made by the Government from time to time requiring that a minimum number or a proportion of the members of its board of management and not less than 40 per cent. share-holders shall be Cochinites:

Provided further that every recipient of aid under this Regulation shall make such provision for the training of apprentices as the Government may, from time to time, prescribe.

(iii) The decision of the Government as to whether the conditions of this section are fulfilled shall be final.

5 *Method of giving State aid.*—Subject to the provisions of this Regulation and of the rules framed thereunder, the Government shall have power to give aid to an industrial business or enterprise in one or more of the following ways:—

(a) by granting a loan;

(b) by guaranteeing a cash credit, overdraft or fixed advance with a bank;

(c) by paying a subsidy, in the case of a cottage industry for any purpose, and in the case of any other industry for the conduct of research or for the purchase of machinery;

(d) by subscribing for shares or debentures;

(e) by guaranteeing a minimum return on part of the capital of a joint-stock company;

(f) by making a grant on favourable terms of land, raw material, fire-wood or water, the property of the Government.

(g) by supplying at concessional rates electric energy from a source belonging to Government.

6. *Delegation of the power given by section 5.*—The Government may delegate the power to grant State aid under section 5, provided that no authority to whom such power is delegated shall be empowered to grant aid to any one industrial business or enterprise of an amount or of value exceeding Rs. 1,000.

7. *Application for State aid and procedure in dealing with application.*—(i) Any person desiring to obtain a loan or other aid for any industrial business or enterprise shall make his application to the Director of Industries in such form and shall furnish such information concerning his business as may be prescribed.

(ii) If the extent of the aid applied for exceeds Rs. 5,000 and in any other case in which he considers this procedure necessary, the Director of Industries shall publish a notice in the prescribed manner calling upon any person who objects to the grant of the aid applied for, to state his objections at a time and place to be specified, and shall hear such objection and make such inquiry as may be necessary.

(iii) The Government may constitute taluk committees for the purpose of advising on applications for aid.

8. *Grant of loans.*—No loan shall be granted of an amount exceeding 50 per cent. of the net value of the assets of the industrial business or enterprise after deducting existing encumbrances, such value to be ascertained by such person as may be appointed by the Government and in accordance with such rules as may be prescribed; for the purpose of this valuation the additional assets which may be created by the expenditure of the sums granted may be taken into account to such extent as may be prescribed.

Provided, however, that a loan of an amount not exceeding Rs. 10,000 may be granted even if it exceeds 50 per cent. of the value of the assets as above ascertained.

9. *Loans how secured.*—Every loan granted under this Regulation shall be secured by a mortgage or floating charge upon the whole of the assets of the business or enterprise, subject to any encumbrances existing at the time of the grant, and by such collateral security, if any, as may be required by the Government, and shall bear interest payable on such dates and at such rates as the Government may determine.

10. *Inspection and returns.*—In any case in which a loan has been applied for under this Regulation the applicant, and at any time during the currency of a loan that has been granted under it, the grantee shall be bound—

(a) to comply with any general or special order of the Government relative to the inspection of the premises, buildings or plant or stock in hand of the industrial business or enterprise;

(b) to permit the inspection of all accounts relative to the industrial business or enterprise;

(c) to furnish full returns of all products manufactured or sold both as regards description and quantity;

V]. COCHIN STATE AID TO IND. REGULATION

(d) to maintain such special accounts or to furnish such statements as the Government may, from time to time, require;

(e) to submit the accounts of the industrial business or enterprise to such audit as the Government may prescribe.

11. *Control of business assisted.*—In any case in which a loan or loans is or are granted under this Regulation amounting to ten thousand rupees or upwards, the Government shall, and in any other case may, by the appointment of Government Directors or otherwise take power to ensure such control over the conduct of the business or enterprise as shall suffice in their opinion to safeguard their interest.

12. *Repayment of loans.*—(i) Every loan granted under this Regulation shall be made repayable by instalments within such period from the date of the actual advance of the loan, or when the loan is advanced in instalments from the date of payment of the last instalment as may be fixed by the order granting the loan.

(ii) The period fixed as aforesaid shall not exceed twelve years unless the Government shall, by general or by special order, extend the same.

13. *Guaranteeing of loans by banks.*—No guarantee of a cash credit, overdraft or fixed advance with a bank shall be given except under the conditions prescribed in sections 8 to 11 in respect of loans.

13-A. *Exemption of small and cottage industries.*—Save as otherwise may be prescribed by rules made under this Act, nothing in sections 8, 9, 10 and 13 shall apply to any industrial business or enterprise with a capital outlay not exceeding five hundred rupees or to cottage industries.

14. *Subscriptions for shares or debentures or guarantee of a minimum return on capital.*—The condition of subscription for shares and debentures by the Government or the guarantee of a minimum return on the capital of any industrial business or enterprise shall be that the business or enterprise shall be subject to the conditions of section 10 in respect of inspection and returns as well as of the provisions of section 11 in respect of Government control:

Provided (a) that for all shares subscribed by the Government there must be taken up and fully paid for not less than an equal number of shares;

(b) that for all capital on which a return is guaranteed by Government there shall be paid up not less than an equal amount of capital which carries no guarantee.

15. *Subsidy by Government.*—The condition of a grant of subsidy or of any payment under guarantee of a minimum return on the paid up capital or of the grant of Government land, raw material, fire-wood or water on favourable terms, shall ordinarily be that an amount equal to the sum paid or to the value of the grant as fixed at the time when it is made shall be repaid to the Government at the close of a fixed term of years if within that term the industrial business or enterprise shall be shown to be paying interest or a dividend upon the capital invested in excess of such rate as the Government may fix.

No subsidy to an industry other than a cottage industry shall exceed 40 per cent. of the cost of the research or of the cost of the machinery as the case may be.

16. *Disposal of profits when condition of State aid is not fulfilled.*—No recipient of State aid shall pay any dividend or distribute or take any profits in excess of such percentage rate upon the amount of the capital of the industrial business or enterprise as the Government may fix from time to time until the conditions on which the State aid has been granted are fulfilled. The balance of the profits, after setting aside proper amounts for depreciation or obsolescence of plant and buildings, and for the payment of interest on debentures of loans, shall be carried to a reserve fund to be utilised in such manner as the Government may approve.

17. *Method of recovery of money due.*—(i) All moneys payable under this Regulation, including any interest chargeable thereon and cost, if any, incurred, if not paid when due, may be recovered from the person aided and his surety, if any, under the law for the time being in force as if they were arrears of land revenue.

(ii) When any sum due as aforesaid is paid by the surety or is recovered from him or out of his property under subsection (i) the Diwan Peishkar shall, on the application of the surety, so far as possible, recover the same from the person aided and pay the same to the surety.

18. *Power to make rules.*—(a) The Government may make rules to carry out all or any of the purposes of this Regulation not inconsistent therewith.

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(b) In particular and without prejudice to the generality of the foregoing power, they may make rules regulating all or any of the following matters:—

(1) the classes of industrial businesses or enterprises to which and the purposes for which aid may be given;

(2) the constitution and functions of taluk committees;

(3) the delegation of the power to grant State aid under section 6;

(4) the manner of making applications for State aid and the information to be given in such applications, provided that no such rules shall require any applicant or grantee of aid to divulge any information relating to the technical details of any process or any patent owned by him;

(5) the manner of conducting inquiries and the matters to be specially inquired into in dealing with applications for State aid and the powers to be exercised by the Director of Industries conducting such inquiries;

(6) the mode of ascertaining the value of the assets of an industrial business or enterprise;

(7) the nature of the security to be taken for the due application of loans and grants and the rates of interest at which and the conditions under which loans or grants may be given, and the creation of a mortgage, floating charge or collateral security under section 9;

(8) the inspection of the premises, buildings, plant and stock on hand and the accounts of any industrial business or enterprise for which State aid has been granted;

(9) the mode of keeping and auditing the accounts and of furnishing returns of any industrial business or enterprise in respect of which State aid has been granted;

(10) the appointment and functions of Government Directors or the prescribing of other methods of control of industrial businesses or enterprises in respect of which State aid has been granted;

(11) the application of profits in cases in which the conditions under which loans or grants have been made have not been fulfilled;

(12) the guaranteeing by the Government of cash credits, overdraft or fixed advances by banks and the recognition of banks for this purpose;

(13) the fixing of the period for the re-payment of loans and the conditions and dates of the re-payment of subsidies and grants;

(14) the recovery of any moneys due under this Regulation; and

(15) the conditions under which and the security on which loans shall be granted or guarantee of a cash credit, overdraft or fixed advance with a bank given to the industries referred to in section 13-A :

Provided that such rules are laid on the table of the Legislative Council and notified in the Cochin Government Gazette one month after which they shall have the force of law unless amended by the Legislative Council within that period, or, if the Council is not sitting during that period, at its next meeting.

19. *Powers reserved with the Government.*—Nothing in this Regulation shall debar Government (a) from starting or conducting industrial enterprises for experimental purposes or with a view to stimulate industrial development;

(b) from assisting an industrial business or enterprise by agreements to purchase on business terms the whole or a portion of the products of the same;

(c) from assisting an industrial business or enterprise by giving gratis or on favourable terms, the services of Government officials or experts either in the capacity of advisers or for a limited period not exceeding one year for starting or conducting such business or enterprise;

(d) from assisting an industrial business or enterprise in connection with industrial education or the training of apprentices;

(e) from assisting village industry in any manner which may be determined by Government..

SIGN MANUAL

**X. THE JAMMU AND KASHMIR STATE AID TO
INDUSTRIES ACT, 1999 (1942 A.D.)
ACT XI OF 1999.**

(Passed by the Jammu and Kashmir Praja Sabha on 23rd September, 1942 and received the assent of His Highness on 26th October, 1942.)

An Act to provide State aid to improve the condition of Industries.

Preamble.—WHEREAS it is expedient further to improve and regulate the giving of State aid for industrial purposes; It is hereby enacted as follows:—

**CHAPTER I
PRELIMINARY**

1. *Short title and extent.*—(1) This Act may be called the Jammu and Kashmir State Aid to Industries Act, 1999.

(2) It extends to the whole of Jammu and Kashmir State.

2. *Definitions.*—In this Act, unless there is anything repugnant in the subject or context—

(a) "Board" means the Board of Industries constituted under section 4 of this Act.

(b) "Borrower" means an individual, company or association or body of individuals, whether incorporated or not, to whom or to which State aid has been granted under this Act.

(c) "Company" means a company as defined in the Jammu and Kashmir Companies Act, 1977.

(d) "Director" means the Director of Industries, Jammu and Kashmir.

(e) "Industry" means any industrial business or enterprise conducted or undertaken either by an individual or a company, association or body of individuals, whether incorporated or not.

(f) "Machinery" includes plant, apparatus, tools and other appliances required for the purpose of carrying on any industrial operation or process.

(g) "Prescribed" means prescribed by rules made under this Act.

(h) "State subject" means a State subject of class I or class II as defined in the Judicial Department Notification No. 1-L/84 of April 1927.

CHAPTER II.

3. *Establishment of Board of Industries.*—(1) For carrying out the purposes of this Act, the Government shall, as soon as possible, after the commencement of this Act, establish a Board to be called the "Board of Industries" consisting of the following members, namely—

(a) The Minister-in-charge of Industries, Jammu and Kashmir;

(b) The Director of Industries and Commerce, Jammu and Kashmir;

(c) The Accountant-General, Jammu and Kashmir;

(d) Three members nominated by the Government from amongst those engaged within the State in industrial occupations;

(e) The Manager or any other representative of the Jammu and Kashmir Bank Ltd.;

(f) Three members elected by non-official members of the Jammu and Kashmir Praja Sabha from amongst themselves; election being in accordance with the principle of proportional representation by means of the single transferable vote:

Provided that the Board shall have power to invite for consultation, on any particular question before it, not more than two persons specially qualified to advise on the matter in question or having special knowledge of local conditions in the area where the industry in question is situate. Any person so invited by the Board shall not have the right to vote.

(2) The Minister-in-charge of Industries shall be *ex-officio* Chairman and the Director shall be *ex-officio* Secretary of the Board.

(3) Five members of the Board shall form a quorum.

(4) The Board may from time to time elect for such period as it thinks fit one of its members to be the Vice-chairman.

(5) The Chairman or in his absence the Vice-chairman shall preside at every meeting of the Board and shall have a second or casting vote in all cases of equality of votes.

(6) In the absence of both the Chairman and the Vice-chairman the members present at any meeting may elect one of their members to preside, who shall have a second or casting vote in all cases of equality of votes.

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4. *Procedure in default of election of members.*—If by such date as may be fixed by Government, the Praja Sabha does not elect a member or members as provided in section 4, the Government shall appoint a suitable person or persons, as the case may be, from amongst the non-official members of the Praja Sabha, and any person so appointed shall be deemed to be a member as if he had been duly elected by the said Praja Sabha.

5. *Term of office.*—(1) Subject to the provisions of this Act, an appointed member shall hold office for 3 years, unless the Government otherwise direct, and an elected member shall hold office for 3 years or until such time as he ceases to be a member of the body electing him, whichever is shorter.

(2) An outgoing member may, if otherwise qualified be re-elected or re-appointed.

(3) An appointed or elected member may resign his office by giving notice in writing to the Chairman of the Board.

(4) Notwithstanding the expiration of the term of three years mentioned in sub-section (1) an appointed or elected member shall continue to hold office until the vacancy caused by the expiration of the said term has been filled, provided no vacancy shall be allowed to remain unfilled for more than one year.

6. *Power to act notwithstanding vacancies and removal of members.*—(1) No act of the Board shall be deemed to be invalid by reason only that the number of the members constituting the Board was at any time less than the number provided in section 3.

(2) The Government may, by notification, remove any member of the Board if he

(a) refuses to act or becomes incapable of acting as a member of the Board;

(b) is declared insolvent by a competent Court;

(c) is convicted of any such offence or is subjected by a criminal Court to any such order as in the opinion of the Government implies a bar to his continuance as a member of the Board; or

(d) fails to attend four consecutive meetings of the Board without sufficient excuse.

(3) The Government may fix a period during which any person so removed under sub-section (2) (b) of this section shall not be eligible for re-appointment or re-election.

7. *Casual vacancies.*—On the occurrence of a vacancy among the appointed or elected members of the Board by reason of removal, resignation or death, a new member shall be appointed by the Government to fill the vacancy.

8. *Travelling allowances of the members of the Board.*—The members of the Board and the members of the Committees which may be appointed by the Board when necessary, shall be paid remuneration and travelling allowance at the prescribed rates and on the prescribed conditions for attending meetings of the Board, or for performing any duty assigned to them by the Board for the purposes of this Act.

9. *Interested members not to vote.*—No member of the Board shall vote on or participate in any proceedings relating to any question coming up before the Board in the event of his having a direct or indirect pecuniary interest by himself or through his partner or in which he is interested professionally or on behalf of a client or as agent for any person other than the Government.

EXPLANATION.—In all such matters the decision of the Chairman shall be final.

10. *Power of Board to make regulations.*—(1) The Board may make regulations consistent with this Act and the rules thereunder for the carrying out of all or any of its purposes.

(2) In particular and without prejudice to the generality of the foregoing power, the Board may make regulations regulating or determining all or any of the following matters, namely,—

- (i) The time and place of its meetings;
 - (ii) the manner in which notice of meetings shall be given;
 - (iii) the conduct of proceedings at meetings;
 - (iv) the division of duties among the members of the Board;
- and

(v) the appointment, duties and procedure of special committees consisting wholly of members of the Board or partly of such members and partly of other persons.

11. *Rule-making power.*—(1) The Government may make rules consistent with this Act for carrying out all or any of its purposes.

(2) In particular and without prejudice to the generality of the foregoing power, the Government may make rules for any of the following matters,—

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(a) the class or classes of industrial business or enterprise to which and the purposes for which aid may be given;

(b) the manner of making applications for State aid and the information to be given in such applications provided that no such rules shall require any applicant or grantee of aid to divulge any information relating to the technical details of any process or any patent owned by him;

(c) the manner of conducting inquiries and the matters to be specially inquired into in dealing with applications for State aid and the powers to be exercised by the Director of Industries conducting such inquiries;

(d) the mode of ascertaining the value of the assets of an industrial business or enterprise; or of any property offered as collateral security for a loan;

(e) the nature and amount of the security to be taken for the due application and repayment of the State aid together with all interest due thereon and the rate of interest at which and the conditions under which State aid may be granted and the creation of a mortgage, floating charge or collateral security:

(f) the inspection of the premises, buildings, plants and stock and the accounts of any industrial business or enterprise for which State aid has been granted;

(g) the mode of keeping accounts and their audit and of furnishing returns of any industrial business or enterprise in respect of which State aid has been granted;

(h) the appointment and functions of Government directors or the prescribing of other methods of control of industrial business or enterprise in respect of which State aid has been granted;

(i) the application of profits, in cases in which the conditions under which loans or grants have been made have not been fulfilled;

(j) the guaranteeing by His Highness' Government of cash credits, overdrafts or fixed advances by banks and the recognition of banks for this purpose;

(k) the fixing of the period for the repayment of loans and the conditions and dates of the repayment of subsidies and grants;

(l) the recovery of any moneys due under this Act;

(m) the conditions under which and the security on which loans shall be granted or guarantees of a cash credit, overdraft or fixed advance with a bank given to industries;

(n) the conditions relating to the supply of machinery by Government on hire purchase system.

(o) rates of remuneration and T. A. of members of the Board; and

(p) the giving of preference amongst competing applicants for aid to the same industry; provided that where the competition for aid is between a State subject of class I and a State subject of class II, the rules made shall give preference to the former.

12. *Duties of the Board.*—It shall be the duty of the Board:—

(1) to report to the Government after such enquiry as it may deem necessary or as may be required by this Act on an application for State aid which may be referred to it for advice by the Government;

(2) to advise the Government on any matters that may be referred to it:

Provided that the Board shall have power to grant aid to any one industry upto a limit of Rs. 5,000.

Provided further that all recommendations for State aid exceeding Rs. 5,000 in any one case shall be submitted by the Board of Industries to the Government for sanction.

(3) Copies of all orders passed by Government on the reports made or advice tendered by the Board as well as notes on Government industrial schemes sanctioned by Government without reference to the Board shall be placed before the Board and Government shall consider on their merits any recommendations or suggestions made by the Board in respect of the practical working of such sanctioned schemes.

CHAPTER III

GENERAL PROVISIONS REGARDING GIVING OF STATE AID.

13. *Forms of State Aid.*—(1) The State aid which may be given to industrial business or enterprise may take one or more of the following forms:

(a) granting a loan;

(b) guaranteeing the repayment of a loan advanced to the recipient of the aid by a Bank, individual or firm;

(c) paying a subsidy for the conduct of research or for the purchase of machinery;

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(d) subscribing to debentures;

(e) making a grant on favourable terms, of land, raw materials, firewood, timber, water, or any other article the ownership of which is vested in the Government;

(f) supply of machinery on the hire purchase system;

(g) imposing export duty on raw material or import duty on goods manufactured outside the State territory;

(h) exempting raw materials required for the industries from payment of customs duty;

(i) granting other facilities for the betterment of the industry or industries; or

(j) In such other manner as the Government may think fit.

(2) (i) No State aid shall be given to any individual or firm unless he or they are State subjects.

(ii) No State aid shall be given to any Joint Stock Company unless the Company is registered in the State with a rupee capital and has a majority of State subjects on its Board of Directors as well as on the list of share-holders:

Provided that in the case of Joint Stock Companies with a rupee capital of over two lacs where the Board decides by a vote of the majority that aid may be given to any particular industry in accordance with this Act, State aid may be granted without regard to the conditions hereinbefore stated in this section.

Nothing contained in sub-section (2) shall be a bar to the grant of aid to those companies declared as State subjects under Order No. 98-H|39 issued in the Government Gazette of 27th Poh 1996.

Notwithstanding anything contained in the provisions of this Act, the Government reserves to itself the power to grant aid to any industry in any form.

14. *Application for State aid.*—Application for State aid shall be made to the Director in such form and shall contain such information as may be prescribed.

Provided that neither the applicant nor the grantee of aid shall be required to divulge any information relating to the technical details of any process or any patent owned by him.

15. *Training of State subject apprentices.*—Every recipient of aid under this Act shall make provision for the training of State

subject apprentices as the Government may from time to time prescribe.

CHAPTER IV

PROVISIONS REGULATING THE GIVING OF STATE AID OTHERWISE
THAN BY THE SUPPLY OF MACHINERY ON THE HIRE
PURCHASE SYSTEM

16. *Verification by Director.*—On the receipt of an application for State aid, the Director shall verify through the Revenue Department or other agency the facts stated therein. All such applications shall be placed by him with the report of the Department or other authorities along with his views before the Board for its consideration in the order of their receipt.

17. *Security for repayment.*—(1) When an application for a loan has been accepted, the applicant shall execute a deed in the prescribed form undertaking to apply the money lent solely to the purpose or purposes for which and fulfil the conditions on which the loan was granted, and rendering himself and such property as may have been specified in the deed as security, and, in the event of that property being found insufficient his whole property then existing or acquired in future liable for the repayment of the loan with interest and costs, if any, incurred in advancing or recovering the loan or loans.

(2) When the application has been made by a firm or company the deed shall be executed by a duly authorised representative thereof, and the deed shall thereupon be deemed binding on all the members of the said firm or company jointly and severally and the property of the said firm or company shall be liable for the repayment of the loan in the same manner as if the loan had been granted to an individual.

(3) Notwithstanding anything contained in the Stamp and Registration Acts, all mortgage deeds executed in favour of the Government under the provisions of this Act shall be executed on a stamp paper of the value of Re. 1 and shall be registered without payment of any registration fee.

18. *Limit of loan.*—The amount of loan granted under this Act shall not exceed fifty per cent. of the net value of the unencumbered assets accepted as security.

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19. *Recovery of dues.*—Every loan granted under this Act together with all interest due thereon, if any, shall be repayable either in a lump sum or by instalments as may be provided for in the deed executed by the borrower under section 17 of this Act, provided that the period fixed for the repayment of such loan shall not exceed 20 years.

20. *Notice to pay.*—(1) When any loan or instalment or interest thereon falls due and is not paid on or before the due date or when a loan has been declared immediately repayable under section 26, the Director may cause a notice to be served on the borrower in the prescribed form calling upon him to pay the sums due within such time as may be fixed therein.

(2) Such notice shall contain intimation that in case of default the said officer will issue a declaration in the prescribed form showing the amount of the debt due and the property mentioned in the deed as liable to satisfy the same.

21. *Effect of declaration.*—(1) If within the time so fixed the sums due are not paid the Director shall issue the declaration as described in sub-section (2) of section 20 and such declaration shall be published in the Gazette.

(2) Such declaration shall be conclusive evidence of its contents, and shall not be called into question in any Court or before any revenue authority by the borrower, his heirs, legal representatives or assigns.

22. *Execution of declaration.*—All moneys payable under this Act including any interest chargeable thereon and the cost, if any, incurred if not paid when due, may be recovered from the borrower and his surety if any, under the law for the time being in force, as if they were arrears of land revenue.

23. *Recovery of sums due.*—On the receipt of a declaration made under section 20 any Revenue Officer to whom the declaration has been forwarded shall immediately proceed to recover the sums due in the manner provided for the recovery of arrears of land revenue.

24. *Inspection by the Board.*—The Board or their representatives shall have free access for the inspection of the premises, buildings, plants, stock and all accounts relative to the industry.

25. *Inspection of returns.*—In any case in which any application for a loan has been made under this Act, the applicant, and at

any time during the currency of a loan that has been granted, the borrower shall be bound:—

(a) to comply with any general or special order of the Director relating to the inspection of the premises, buildings, machinery and stock in hand of the industry;

(b) to permit inspection of all accounts relative to the industry;

(c) to furnish complete returns of all products, manufactured or sold, both as regards description and quantity;

(d) to maintain such special accounts and to furnish such statements as the Director may from time to time require; and

(e) to submit the accounts of the industry to such audit as the Director may prescribe.

26. *Penalty for default in applying the loan.*—If the Director, after any inspection provided for in section 25 is satisfied that the money lent is not being applied to the purpose or purposes for which the loan was granted or that the conditions on which the loan was granted are not duly fulfilled, he may declare, notwithstanding anything contained in the deed executed under section 17 of this Act that the loan is immediately repayable and shall give notice of such declaration to the borrower.

27. *Power to adjust security during currency of loan.*—If at any time during the currency of the loan, the value of the security falls below the outstanding balance of the loan, the Director may either proceed to recover in the manner laid down in sections 20, 21, 22 and 23 so much of such balance as is not adequately covered by the then existing value of the security or accept such additional or collateral security as he may deem sufficient.

28. *Power to recover loans.*—If the borrower fails to comply with any order under clause (a) of section 25 or does not permit or obstructs the inspection of the accounts relative to the industry, or makes default in respect of any of the particulars specified in clauses (c), (d) and (e) of the said section or if the borrower disposes of any profits in contravention of the provisions of section 29 of this Act, the Director may, after considering any representation the borrower may make, within such time, as may be fixed by him, proceed to recover the loan in the manner prescribed by this Act.

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29. *Disposal of profits when conditions on which State aid is given are not fulfilled.*—No borrower shall pay any dividend or distribute or take any profits in excess of such rate or percentage upon the paid up capital of the industry as the Government may from time to time fix, until the conditions on which the State aid has been granted are fulfilled.

30. *Government Directors.*—Notwithstanding anything contained in this Act, the Government may, by the appointment of their own Directors or otherwise, exercise such control over the conduct of the industry to which State aid has been given as shall suffice in their opinion to safeguard their interests, provided that such right has been expressly reserved by agreement at the time the aid was granted.

CHAPTER V SUPPLEMENTAL

31. *Finality of decision of Government and bar of suit and proceedings in Civil and Criminal Courts.*—(1) The decision of the Government as to whether the conditions laid down in or under any provisions of this Act have been satisfied or violated shall be final and no suit shall be brought in any civil Court to set aside or modify any order made thereunder.

(2) No prosecution, suit or other proceeding shall lie against any Government officer or other authority invested with powers under this Act for anything done or intended to be done by him in good faith in the performance of his duties as such Government servant or authority.

32. *Repeal.*—The Jammu and Kashmir State Aid to Industries Act No. 9 of 1992 is hereby repealed, but all acts done, aid given, agreements made, orders passed and rules issued under the said Act shall remain in force unless expressly or impliedly cancelled by competent authority and shall be deemed to have been respectively done, given, made, passed and issued under this Act.

SECRETARY TO GOVERNMENT,
Praja Sabha Department.

XI. MYSORE

CONCESSIONS AND FACILITIES FOR THE
ESTABLISHMENT OF INDUSTRIES

*ORDER No. D. 4856-1 & C. 278-45-1, dated Bangalore, the 29th
December, 1945.*

A number of applications are being received by Government from Company promoters and others for the grant of concessions and facilities for the establishment of industries of all kinds. These applications are usually of too general a character to be speedily dealt with. It may, therefore, conduce to speedy disposal of such applications, if the general policy of Government in this respect were laid down, each case, however, being dealt with on its merits.

The concessions usually asked for are in respect of (1) the grant of land, (2) the supply of water, (3) the supply of electric power, (4) the provision of railway siding and the grant of freight concessions, (5) the grant of priorities for obtaining controlled materials, (6) the purchase of products by Government, (7) the grant of monopoly of manufacture, and (8) the purchase of shares by Government. The general policy of Government in regard to these matters is as follows:—

(1) *Land*.—Factories in Bangalore City are generally to be located in the industrial suburb. Applications for sites in this area are to be made to the President, City Improvement Trust Board, Bangalore city. Elsewhere if the land applied for is Government land, it is not required for any public purpose, it may be given at an upset price. If it is private land, Government may acquire it under the provisions of the Land Acquisition Act, if they consider such a course necessary. The payment of the "fine" ordinarily leviable on agricultural land used for non-agricultural purposes can be waived only in specially deserving cases.

(2) *Water*.—In the case of the filtered water supply of Bangalore or Mysore cities, the applicant may first approach the Executive Engineer of the respective water supply division. In other cases, the Deputy Commissioner of the district concerned may be approached with full details of supply required in order to see whether it would be available or not, for the purpose in question.

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(3) *Electric power.*—The Chief Electrical Engineer may be approached with details of the extent of power required, the purpose for which, and the locality in which it is required. If the power is available, it will be given at the scheduled rates.

(4) *Railway siding and freight concessions.*—The General Manager, Mysore State Railway may be approached in the first instance with the necessary details.

(5) *Priorities.*—Applications for the grant of priority for the purchase of building materials, such as, iron or steel, cement and timber, may be made, respectively, to the Iron and Steel controller, Mysore Iron and Steel Works, Bhadravati, the Controller of Civil Supplies, Bangalore, or the Chief Conservator of Forests, Bangalore. In other cases, the Controller of Civil Supplies may be approached. When priorities have to be obtained from the Government of India, reasonable assistance will be given therefor.

(6) *Purchase of products by Government.*—No specific undertaking can be given in this regard, but under the rules of the Stores Purchase Committee preference is given to local products, provided quality and prices are competitive.

(7) *Monopoly of manufacture.*—No guarantee can generally be given to any prospective industry that manufacturers of a similar nature will not be permitted in the State. In special cases, however, where it appears to Government that such a course would be justified in the interests of the industry or the State they would be prepared to give an assurance that State aid will not be extended for a specified period to any competing concern that may be sought to be established in the State as a whole or in a particular area.

(8) *Purchase of shares by Government.*—Wherever Government may consider it necessary to do so in the interests of the industry, they may participate in the share-capital of the proposed company to the extent necessary, provided there is no managing agency and Government have a controlling voice on the directorate and in the appointment of the Chairman, Managing Director and General Manager.

Applications for the issue of capital will have to be made to the Secretary, Capital Issues Committee, Public Offices.

Secretary to Government,
Development Department.

APPENDIX :

A NOTE ON THE NATURE AND EXTENT OF STATE PARTICIPATION OR ASSISTANCE FOR THE ESTABLISHMENT AND DEVELOPMENT OF INDUSTRIES IN MYSORE.

The Government of Mysore have assisted the promotion of industrial enterprise in the State in the following ways:—

I. Establishment of industrial concerns owned and controlled by the Government in the larger interests of the State.

II. Pioneering of industries with a view to handing them over ultimately to private enterprise.

III. Providing financial aid under rules regulating the grant of the Industrial and Agricultural loans.

(a) by giving *takkavi* loans,

(b) by supply of plant and machinery on the hire-purchase system.

(c) by granting loans to an extent not exceeding Rs. 1,000 for the development of small industries in the state.

(d) by granting loans to educated unemployed persons of the State to start industries of their own.

IV. Encouraging private enterprise to start large-scale industrial concerns on a joint-stock basis by grant of concessions on the following lines:—

(1) Subscribing to the share-capital of the concerns,

(2) granting land, water and electric power at concession rates,

(3) guaranteeing the purchase of the products of the concerns to the extent of their requirements provided the quality and price are satisfactory, and

(4) undertaking not to start or encourage the starting of similar concerns so long as the working of the concerns is satisfactory.

I. ESTABLISHMENT OF INDUSTRIAL CONCERNS OWNED

AND CONTROLLED BY GOVERNMENT

Government have whenever they thought that the starting of an Industry was in the larger interests of the State and that private

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enterprise was not properly equipped to take it up, themselves pioneered the industry. There are now 13 large industrial concerns with a total fixed and working capital of about Rs. 3,20,00,000 which are completely owned and managed by Government.

II. PIONEERING OF INDUSTRIES

Two industrial concerns, namely,—

(1) the Premier Metal Factory for the manufacture of metal-ware of all descriptions as well as seamless measures, and

(2) the Silk Filatures, which were pioneered by the Government have been transferred to private enterprise and are being run successfully.

III. PROVISION OF FINANCIAL AID UNDER THE INDUSTRIAL LOAN RULES

As regards financial aid to industries, provision has been made under the Industrial Loan Rules for granting loans for:—

(a) The purchase and erection of machinery for agricultural and industrial undertakings,

(b) the construction of wells, tanks, mills, warehouses and other structures necessary for agricultural and industrial operations,

(c) the provision of raw material, working capital or appliances other than those specified above.

Under the Industrial Loan Rules referred to above, facilities are also provided for the hire-purchase of machinery.

The total amount of loans sanctioned since the above Rules came into operation is about Rs. 18 lakhs. These have been supplemented by private capital to the extent of Rs. 25 lakhs. There are now established in the State as many as 367 large industrial establishments, each employing on an average ten or more persons per day. The average daily number of persons employed in all these concerns is about 70,000.

(2) As regards financial aid for the encouragement of Rural and Cottage Industries in the State, loans are granted to trained artisans to an extent not exceeding Rs. 1,000 for the purposes specified below:

(a) The purchase of raw material,

(b) the purchase of tools and machinery, and

(c) in special cases, for employing instructors, for the payment of wages for the erection of small buildings and for other purposes legitimately connected with small industries.

(3) As regards the financial aid for the educated unemployed persons of the State to start industries of their own, Government have recently sanctioned a scheme for granting loans to such persons to an extent not exceeding Rs. 2,000 for the following purposes:

(a) for the purchase of tools, implements and appliances or machinery, including the cost of erection,

(b) for enabling the recipient to tide over the early stages of manufacture on a commercial scale,

(c) for helping the recipient to meet losses due to poor production in the beginning,

(d) for working capital in special cases, and

(e) for other similar purposes depending on the circumstances of the case.

This scheme is just now being put into operation.

The Department of Industries has been granting technical assistance to private enterprise in the erection and maintenance of industrial installations.

So far 718 installations of an approximate value of Rs. 32,26,000 have been put in the State with the assistance of the Department.

IV. ENCOURAGING THE FLOATATION OF LARGE INDUSTRIAL CONCERNS BY THE GRANT OF CONCESSIONS AS SUBSCRIPTION TO THEIR CAPITAL, SUPPLY OF LAND, WATER, POWER, ETC.

The satisfactory working of the concerns owned by Government and of those started by private industrialists with the financial and technical assistance from Government has induced private enterprise to enter the industrial field on a larger scale than before, necessitating a change in the policy of industrialisation pursued by Government. Instead of owning and managing industrial concerns, Government have now been encouraging private enterprise to float large-scale industrial concerns on a joint-stock basis by subscribing to the share-capital of these concerns, in proportions varying from 10 to 60 per cent. of the share capital, and also by affording several other facilities. The following are the important facilities, afforded by this Government to these concerns.

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(1) Government have agreed to supply land, water, electric power, etc., to these concerns at concessional rates and also to waive the revenue fines payable for the conversion of agricultural lands for non-agricultural purposes.

(2) Government have agreed to purchase the products of these concerns to the extent of their requirements provided quality and price are satisfactory.

(3) Government have undertaken not to grant such assistance to other similar concerns so long as the concessionaries satisfactorily carry out the conditions of the grant of concessions.

(4) Government have also taken necessary action to safeguard the interest of the investing public by reserving the Government power to nominate a certain number of Directors and providing for periodical inspection and audit of the working of these concerns by Government Agency.

There are now seven concerns in the State to which the above concessions have been granted by Government except that Government have not subscribed to their share capital. Most of these concerns are being run by Managing Agents.

The total number of State-owned and State-aided concerns working at present is 29 as shown above and they employ daily about 25,000 persons in the aggregate. The total amount of capital invested is about Rs. 500 lakhs.

Most of the industries so started are what may be termed the 'basic' or 'key' industries, utilising for the most part local resources and supplemented to the extent necessary by supplies obtained from other parts of India and Foreign countries.

DIRECTOR OF INDUSTRIES & COMMERCE,

Mysore.

XII. TRAVANCORE
THE TRAVANCORE STATE AID TO INDUSTRIES
REGULATION

(REGULATION IV OF 1107) [1931 A.D.]

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A Regulation to make provision for the giving of State aid to Industries passed by His Highness the Maha Raja, under date the 31st Chingam 1108 corresponding to the 15th September, 1932, under Section 14 of Regulation II of 1097.

Preamble.—Whereas it is expedient to make provision for the giving of State aid to industries; It is hereby enacted as follows:—

CHAPTER I.

PRELIMINARY.

1. *Short title, extent and commencement.*—(1) This Regulation may be called "The Travancore State Aid to Industries Regulation 1107."

(2) It shall extend to the whole of Travancore.

(3) It shall come into force on such date as Our Government may, by notification in Our Government Gazette, appoint in that behalf.

2. *Definitions*.—In this Regulation unless there be something repugnant in the subject or context:—

(1) "board" means the Board of Industries constituted under Section 3;

(2) "director" means the Director of Industries, and includes any person appointed by Our Government either by name or by virtue of his office, to perform any of the functions of the Director under this Regulation;

(3) "industry" means any industrial business or enterprise, including agriculture undertaken or conducted by any individual, company, association or body of individuals whether incorporated or not;

(4) "machinery" includes plant, apparatus, tools and other appliances required for the purpose of carrying on any industrial operation or process;

(5) "owner" means the person who owns any industrial undertaking, and includes the successors in interest of such person in respect of such undertaking;

Explanation:—The word 'person' includes any company or any association or body of persons whether incorporated or not.

(6) "prescribed" means prescribed by rules made under this Regulation; and

(7) "State aid" means aid given by, or on behalf of Government under the provisions of this Regulation and the rules, if any, thereunder.

CHAPTER II.

THE BOARD

3. *Constitution of a Board of Industries*.—(1) As soon as may be, after the commencement of this Regulation, Our Government may constitute a Board of Industries consisting of such number of members not less than five as Our Government may sanction.

(2) The Director of Industries shall *ex officio* be one of the members of the Board:

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(3) The remaining members shall be appointed by nomination by Our Government:

Provided that not less than three-fifths of the total number of members sanctioned for the Board shall be non-officials;

Provided further that rules may be made by Our Government for any of the non-official members being appointed as the result of any election:

(4) The chairman of the Board shall be appointed by Our Government from among the members of the Board:

(5) The appointment, resignation and removal of the chairman and members of the Board shall be published in Our Government Gazette.

4. *Term of office.*—Subject to the provisions of this Regulation and the rules thereunder the chairman and members of the Board shall hold office for a term of three years but may be re-appointed either by nomination or election:

Provided that notwithstanding the expiration of the term, the chairman and members shall continue to hold office, unless Our Government otherwise direct, until the vacancy caused by the expiration of the term has been filled up.

5. *Resignation.*—The chairman or any member of the Board may resign by tendering his resignation in writing to Our Government; and, on such resignation being accepted by Our Government, shall be deemed to have vacated office.

6. *Removal of members.*—(1) Our Government may remove the chairman or any member of the Board if he—

(a) refuses to act or becomes, in the opinion of Our Government, incapable of acting as a member of the Board;

(b) has been adjudicated insolvent by a competent Court of Law;

(c) is convicted of any such offence or is subjected by any Criminal Court to any such order as in the opinion of Our Government implies a defect of character which unfits him to continue to be the chairman or a member, as the case may be, of the Board;

(d) without excuse sufficient in the opinion of Our Government, is absent without the consent of the Board from more than three consecutive meetings of the Board; or

(e) contravenes the provisions of Section 9.

(2) Our Government may fix a period during which any person so removed shall not be eligible for reappointment either by nomination or by election.

7. *Vacancy of chairman or member.*—When the place of the chairman or of any member of the Board becomes vacant by the expiration of his term, resignation, removal or death, a new chairman or member shall be appointed in his stead by nomination or election as the case may be :

Provided that no act of the Board shall be deemed to be invalid by reason only that the number of members of the Board at the time of the performance of such act was less than the sanctioned number.

8. *Presiding at meetings.*—(1) The chairman shall preside at the meetings of the Board and shall have a second or casting vote in all cases of equality of votes.

(2) In the absence of the chairman, the members present at the meeting may elect one of their number to preside who shall, while so presiding, have a second or casting vote in all cases of equality of votes.

(3) No business shall be transacted at any meeting of the Board unless one-half of the sanctioned number of the members of the Board are present at the meeting.

9. *Interested members not to vote or take part in discussion.*—No member of the Board shall vote or take part in the discussion of any question coming up for consideration at a meeting of the Board if the question is one in which he or his partner has any direct or indirect pecuniary interest or in which he is interested professionally on behalf of a client or as agent for any person other than Our Government, a local authority or a railway company.

10. *Abolition of the Board.*—If in the opinion of Our Government the Board persistently makes default in the performance of the duties imposed on it or exceeds or abuses its powers, Our Government may, by notification in Our Government Gazette, abolish the Board, whereupon the chairman and members of the Board shall be deemed to have vacated their offices and all the functions of the Board shall thereafter be exercised by such person or persons as may be appointed in that behalf by Our Government until a new Board is constituted by Our Government.

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CHAPTER III

GENERAL PROVISIONS REGARDING THE GIVING OF STATE AID

11. *Forms of State aid.*—(1) State aid to any industry may be in all or any of the following forms, namely:—

(a) the grant of a loan to be secured and repaid in the prescribed manner and upon such terms as may be fixed by the order granting it:

Provided that no such loan shall exceed the prescribed percentage of the net value of the assets of the industry to which it is granted after deducting all encumbrances thereon existing at the time when the application for the loan is made, such value being ascertained by the Director in the prescribed manner:

Provided also that every such loan shall, unless Our Government, for reasons to be recorded in writing, otherwise direct, be repayable within a period not exceeding twenty years after the date of the advance of the loan or, where the loan is advanced in instalments, after the date of the advance of the last instalment:

Provided also that Our Government, for reasons to be recorded in writing, may, on the application of the owner of an industry to which such loan has been granted in exceptional cases, vary the terms fixed by the order granting the loan;

(b) the guarantee of a cash credit, over-draft, or fixed advance with a bank;

(c) the taking of fully paid up shares and debentures:

Provided that the amount paid by Our Government for such shares and debentures shall not exceed the amount already paid by other persons for shares and debentures in the same industry;

(d) the guarantee of interest on preference shares and debentures;

(e) the guarantee of a minimum return on the whole or part of the capital of a joint stock company;

(f) the grant on favourable terms of land, raw material, firewood, water or any other property of Our Government;

(g) the payment of a subsidy for—

(i) the conduct of research;

(ii) the purchase of machinery; and

(h) the supply of machinery on the hire-purchase system.

(2) The condition of the grant of any of the forms of State aid specified in clauses (f) and (g) of sub-section (1) shall ordinarily be that the value of the aid granted as ascertained by the prescribed authority in the prescribed manner shall be repaid by the owner of the industry at the expiration of such period of years as may be fixed by Our Government or the authority granting the aid, if within that period the industry pays or is able, in the opinion of Our Government, to pay interest or dividend upon the capital invested in such industry in excess of such rate as may be fixed by Our Government or the authority granting the aid.

(3) In no case shall the total value of all State aid granted to an industry as ascertained by the prescribed persons in the prescribed manner exceed the limit specified under the first proviso to clause (a) of sub-section (1).

12. *Industries which may be aided.*—Subject to the provisions of this Regulation and the rules thereunder, State aid may be given by Our Government or, on behalf of Our Government, by any authority prescribed in that behalf:

(a) in any of the forms specified in sub-section (1) of Section 11 to—

(i) a new or nascent industry,

(ii) an industry to be newly established in an area where such industries are undeveloped or are likely to be successful,

(iii) an industry which is likely to become more profitable by an investment of more capital,

(iv) a cottage industry including industries conducted by groups or organisation of artisans, or

(v) such other industrial concerns as in the opinion of Our Government deserve State aid to be given in conformity with the provisions of this Regulation;

(b) in the form specified in clause (h) of the said sub-section to agriculture; and

(c) in the forms specified in clauses (b) and (g) (i) of the said sub-section, to any industry except agriculture:

Provided that no State aid shall be given to any joint stock company unless—

(a) the company is registered in Travancore with a rupee capital; and

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(b) the company agrees to maintain the prescribed proportion of Travancoreans as members of its Board of Directors:

Provided further that every recipient of State aid shall make such provision for the training of apprentices as may be prescribed.

13. *Delegation of power to give State aid.*—Our Government may, subject to such rules and conditions as may be prescribed by Our Government, delegate to any authority subordinate to them the power to give State aid.

14. *Application for State aid.*—(1) Applications for State aid shall be made to the Director in such manner and shall contain such particulars as may be prescribed.

(2) The Director shall make such inquiries, if any, as are prescribed by Our Government and such other inquiries as he thinks are necessary on every such application.

(3) Every application shall thereafter be placed with the remarks of the Director together with all the connected papers before the Board at a meeting for its opinion.

(4) If the Board at the meeting is of opinion that any application should not be granted, that application shall be deemed to have been rejected and no further action shall be taken on that application.

(5) In all other cases the Director shall submit to Our Government or the authority competent to give the State aid, if he is not himself competent to give the aid, the application and the opinion of the Board and all the connected papers together with such remarks, if any, as he has himself to make.

15. *Inspection and returns.*—The owner of any industry—

(i) when an application has been made for State aid to such industry; or

(ii) during the continuance of State aid to such industry in any of the forms specified in clauses (a), (b), (c), (d) and (e) of sub-section (1) of Section 11 shall—

(a) comply with any general or special order of Our Government relating to the inspection of the premises, buildings or plant or stock-in-trade, employed, or to be employed for the purposes of the industry;

(b) permit the inspection by the prescribed person of all accounts relating to the industry;

(c) submit the accounts relating to the industry to such audit as may be prescribed;

(d) furnish in the prescribed manner to the prescribed person full returns of all products manufactured and sold both as regards description and quantity;

(e) maintain such special accounts as may be prescribed; and

(f) furnish such statements as Our Government may require.

16. *Disposal of profits during continuance of State aid.*—(1) During the continuance of State aid to any industry the profits of such industry shall, if distributed, be distributed only after interest due on debentures and loans has been paid and a reasonable amount has been set aside for depreciation or obsolescence of machinery and buildings and a further reasonable amount has been carried to reserve fund to be utilised in the prescribed manner.

(2) No dividend shall be paid to shareholders and no profit shall be taken by the owner in excess of such percentage rate upon the amount of the paid-up capital invested in the industry as our Government may fix from time to time during the continuance of State aid to the industry.

17. *Power of Government to adjust security during currency of loans.*—If at any time the amount of any loan outstanding together with such interest as may be due thereon on account of any State aid given is found to exceed the percentage fixed under the first proviso to clause (a) of sub-section (1) of Section 11, Our Government may either recover so much of such balance as is in excess of such percentage or accept such additional or collateral security as it may deem sufficient.

18. *Power of Government to terminate aid on account of fault.*—If Our Government decide for reasons to be recorded in writing to terminate the aid in respect of an industry on any of the following grounds, namely:—

(i) that any portion of the aid given has been misapplied, or

(ii) that there has been a breach by the industry of the provisions of this Regulation, or of any rule made thereunder or of any condition of the grant, or

(iii) that the application on which the aid has been granted contained or was accompanied by, any material statement by the owner which he knew to be false, or any intentional concealment by him of any material fact, which in the opinion of Our Government

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it was his duty to disclose, or that any such false statement or concealment was intentionally made in any inquiry made under this Regulation by, or with the connivance of, the owner, or in any return under this Regulation, or in reply to any requisition for information under this Regulation, or

(iv) that the industry is being managed in such a manner as to endanger the repayment of the value of State aid granted thereto repayable under this Regulation,

Our Government may make an order that the aid be terminated and notwithstanding anything contained elsewhere in this Regulation or in any other law, may proceed to recover from the owner,

(a) the whole amount of any loan outstanding together with such interest as may be due thereon, or

(b) in cases where the aid is given otherwise than by loan, the money value of the grant as fixed at the time when it was made, together with interest at a rate not exceeding twelve per cent. from the date of the grant till the date of realisation, and

(c) in the cases mentioned in clause (a) or, (b) the cost of recovery, and, if Our Government so direct, the cost of any inquiry made in connection therewith;

and such order shall be final and no suit shall be brought in any Civil Court to set aside or modify such order:

Provided that no such order shall be passed without inviting the opinion of the Board and without giving the owner an opportunity to show cause why action should not be taken under this Section.

19. *Fees.*—Our Government may charge in respect of applications, inquiries, inspections, and audit by whomsoever made under this Regulation, such fees, if any, as may be prescribed. Arrears of such fees shall be recoverable from the owner.

20. *Supervision of assisted industry.*—During the continuance of State aid to an industry in any of the forms specified in clauses (a), (b), (d) and (e) of sub-section (1) of Section 11 Our Government may, by appointing directors or inspectors, or otherwise take such steps as they deem advisable so to control the conduct of the industry as to safeguard the interests of Our Government therein.

CHAPTER IV

SPECIAL PROVISIONS RELATING TO THE GIVING OF STATE AID BY
THE SUPPLY OF MACHINERY ON THE HIRE-PURCHASE SYSTEM

21. *Percentage of value to be deposited by hirer.*—No machinery shall be supplied on the hire-purchase system unless the applicant therefor deposits with the Director such percentage of the value thereof as may be prescribed.

22. *Particulars to be specified in the order when application is allowed.*—When an application for the supply of machinery on hire-purchase system is allowed the Director shall, subject to and in accordance with any rules that may be made under this Regulation, make an order specifying the following particulars, namely:

(a) the amount of each instalment of rent to be paid for the hire of the machinery and the number of such instalments to be paid before the machinery shall become the property of the hirer;

(b) the amount of interest, if any, to be paid with each instalment of rent on the remaining unpaid instalments;

(c) the dates on which and the manner in which the aforesaid payments shall be made; and

(d) such other particulars as may be prescribed.

23. *Conditions of supply of machinery on hire-purchase system.*—Until the hiring is terminated in the manner hereinafter provided, the following provisions shall apply, namely:—

(a) The hirer shall pay punctually without demand the instalments of rent and amount of interest specified in the order referred to in section 22.

(b) The hirer shall retain the machinery in his own possession in good and serviceable order and condition and shall not without the previous written consent of the Director either make any addition thereto or alteration therein, or remove the machinery from the premises specified in the application for the supply thereof.

(c) The machinery shall remain the sole and absolute property of Our Government, and any transfer thereof, or assignment of any right, title or interest therein or the creation of any mortgage, encumbrance or any charge thereon, by the hirer shall be void unless it has been made with the previous written consent of the Director.

(d) The machinery shall not be liable to distraint, attachment or sale by any process under any law, for the time being in force, without the written sanction of Our Government.

(e) The machinery shall bear a metal plate in the prescribed form and any person who wilfully removes or defaces such plate shall be liable on conviction before a Magistrate to a fine not exceeding five hundred rupees.

(f) The hirer shall permit the Director or any person authorised by the Director in this behalf to inspect the machinery at all reasonable times, and the Director or such other person shall have all such powers of entry as may be necessary for the purpose of making an inspection.

(g) In addition to the foregoing conditions the hirer shall be bound by such other conditions not inconsistent therewith as may be prescribed by Our Government or may in any particular case be imposed by the Director.

24. *Consequences of default by hirer.*—If the hirer makes default in paying the rent of the machinery or any sum payable as interest or any other charges due from him under this Regulation, or fails to comply with any of the conditions contained in or that may be prescribed or imposed under section 23, the Director may immediately terminate the hiring and he or any other officer authorised by him in this behalf may thereupon enter the premises in which the machinery is for the time being kept whether such premises belong to the hirer or not, and seize and remove the same.

25. *Option of hirer to purchase machinery seized for default.*—If the machinery is seized and removed under section 24, the hirer shall have the option to be exercised within one month after such seizure, or such longer period as may be allowed by the Director in this behalf, of purchasing the same by payment to the Director of the unpaid balance of the value thereof such proportion of interest on such value as may be prescribed and the cost of and the expenses incidental to such seizure and removal.

26. *Termination of hiring by hirer.*—The hirer may at any time terminate the hiring by returning the machinery to Our Government in the prescribed manner.

27. *Liability of hirer on termination of hiring under sections 24 and 26.*—If the Director terminates the hiring under section 24 and the hirer does not exercise the option of purchasing the machinery under section 25 or if the hirer returns the machinery to Our

Government under section 26, the hirer shall not be entitled to the refund of the sum deposited by him under section 21 or to the refund or remission of any payment made by or due from him during the period of hiring, and shall be liable to pay such amount, if any, as the Director may determine in respect of any loss or damage, other than by reasonable wear and tear, that may have been caused to the machinery during the hiring.

28. *Termination of hiring on payment of cost of machinery.*—When after credit has been given for the amount deposited under section 21, the hirer has paid in full all the instalments of rent mentioned in clause (a) of section 22 and the amount of interest, costs and other charges payable by him, he shall become the owner of the machinery and shall thereupon remove from the same the metal plate mentioned in clause (e) of section 23:

Provided that if at any time during the hiring the hirer pays in advance the remaining instalments of rent the interest payable in respect thereof shall be remitted.

29. *Penalty for omission to remove metal plate when machinery becomes property of hirer.*—If the hirer wilfully omits, after receiving due notice, to remove the metal plate from any machinery which has become his property under section 28, he shall be liable on conviction before a Magistrate to a fine not exceeding fifty rupees and it shall be lawful for any person acting under the orders of the Director to enter the premises where the machinery is kept and remove the plate.

30. *Revision.*—Our Government may revise any order passed by the Director under this Chapter. Subject to such revision the order of the Director shall be final.

CHAPTER V MISCELLANEOUS

31. *Methods of recovery of money due.*—(1) All moneys payable or recoverable under this Regulation including any interest chargeable thereon and costs if any incurred if not paid when they are due shall be recoverable under the law for the time being in force as arrears of public or land revenue from the person aided and his surety if any and the assets of the industry aided.

(2) When any sum due as aforesaid is paid by the surety or is recovered from him or out of his property, the Peishkar may, on the application of the surety, so far as is possible, recover the

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same from the person aided as if it were an arrear of public or land revenue and pay it to the surety.

32. *Finality of decision of Government and protection of persons acting under this Regulation.*—(1) The decision of Our Government as to whether the conditions laid down in or under any of the provisions of this Regulation or the rules thereunder have been satisfied and the orders of revision under section 30 shall be final, and no suit shall be brought in any Civil Court to set aside or modify any such decision or order.

(2) No prosecution, suit or other proceeding shall lie against Our Government or any officer of Our Government or other authority vested with powers under this Regulation for anything in good faith done or intended to be done thereunder.

33. *Persons acting under this Regulation to be deemed public servants.*—Every person who acts on behalf of Our Government under this Regulation including every person who conducts an inquiry under this Regulation shall be deemed to be a public servant within the meaning of section 15 of the Travancore Penal Code.

34. *Penalty.*—Whoever wilfully acts in contravention of the provisions of section 9 or section 15 shall without prejudice to any other penalty or liability he may incur, be liable on conviction before a Magistrate of the first class to a fine not exceeding two hundred and fifty rupees.

35. *Power to make rules.*—(1) Our Government may, subject to previous publication, make rules consistent with this Regulation for carrying out the purposes of this Regulation.

(2) In particular and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

- (a) the election of members of the Board under section 3;
- (b) the conditions, privileges and tenure of membership of the Board;
- (c) the functions of the Board whether specified in this Regulation or not;
- (d) the time and place of meetings of the Board, the manner in which notice of meetings shall be given, the conduct of proceedings at the meeting, the division of duties among the members, the appointment, duties and procedure of special committees consisting wholly of members of the Board or partly of such members and

partly of other persons, the appointment, punishment and dismissal of officers and servants under the Board and the preparation and submission to Our Government of the minutes of the Board;

(e) the manner of securing and repaying the loans referred to in clause (a) of sub-section (1) of section 11;

(f) the manner of ascertaining the value of the assets referred to in clause (a) of sub-section (1) of section 11;

(g) the manner of taking security for the State aid referred to in clauses (b), (d) and (e) of sub-section (1) of section 11 and the conditions under which and the manner in which the moneys due from any industry by reason of such State aid should be repaid;

(h) the authority by which and the manner in which the values referred to in sub-sections (2) and (3) of section 11 shall be ascertained;

(i) the proportion of members referred to in clause (b) of the first proviso to section 12;

(j) the provision for training referred to in the second proviso to section 12;

(k) the delegation, and the conditions of the delegation of the power to give State aid under section 13;

(l) the manner of the application for State aid and the particulars that they should contain, the inquiries which the Director shall make on applications and the form in which the Director shall make his remarks and place them before the Board and submit the papers to Our Government or other authority under section 14;

(m) the person referred to in clause (b) of section 15, the audit referred to in clause (c) of section 15, the person to whom and the manner in which the returns referred to in clause (d) of section 15 shall be furnished and the accounts referred to in clause (e) of section 15;

(n) the manner of utilising the amount carried to reserve fund under sub-section (1) of section 16;

(o) the fees referred to in section 19;

(p) the conditions of the supply of machinery on hire-purchase system under clause (h) of section 23;

(q) the form of the metal plates referred to in section 23, and their seizure and removal; and

(r) the proportion of the interest on the value of the machinery payable under section 25.

SIGN MANUAL.

B. CO-OPERATIVE LEGISLATION

1. A NOTE ON CO-OPERATIVE LEGISLATION

With the decline of her industries during the last century, India became an agricultural country producing chiefly raw materials. For obvious economic and social reasons the poor ryot gradually ran into debts. Agricultural indebtedness became universal and transfer of land from the poor ryots to the non-agriculturist money lenders became a common feature of India's rural economy. The landless labourers employed by their new landlords having little interest in their land, agricultural efficiency was impaired. The Government of India found it expedient to prevent this evil.

After the agrarian disturbances of 1875 in the Deccan, the Government took up the matter and passed the Agriculturists Relief Act of 1879 to prevent the transfer of land to non-agriculturists. With a view to provide cheap agricultural finance the Land Improvements Act of 1883 and the Agriculturists Loans Act of 1884 were passed.

It was soon perceived that something more than mere supply of cheap credit was required. Work in this direction in contemporary Europe was watched by India. In Germany, it was noticed, two men—Raiffeisen and Schulze-Delitzsch—began to work out a system of credit on co-operative lines independently, the former concerning the peasantry and the latter concerning the artisans and small tradesmen. In Ireland also work on similar lines was done to the benefit of the peasant and the industrial worker. At the instance of the Government of Madras Mr. (later Sir Frederick) Nicholson submitted a report to the Government on rural finance on co-operative lines. Similar reports were also submitted by certain officers of the United Provinces and the

Punjab. In 1901, the Indian Famine Commission also recommended the introduction of "Mutual Credit Associations."

The Government of India now took up the question seriously and after examining it, passed the Co-operative Societies Act in 1904 (Act X of 1904). The Act was soon found to be defective. For one thing, it did not provide for joint or central societies formed of other societies. Secondly it did not expressly cover any form of co-operation other than co-operative credit. The adequacy of the existing Act was examined in 1909 and a bill carrying out important alterations was drafted.

The new Act, namely the Co-operative Societies Act (Act II of 1912) was passed in 1912. This Act gave statutory provision both for the formation of co-operative organisations of a non-credit type and for registration of societies of various types like purchase and sale societies which aim at the promotion of the economic interests of the members.

The All-India Act was in force in all the British Indian Provinces till 1919, when the new Government of India Act made co-operation a transferred subject falling within the scope of the provincial legislation. Some provinces felt that certain local conditions, peculiar to each province called for separate provincial legislation in the sphere of co-operation. So they availed themselves of this option to enact provincial legislations. Bombay as early as 1925, Madras in 1932, Bihar and Orissa in 1935, Coorg in 1936 and Bengal in 1940, passed their own Provincial Acts. All the other Provinces have adopted the All-India Act of 1912. C. P. and Berar has in addition the C. P. and Berar Co-operative Societies (Amendment) Act (V of 1940) enacted for the specific purpose of meeting a serious

V] A NOTE ON CO-OPERATIVE LEGISLATION

financial embarrassment. The Indian States have their own Co-operative Societies Acts largely modelled on the All-India Act. Baroda (1905), Cochin (1909), Gwalior (1918), Indore (1914), Mysore (1905) and Travancore (1914) passed their own co-operative enactments and subsequently amended them on the model of the Acts of the neighbouring British Indian Provinces.

All these Acts, as the preambles relating to them indicate, have been designed to promote the formation of co-operative societies of artisans for the co-operative purchase of raw materials and co-operative production and sale of their goods.

The scope and structure of the Co-operative Movement depend on the social and economic requirements of each nation. State action and individual enthusiasm doubtless make their contributions.

—C. F. STRICKLAND.

2. CO-OPERATIVE LEGISLATION AND THE AIM OF THE CO-OPERATIVE MOVEMENT*

THE LATE HON'BLE V. RAMADAS PANTULU

I always felt that the Co-operative Societies Acts in force in British India and Indian States were framed with the Registrar as centre of the picture and not the society. They should be redrafted, if the movement is to make any real advance as a popular movement, on an entirely different basis. The society has to be made the centre of the picture. The Registrar's powers should be closely defined so as to preserve the essentially democratic and popular character of the movement. As matters stand at present, the *responsibility* for the management of the co-operative institutions and the conduct of the movement is on non-official shoulders. The power of control and direction is, however, in official hands. As has been observed in regard to several spheres of administration, it is our common experience that in any department of administration, power without responsibility has a way of growing till the line of demarcation between use and abuse becomes almost obliterated. This state of things must be ended in respect of the co-operative movement and the sooner it is done the better. If the provincial governments are really anxious to allow the co-operative movement to play its proper role in the economic organisation of the rural and urban classes, they have a special responsibility in regard to the reform of the legislative and administrative machinery which now imposes heavy shackles on the movement.

The advocacy for more and more spoon feeding and larger and larger doses of official control is based on the

* Year Book and Directory of Indian Co-operation, 1942

plea that the members of our societies are lacking in character and capacity to manage their own affairs. I repudiate this charge as utterly baseless without at the same time attempting to minimise the failings or hesitating to own up the faults of non-official co-operators. No Registrar can play the role of a philosopher, friend and guide of the movement without having faith in human nature and a belief in the character of the average co-operator and his capacity to manage the affairs of his society. So, much depends upon the proper choice of the Registrars also to administer the Acts.

* * * * *

The increasing dependence of the population on agriculture, the decline of rural industries which once furnished subsidiary occupations, the oppressive burden of land taxation, the uneconomic system of land tenure, dependence on overseas markets for sale of raw materials and other indisputable economic factors have contributed largely to the ever growing economic debility of the agriculturist and his proverbial poverty. The aim, therefore, of the co-operative movement must be to improve the economic condition of the masses and to increase their income and purchasing power. Unless there is a genuine sense of identity of political and economic interests between the people and the State, the socio-economic organisation of the masses involving promotion of *swadeshi*, development of village industries and creation of a sense of corporate life and rural leadership, without which no programme of real recovery will be fruitful, cannot be accomplished. When the conditions for such joint effort of the people and the Government at national reconstruction are forthcoming, the question of finance, the creation of rural bias in our workers and allied problems will find an easy solution.

3. EXTRACTS FROM CO-OPERATIVE SOCIETIES ACTS RELATING TO INDUSTRIAL CO-OPERATION

i. THE CO-OPERATIVE SOCIETIES ACT (II OF 1912)

Statement of objects and reasons appended to the Bill:—(i) The Act of 1904 applies to Societies for the purpose of Co-operative credit only and not to Co-operative Societies of other kinds, such as those established for production or distribution. It has in practice been found that the establishment of Credit Societies has led to the founding of other classes of Co-operative Societies also, and it is advisable that the privileges extended by the Act to Co-operative Credit Societies should be extended to those other Societies. It is proposed therefore that the Act as now revised should be made applicable to all classes of Co-operative Societies—(*Vide* clause 1 (i) and clause 4 of the Bill).

* * * * *

(iv) A cardinal principle which is observed in the organisation of Co-operative Societies in Europe is the grouping of such Societies into Unions and then financing by means of Central Banks. This stage of Co-operation had not been fully realised or provided for in the Act of 1904, but such grouping of Societies has already been found feasible in most provinces and it is now considered desirable to legalise the formation of Co-operative Credit Societies of which the members shall be other Co-operative Credit Societies (*Vide* clauses 5 (1), 6 and 10 (3) of the Bill).

AN ACT TO AMEND THE LAW RELATING TO CO-OPERATIVE SOCIETIES

Whereas it is expedient further to facilitate the formation of Co-operative Societies for the promotion of thrift and self-help among agriculturists, artisans and persons of limited means, and for that purpose to amend the law relating to Co-operative Societies, it is hereby enacted as follows.

* * * * *

6. CONDITIONS OF REGISTRATION

(1) No society, other than a society of which a member is a registered society, shall be registered under this Act which does not consist of at least ten persons above the age of eighteen years and, where the object of the society is the creation of funds to be lent to its members, unless such persons—

(a) reside in the same town or village or in the same group of villages; or

(b) save where the Registrar otherwise directs, are members of the same tribe, class, caste or occupation.

(2) The word "limited" shall be the last word in the name of every society with limited liability registered under this Act.

* * * * *

12. RIGHTS AND LIABILITIES OF MEMBERS

No member of a registered society shall exercise the rights of a member unless or until he has made such payment to the society, in respect of membership or acquired such interest in the society, as may be prescribed by the rules or by-laws.

* * * * *

17. AUDIT

(1) The Registrar shall audit or cause to be audited by some person authorised by him by general or special order in writing in this behalf the accounts of every registered society once at least in every year.

(2) The audit under sub-section (1) shall include an examination of overdue debts, if any, and a valuation of the assets and liabilities of the society.

(3) The Registrar, the Collector or any person authorised by general or special order in writing in this behalf by the Registrar shall at all times have access to all the books accounts, papers and securities of a society, and every officer of the society shall furnish such information in regard to the transactions and working of the society as the person making such inspection may require.

18. PRIVILEGES OF REGISTERED SOCIETIES

The registration of a society shall render it a body corporate by the name under which it is registered, with perpetual succession and a common seal, and with power to hold property, to enter into contracts, to institute and defend suits and other legal proceedings and to do all things necessary for the purposes of its constitution.

19. PRIOR CLAIM OF SOCIETY

Subject to any prior claim of the Government in respect of land revenue or any money recoverable as land-revenue or of a landlord in respect of rent or any money recoverable as rent, a registered society shall be entitled in priority to other creditors to enforce any outstanding demand due to the society from a member or past member—

(a) in respect of the supply of seed or manure or of the loan of money for the purchase of seed or manure—upon the crops or other agricultural produce of such member or person at any time within eighteen months from the date of such supply or loan;

(b) in respect of the supply of cattle, fodder for cattle agricultural or industrial implements or machinery, or raw materials, for manufacture, or of the loan of money for the purchase of any of the foregoing things—upon any such things so supplied, or purchased in whole or in part from any such loan, or on any articles manufactured from raw materials so supplied or purchased.

* * * * *

44. RECOVERY OF SUMS DUE TO GOVERNMENT

(1) All sums due from a registered society or from an officer or member or past member of a registered society as such to the Government, including any costs awarded to the Government under section 37, may be recovered in the same manner as arrears of land-revenue.

(2) Sums due from a registered society to Government and recoverable under sub-section (1) may be recovered, firstly, from the property of the society; secondly, in the case of a society of which the liability of the members is limited, from the members subject to the limit of their liability; and, thirdly, in the case of other societies, from the members.

* * * * *

48. INDIAN COMPANIES ACT, 1882, NOT TO APPLY

The provisions of the Indian Companies Act, 1882, shall not apply to registered societies.

ii. THE BOMBAY CO-OPERATIVE SOCIETIES ACT 1925
(BOMBAY ACT NO. VII OF 1925)

AN ACT TO CONSOLIDATE AND AMEND THE LAW RELATING TO
CO-OPERATIVE SOCIETIES IN THE PRESIDENCY OF BOMBAY

Whereas it is expedient further to facilitate the formation and working of co-operative societies for the promotion of thrift, self-help and mutual aid among agriculturists and other persons with common economic needs so as to bring about better living, better business and better methods of production and for that purpose to consolidate and amend the law relating to co-operative societies in the Presidency of Bombay; and whereas the previous sanction of the Governor-General required by sub-section (3) of section 80-A of the Government of India Act has been obtained for the passing of this Act:

* * * * *

3. DEFINITIONS

In this Act, unless there is anything repugnant in the subject or context,

* * * * *

(2) a "Producers' society" means a society formed with the object of producing and disposing of goods as the collective property of its members and includes a society formed with the object of the collective disposal of the labour of the members of such society;

(3) a "Consumers' society" means a society formed with the object of obtaining and distributing goods to or of performing services for its members, as well as to other consumers and of dividing among its members and customers in a proportion prescribed by the rules or by the by-laws of such society, the profits accruing from such supply and distribution;

* * * * *

iii. THE MADRAS CO-OPERATIVE SOCIETIES ACT, 1932

AN ACT TO CONSOLIDATE AND AMEND THE LAW RELATING TO
CO-OPERATIVE SOCIETIES IN THE PRESIDENCY OF MADRAS.

Whereas it is expedient further to facilitate the formation and working of co-operative societies for the promotion of thrift, self-help and mutual aid among agriculturists and other persons with common economic needs so as to bring about better living, better business and better methods of production and for that purpose to consolidate and amend the law relating to co-operative societies in the Presidency of Madras;

And whereas the previous sanction of the Governor-General has been obtained to the passing of this Act; It is hereby enacted as follows:—

* * * * *

43. SUPERSESSION OF COMMITTEE OF SOCIETY

(1) If, in the opinion of the Registrar, the committee of any registered society is not functioning properly, he may, after giving an opportunity to the committee to state its objections; if any, by order in writing dissolve the committee and appoint a suitable person or persons to manage the affairs of the society for a specified period not exceeding two years. The period specified in such order may, at the discretion of the Registrar, be extended from time to time provided that such order shall not remain in force for more than four years in the aggregate.

* * * * *

iv. CO-OPERATIVE SOCIETIES ACT, JAMMU &
KASHMIR

CONSTITUTION OF INDUSTRIAL CO-OPERATIVES

Ten or more persons, who are competent to contract and each of whom owns at least one hand loom, join to form a co-operative society of weavers which is registered under the Co-operative Societies Act. The object of the societies are:—

(1) To encourage self-help, thrift and co-operation among its members.

(2) The improvement of the Textile Industry and of the economic condition of the weavers residing in the area of operation mentioned in by-law 1.

(3) To create funds to be lent in cash or kind to its members for necessary purposes.

(4) To arrange collective purchase and sale of yarns and other raw materials for the industry.

(5) To purchase and hold in common and let on hire appliances connected with the textile industry.

(6) To produce textiles and to purchase or receive for sale the finished products of members and sell the same to their best advantage.

(7) To impart technical education and assistance to members to improve the manufacture of textiles with respect to make, workmanship, designs, and the handling and use of labour saving appliances.

(8) To act as agent for the joint purchase of raw materials and the sale of finished products.

(9) To adopt measures designed to extend the usefulness of the society.

APPENDIX

CO-OPERATIVE SOCIETIES ACTS IN FORCE
IN PROVINCES AND STATES

A. PROVINCES

| Name of the Province. | The year in which the Co-operative Societies Act now in force was enacted. | Remarks. |
|-----------------------|--|---|
| Assam | The Co-operative Societies Act, II of 1912 (India). | There is a proposal to revise the Act. |
| Bengal | The Bengal Co-operative Societies Act, 1940 | There is a proposal to revise the Act. |
| Bihar | The Bihar Co-operative Societies Act, 1935. | .... |
| Bombay | The Bombay Co-operative Societies Act, 1925. | An amending Bill is under consideration. |
| C. P. & Berar | The Co-operative Societies Act, II of 1912 (India). | There is a proposal to revise the Act. |
| Madras | The Madras Co-operative Societies Act, 1932. | Amendments to the Act are under consideration. |
| N. W. F. Province | The Co-operative Societies Act, II of 1912 (India). | .... |
| Orissa | The Bihar and Orissa Co-operative Societies Act, 1935 in North Orissa. | It is proposed to replace these two Acts by one Orissa Act. |
| | The Madras Co-operative Societies Act, 1932 in South Orissa. | |
| Punjab | The Co-operative Societies Act, II of 1912 (India). | There is a proposal to revise the Act. |
| Sind | The Bombay Co-operative Societies Act, 1925 | .... |
| United Provinces | The Co-operative Societies Act, II of 1912 (India). | There is a proposal to revise the Act. |

B. STATES

| Name of the State. | The year in which the Co-operative Societies Act now in force was enacted | Remarks. |
|--------------------|--|----------|
| Baroda | Co-operative Credit Societies Act, 1905, amended in 1912 (to provide for non-credit activities) and in 1927. | .. |
| Cochin | The Cochin Registration Regulation V of 1084 (1909 A. D.). | .. |
| Gwalior | Co-operative Societies Act, 1918. | .. |
| Hyderabad | Co-operative Societies Act, 1914. | .. |
| Indore | The Indore Co-operative Societies Act, 1914 | .. |
| Jammu & Kashmir | Co-operative Societies Act, 1930. | .. |
| Mysore | Co-operative Societies Regulation, 1905 | — |
| | Replaced by Regulation VII of 1918, amended in 1929 and further amended in 1933, 1935, & 1936 | .. |
| Travancore | Co-operative Societies Act, 1914. | .. |

III. CONSTITUTION AND BYE-LAWS OF
THE ALL-INDIA VILLAGE INDUSTRIES ASSOCIATION

MAGANVADI, WARDHA, C.P.

THE CONSTITUTION AND RULES

THE RESOLUTION

OF

THE INDIAN NATIONAL CONGRESS

*Passed at its 48th Session at Bombay,**Sjt. Rajendra Prasad presiding*

Whereas organisations claiming to advance Swadeshi have sprung up all over the country with and without the assistance of Congressmen, and whereas much confusion has arisen in the public mind as to the true nature of Swadeshi, and whereas the aim of the Congress has been from its inception progressive identification with the masses, and whereas village re-organisation and re-construction is one of the items in the constructive programme of the Congress, and whereas such reconstruction necessarily implies revival and encouragement of dead or dying village industries besides the central industry of hand-spinning, and whereas this work, like the re-organisation of hand-spinning, is possible only through concentrated and special effort unaffected by and independent of the political activities of the Congress, Shri J. C. Kumarappa is hereby authorised to form, under the advice and guidance of Gandhiji, an association called the ALL-INDIA VILLAGE INDUSTRIES ASSOCIATION as part of the activities of the Congress. The said Association shall work for the revival and encouragement of the said industries and for the moral and physical advancement of the villages and shall have power to frame its own constitution, to raise funds and to perform such acts as may be necessary for the fulfilment of its objects.

THE CONSTITUTION

*(As redrafted on 29th August, 1941 and put into operation on
3rd February, 1942)*

NAME

1. The Association contemplated by resolution regarding village industries, passed by the Indian National Congress at its session held

on the 27th October 1934, at Bombay and known as the All-India Village Industries Association, i.e., the Akhil Bharat Gram Udyog Sangh, is hereby formed.

OBJECT

2. The object of the Association shall be the relief and service of the poor in the villages by all means including village re-organisation and reconstruction, the revival, encouragement and improvement of village industries and the moral and physical advancement of the villagers of India, and to undertake all other activities of a public nature calculated to achieve the above object.

FUNCTIONS

3. For the due fulfilment of its object, the Association shall raise funds, carry on research work, publish literature, organise propaganda, establish agencies, devise measures for the improvement of village tools, and do everything that may be necessary for the furtherance of its object, to which end all funds, income and profits, if any, shall always be applied.

4. The Association shall work under the guidance and advice of Gandhiji.

COMPOSITION

5. The organisation of the Association shall consist of:—

- (1) Trustees.
- (2) Board of Management.
- (3) Members.
- (4) Agents.

TRUSTEES

6. The following six persons shall be a permanent Board of Trustees who shall hold and spend funds and income and properties on behalf of the Association and shall disburse them in accordance with the instructions of the Board of Management provided, however, that if the said instructions are, in the opinion of the Trustees, in conflict with the object of the Association or with the best interest thereof, there shall be a joint meeting of the Board of Management and the Trustees and, if in spite of the joint meeting, two-thirds of the Trustees disapprove of the instructions of the Board of Management, then such instructions would be deemed to have lapsed.

- (1)
- (2) Dr. Gopichand B. Bhargava, *Lahore*.
- (3) Sri Srikrishnadas M. Jaju, *Treasurer*.
- (4) Dr. Khan Sahib, *Frontier*.
- (5) Sri J. C. Kumarappa, *Wardha*.
- (6) Sri Vaikunth L. Mehta, *Bombay*.

In the event of a vacancy occurring by reason of resignation, death or otherwise, such vacancy shall be filled in by the remaining Trustees, from amongst Members of five years' standing.

BOARD OF MANAGEMENT

7. (a) The following shall form a permanent Board of Management which will come into office on the 3rd February, 1942:—

- (1) Sri Lakmidas P. Ashar.
- * (2) Sri Shankarlal Banker.
- (3) Smt. Goshiben Captain.
- (4) Sri Srikrishnadas M. Jaju.
- * (5) Sri Bharatan Kumarappa.
- (6) Sri J. C. Kumarappa.
- (7) Sri Dhiren Majjumdar.
- * (8) Sri Vaikunth L. Mehta.
- (9) Sri Shoorji Vallabhdas.

The Board shall have powers to co-opt members from time to time from among Members of the Association provided that the total number shall not exceed twelve.

(b) The Board shall elect from amongst themselves its President and Secretary every three years provided that it will be open to the Board to re-elect the retiring office-bearers.

(c) The Board may, by a unanimous vote (the member or members concerned not voting), remove any of its members, who may be found unfit to serve on it.

(d) The Board of Management shall be in full charge of the affairs of the Association and shall maintain proper books of accounts which shall be duly audited and an annual statement of accounts published.

8. Any Trustee or Member of the Board of Management who is absent at three consecutive meetings without leave shall be deemed to have vacated his office.

* Not in the present Board of Management.

MEMBERS

9. Any person who subscribes to the pledge hereto annexed, is recommended by a member of the Board of Management and whose admission is approved by the said Board, shall be a member of the Association.

AGENTS

10. Agents may be selected out of the members by the Board for representing it without any pay in a village, villages, or district and shall be chosen for their knowledge of the area of their jurisdiction, for their organising ability and known influence within their area and shall be subject to the Bye-Law defining their duties.

BYE-LAWS

11. The Board of Management shall have power to frame Bye-Laws for the due carrying out of the object of the Association.

ALTERATION TO THE CONSTITUTION

12. It will be open to the Board of Management by the vote of three-fourths of the then existing Members of the Board to alter, amend or add to the Constitution, with the exception of clauses relating to the Object and the Trustees. In case of these two clauses a complete unanimity of the Trustees and of the Members of the Board of Management will be required to make any change, and in no case can such change alter the object namely, the relief and service of the poor in the villages.

PLEDGE FOR MEMBERS

Having read the Constitution and Rules of the All-India Village helping, promise to devote the best part of my energy and talents to the furtherance of its object which is the relief and service of the Industries Association, I offer to be a Member thereof, and God poor in the villages.

So long as I remain a member of the Association, I shall not take part in any campaign of Civil Disobedience.

In the discharge of my duties, I shall seek the assistance and co-operation of all those who may be willing to give them, irrespective of differences in politics.

To the best of my ability I shall strive to live up to the ideals of the Association and prefer the use of village manufactures to any other.

In the prosecution of my obligation to the villagers, I shall recognise no distinction between man and man.

Date

Signature.....

BYE-LAWS

(Framed by the Board under Sec. 11 of the Constitution)

MEETINGS

1. Meetings of the Board of Management may be summoned by the Secretary as and when necessary or when required to do so by one-third the number of Members on the Board.

The Secretary may circulate a proposition amongst the Members of the Board; and when all the members have agreed to it, such shall have the force of a resolution passed at a Meeting of the Board.

For a meeting of the Board of Management four shall form a quorum.

RECORDS

2. Proper Records shall be kept by the Secretary of all proceedings of the Board Meetings with the attendance of the Members thereat; such Minutes shall be signed by the Chairman of the Meeting at which they are confirmed.

LIABILITY

3. This Association shall not be responsible for any obligation, financial or other, entered into by any person without written authority signed by a person duly authorised thereto on behalf of the Association.

CANCELLATION OF MEMBERSHIP

4. The Board of Management shall have power to remove any ordinary Member from the roll by a resolution of the Board, passed by at least three-fourths of the number of Members on the Board, at a meeting of which due notice had been given, and this matter had been placed on the agenda.

5. Every Member of the Board of Management shall send to the Secretary an annual report of the allotted work done by him.

AFFILIATION, RECOGNITION AND CERTIFICATION

6. Institutions which undertake to abide by the Rules and Regulations laid down by the Board of Management for affiliation, recognition or certification may be, on application affiliated, recognised or certified by the Secretary.

AGENTS

7. The Duties of Agents may be prescribed by the Board from time to time.

MEMBERS

8. Every Member of the Association shall send to the Secretary a report of the work done by him every quarter so as to reach the Central Office not later than one month after the expiry of the quarter. If no report is received for four consecutive quarters from any member, such member shall cease to be a member of the Association.

PROVINCIAL ORGANISATIONS

9. The Board may constitute provincial organisations responsible for the work of the Association in the province, and authorise a person (sanchalak) or persons to collect funds necessary for the purpose.

RULES FOR AFFILIATION

(Framed by the Board under Bye-Law No. 6)

(1) Institutions such as Ashrams which have as their objects the promotion of village industries and the welfare of the villagers, and in whose Constitution and Rules there is nothing that is repugnant to the ideals of this Association, on their undertaking to abide by the Rules and Regulations, framed or to be framed from time to time on this behalf by the Board of Management, may be affiliated.

(2) Applications for affiliation should be submitted in the prescribed form and should be accompanied by

(a) Two references;

(b) A deposit of Rs. 10 as security for the due observance of these rules;

(c) The affiliation fee of one rupee per year.

(3) Affiliated institutions will not be permitted to produce or sell on a commercial basis except under a certificate issued for the purpose as provided for under the Rules for "Recognition" or "Certification" respectively.

(4) Such institutions will be subject to the inspection and supervision of this Association. Their office-bearers and workers will be required to live up to the ideals of this Association.

(5) Affiliated institutions are required to submit a report of work done every half year.

(6) The affiliation fee of one rupee a year shall be paid at the time of affiliation and at the beginning of every year thereafter.

Any irregularity in payment of fees or in submitting half yearly reports will involve cancellation of affiliation.

(7) Affiliated institutions will be entitled to receive free copies of literature published by this Association and advice and guidance whenever sought.

RULES FOR AGENCY

(Framed by the Board under Bye-Law No. 7)

(1) The agent will be expected to make a survey of all such industries as may be revived, improved or introduced in his area and shall forthwith report to the Central Office the results of his investigation and submit a programme of work based thereon for examination by the office.

(2) Every Agent will be expected to attend to sanitation and hygiene of the villages within his area.

(3) With a view to finding markets for surplus products of the villages he should induce reliable merchants to store village products for sale at prices mutually fixed between the merchants and the agent so as to ensure genuineness of such products.

(4) He should carry on an intensive propaganda to create a favourable public opinion for the programme in his area.

(5) He may invite and receive subscriptions and donations to meet the expenses in connection with his work and should not expect any financial aid from the Central Office. But he shall not utilise any part of the funds so collected by him, for his own personal requirements.

(6) He may appoint, whenever necessary, and if funds at his disposal permit paid workers needed for his work.

(7) He shall keep accurate accounts of all receipts and disbursements which will be subject to audit by the Central Office.

(8) His work will be subject to inspection and supervision by the Central Office.

(9) He shall submit a report of his work and abstract of receipts and payments for every month so as to reach the Central Office not later than the 15th of the month following.

(10) Any neglect in submitting the monthly report and statement of accounts, or in carrying out the instructions from the Central Office, will involve the cancellation of the agency.

VILLAGE POTTERY



Shaping the clay.





Wet pots from the wheel.



Drying the pots.

Cottage Industries of India



Variety of pots.



Shaping the neck for a big pot.



Country kiln.



Ready for the market,

COTTAGE INDUSTRIES OF INDIA

SECTION VI—COTTAGE INDUSTRIES, INDUSTRIAL CENTRES AND INSTITUTIONS

India has been from time immemorial a land of cottage industries. Even at the present day, when the use of machinery and large scale industrialisation are much spoken of, one finds in this oriental country numerous cottage industries spread over the length and breadth of the country. Some of the industries are art crafts, while the others are utilitarian ones. Some of the industries are mechanised to some extent while the others continue to be handicrafts. Most of the non-mechanised arts and crafts are mainly hereditary occupations coming down from father to son who learns by imitation. During recent years a few Government and private technical institutions have come into being for imparting technical instruction to artisans in some mechanised and non-mechanised cottage industries. Another important feature of the public interest in the national arts and crafts is the opening of industrial museums and sale depots in several parts of the country during recent years. Good art and craft products particularly of local manufacture are stocked in these institutions for exhibition and for sale. The important cottage industries and industrial centres as well as the important industrial schools, museums and sale depots in India are enumerated in this section.

I. IMPORTANT COTTAGE INDUSTRIES IN PROVINCES AND STATES

A. PROVINCES

1. ASSAM

A. Art Crafts :

- | | |
|----------------------------|-----------------------------------|
| 1. Gold and Silver-smithy | 7. Metal inlaid work |
| 2. Gold filigree work | 8. Ornamenting cloth with cowries |
| 3. Ivory work | 9. Perfumery making |
| 4. Lacquer ornament making | 10. Toy making |
| 5. Leather enamelling | 11. Wood carving |
| 6. Lac inlaid work | |

B. Other Crafts :

- | | |
|----------------------------------|---------------------------------|
| 1. Agricultural implement making | 14. Lac making |
| 2. Brass work | 15. Leather tanning |
| 3. Blacksmithy | 16. Leather goods making |
| 4. Bell metal work | 17. Leaf umbrella making |
| 5. Bamboo work | 18. Mosquito curtain making |
| 6. Basket work—furniture making | 19. Oil pressing |
| 7. Boat building | 20. Rough pottery |
| 8. Cotton weaving | 21. Reed mat making |
| 9. Cane work | 22. Silk weaving |
| 10. Cotton spinning | 23. Silk worm rearing |
| 11. Fish oil manufacture | 24. Spear head and arrow making |
| 12. "Jhapi" making | 25. Shell bangle making |
| 13. Lime stone burning | 26. Wooden canoe making |
| | 27. Tailoring |
| | 28. Wood work |

2. BENGAL

A. Art Crafts :

Men's Crafts :

- | | |
|-----------------------------|-----------------------------------|
| 1. Cane industry | 14. Mask work |
| 2. Conch-shell industry | 15. Mat weaving |
| 3. Costumes | 16. <i>Nalcha</i> making |
| 4. Cottage architecture | 17. Painting |
| 5. Dacca Muslin weaving | 18. Paper moulds or <i>Machis</i> |
| 6. Doll and Toy making | 19. Perfumery |
| 7. Engraving | 20. Picture framing |
| 8. Gold-smithy | 21. Pith, Sola and Dak work |
| 9. <i>Hooks</i> manufacture | 22. Pottery |
| 10. Horn work | 23. Stone sculpture and carving |
| 11. Ivory work | 24. <i>Terracotta</i> work |
| 12. Lacquer work | 25. Textile printing |
| 13. <i>Marionette</i> | 26. Wall engraving (Stucco) |
| | 27. Wood carving |

VI] COTTAGE INDUSTRIES IN PROVINCES

Women's Crafts:

- | | |
|----------------------------|------------------------------------|
| 1. <i>Alpana</i> designing | 5. <i>Kantha</i> making |
| 2. <i>Chikon</i> work | 6. Mat weaving |
| 3. Decorations on wood | 7. <i>Shika</i> and other hangings |
| 4. Doll and Toy making | 8. Stone cut moulds |

B. Other Crafts :

- | | |
|-------------------------------------|---------------------------------|
| 1. Bakery | 31. Jute spinning and weaving |
| 2. Bamboo work | 32. Lac industry |
| 3. Bangle making | 33. Laundry work |
| 4. Boat building | 34. Leather tanning |
| 5. Black-smithy | 35. Leather goods manufacture |
| 6. Book-binding | 36. Match industry |
| 7. Brass and bell metal ware making | 37. Metal casting |
| 8. Button industry | 38. Mineral water manufacture |
| 9. Cabinet and furniture making | 39. <i>Nawar</i> making |
| 10. Cardboard box making | 40. Oil pressing |
| 11. Carpentry | 41. Packing box making |
| 12. Chemically treated fabrics | 42. Paper industry |
| 13. Cigar manufacture | 43. Pen holder manufacture |
| 14. Coach building | 44. Pottery |
| 15. Confectionery | 45. Printing |
| 16. Cotton weaving | 46. Reed manufacture |
| 17. Cutlery | 47. Repairing work |
| 18. Drug manufacturing | 48. Rice husking |
| 19. Dyeing | 49. Rope making |
| 20. Electro Plating | 50. <i>Satranji</i> weaving |
| 21. Fan making | 51. Sealing wax manufacture |
| 22. Fire works manufacture | 52. Silk reeling |
| 23. Fishing net making | 53. Silk weaving |
| 24. Fish oil manufacture | 54. Soap manufacture |
| 25. Flour milling | 55. Sugar and <i>Gur</i> making |
| 26. Glass blowing | 56. Tailoring |
| 27. Hand spinning | 57. Tin-smithy |
| 28. Hand-ware manufacture | 58. Tobacco manufacture |
| 29. Hosiery | 59. Umbrella handle making |
| 30. Ink manufacture | 60. Woollen blanket weaving |
| | 61. Wood carving |

3. BIHAR

A. Art Crafts :

- | | |
|---|-----------------------------|
| 1. <i>Bidri</i> work | 9. Lacquered bangle making |
| 2. Brocade weaving | 10. Lacquer bracelet making |
| 3. <i>Bafta</i> cloth weaving | 11. Muslin weaving |
| 4. Embroidery and needle work | 12. Painted pottery making |
| 5. Ebony jewel case making | 13. Silver smithy |
| 6. Glazed pottery | 14. Textile printing |
| 7. Gold and silver wire and leaf making | 15. Wood carving |
| 8. Hand stick making | 16. Woollen carpet weaving |

B. Other Crafts :

- | | |
|-----------------------------------|-----------------------------------|
| 1. Agricultural implements making | 21. Leather tanning |
| 2. Aerated water manufacture | 22. Leather goods making |
| 3. Basket weaving | 23. Manufacture of weapons |
| 4. Boat making | 24. Mat making |
| 5. Bell metal work | 25. Newar making |
| 6. Black-smithy | 26. Oil pressing |
| 7. Brass work | 27. Perfumery |
| 8. Bamboo work | 28. Paper making |
| 9. Cutlery | 29. Pottery |
| 10. Carpentry | 30. Rope making |
| 11. Cabinet making | 31. Silk worm rearing |
| 12. Cotton weaving | 32. Stone carving |
| 13. Clay water bottle making | 33. Straw work |
| 14. Dairying | 34. Shellac making |
| 15. Ghee making | 35. Sugar refining |
| 16. Gunny cloth weaving | 36. Soap making |
| 17. Gur making | 37. Tile and brick making |
| 18. Glass bangle making | 38. Tasar silk weaving |
| 19. Glass making | 39. Wooden toy making |
| 20. Hooka pipe making | 40. Woollen <i>cumbli</i> weaving |

4. BOMBAY**i. Whole time cottage industries:*****A. Art Crafts :**

- | | |
|--------------------------------------|---------------------------------|
| 1. Calico printing and dyeing | 3. Precious stone polishing |
| 2. Gold-smithy, engraving, jewellery | 4. Sandalwood and Ivory carving |

B. Other Crafts :

- | | |
|--|--|
| 1. <i>Agarbathi</i> scents and toilet products | 11. Copper and brassware |
| 2. Assembling harmoniums | 12. Die making |
| 3. Bangle making | 13. Fire works |
| 4. <i>Bidi</i> making | 14. Fishing and fish curing |
| 5. Black-smithy, cutlery locks, etc. | 15. Glue making |
| 6. Book binding | 16. Handloom weaving |
| 7. Button manufacture | 17. <i>Kumkum</i> making |
| 8. Carpentry, ship building, house building, cart making | 18. Mirror manufacture |
| 9. Cap making | 19. Mango canning and other fruit products |
| 10. Confectionary products | 20. Oil Pressing by ghanis |
| | 21. Paper making |
| | 22. Pottery, tiles and bricks |

* Cottage Industries are industries where no power is used and the manufacture is carried on, generally speaking, in the home of the artisan himself and occasionally in small *karkhanas* where not more than nine workers are employed (Report of the Bombay Economic and Industrial Survey Committee 1938-40.)

VI] COTTAGE INDUSTRIES IN PROVINCES.

- | | |
|---|---|
| 23. Preparation of helium bat- teries | 27. Snuff making |
| 24. Preparation of brushes | 28. Slates, Sandal grinding, mar- bles, etc. |
| 25. Rubber stamp making | 29. Soap making |
| 26. Shoe and <i>champal</i> making, bags, harnesses, belts, etc. | 30. Tanning |

ii. Part time cottage industries:

A. Art Crafts :

1. Knitting, Embroidery

B. Other Crafts :

- | | |
|--|--|
| 1. Apiculture | culture |
| 2. Basket making | 13. Lac industry |
| 3. Cashew kernels (removal of the shells) | 14. Paddy husking |
| 4. Cotton ginning, carding and spinning | 15. Poultry forming |
| 5. <i>Catechu</i> boiling | 16. <i>Patravali</i> making |
| 6. <i>Chunam</i> burning | 17. Rope, fishing nets, etc. |
| 7. <i>Dal</i> milling | 18. Sericulture |
| 8. Dairy farming | 19. Sheep breeding |
| 9. Flour grinding | 20. Umbrellas and fans from palm leaves |
| 10. Fruit cultivation, dried fruits, etc. | 21. Wheat flakes, parched rice, pickle powder, betel nut, spices, etc. |
| 11. <i>Gur</i> making | 22. Wood cutting and charcoal burning |
| 12. Gardening and vegetable | |

Small scale industries:*

A. Art Industries :

1. Gold and silver thread and like products

B. Other Industries :

- | | |
|--------------------------------|---|
| 1. Bakelite manufacture | 11. Engineering industry—pre- paration of parts of machines |
| 2. Bakeries | 12. Furniture making |
| 3. Bobbin making | 13. Glass and articles of glass |
| 4. Brass and nickel fittings | 14. Hosiery |
| 5. Cigarette making | 15. Incandescent lamp |
| 6. Chemicals and drugs, etc. | 16. Ink |
| 7. Cotton ginning and pressing | 17. Iron foundries |
| 8. Cutlery | 18. Locomotive workshops |
| 9. Dairy produce | |
| 10. Dyeing and bleaching | |

* By small scale industries are understood industries where power is used and where the number of workers does not exceed 50 and the capital invested is less than Rs. 30,000. Small scale industries also include industries where no power is employed provided the manufacture is carried on in *Kharkhanas* and the number employed exceeds nine (Report of the Bombay Economic & Industrial Survey Committee 1938-40.)

- | | |
|--|---|
| 19. Mango canning and fruit preserving | 28. Manufacture of aerated waters, fruit, drinks, ice, etc. |
| 20. Machine made brass, copper and aluminium wares | 29. Oil pressing |
| 21. Manufacture of textile wooden parts | 30. Paints works |
| 22. Manufacture of healds and reeds | 31. Printing presses |
| 23. Manufacture of mill belting | 32. Roller skins |
| 24. Manufacture of motor cushions | 33. Rice and flour mills |
| 25. Motor repairing | 34. Soap making |
| 26. Manufacture of safes, racks and iron furniture | 35. Steel trunks, buckets, etc. |
| 27. Manufacture of soaps | 36. Sanitary ware |
| | 37. Tape making |
| | 38. Tiles and bricks |
| | 39. Tannery |
| | 40. Type foundries |
| | 41. Watch manufacture |

5. C. P. AND BERAR

A. Art Crafts :

- | | |
|--------------------------------|-------------------------------|
| 1. Alloy ornament manufacture | 6. Lacquer work on silver |
| 2. Gold and silver lace making | 7. Ornamental slipper making |
| 3. Glazed pottery | 8. Stone carving |
| 4. Gold and silver smithy | 9. Toy making |
| 5. Lacquer work on bamboo | 10. Walking stick manufacture |

B. Other Crafts :

- | | |
|-----------------------------|---|
| 1. Bamboo work | 24. Iron implements making (Black-smithy) |
| 2. Bee-keeping | 25. Lac and lac bangle making |
| 3. Beedi making | 26. Leather tanning |
| 4. Bell metal work | 27. Leather goods manufacture |
| 5. Brass work | 28. Match manufacture |
| 6. Carpentry | 29. Mat weaving |
| 7. Cotton spinning | 30. Oil pressing |
| 8. Cotton carpet weaving | 31. Paddy husking |
| 9. Cotton cloth weaving | 32. Poultry rearing |
| 10. Cotton dyeing | 33. Paper making |
| 11. Cotton tape making | 34. Rope making |
| 12. Copper-smithy | 35. Rough pottery |
| 13. Cutlery | 36. Sheep breeding |
| 14. Dairy farming | 37. Silk worm rearing |
| 15. Disposal of carcasses | 38. Silk weaving |
| 16. Dried meat manufacture | 39. Soap making |
| 17. Dyes making | 40. Stone jar making |
| 18. Fishing and fish curing | 41. Sugar manufacture and gur making |
| 19. Flour grinding | 42. Tile and brick making |
| 20. Ghee making | 43. Tinkering |
| 21. Glass bangle making | 44. Woollen blanket weaving |
| 22. Glass blowing | |
| 23. Hemp mat and bag making | |

VI] COTTAGE INDUSTRIES IN PROVINCES

6. MADRAS

A. Art Crafts :

- | | |
|---|-------------------------------------|
| 1. Cement image making | 16. Musical instrument making |
| 2. Coconut shell carving | 17. Palmyra hand-stick making |
| 3. Conch-shell work | 18. Palmleaf fancy box manufacture |
| 4. Cotton printing and painting (<i>Kalamkari</i>) | 19. Painted pottery |
| 5. Embroidery | 20. <i>Papier mache</i> work |
| 6. Enamel work | 21. Perfumery and joss-stick making |
| 7. Fine <i>khaddar</i> spinning | 22. Picture framing |
| 8. Glass painting | 23. Pith garland making |
| 9. Gold & silver smithy | 24. Stone carving |
| 10. Horn work | 25. <i>Terracotta</i> image making |
| 11. Ivory carving | 26. Toy making |
| 12. Lacquer work | 27. Wood carving |
| 13. Lace making | 28. Woollen pile carpet weaving |
| 14. Lapidary work | |
| 15. Metal image casting | |

B. Other Crafts :

- | | |
|---------------------------------|-------------------------------------|
| 1. Aluminium ware manufacture | 30. Hosiery |
| 2. Bamboo work | 31. Ironsmithy |
| 3. <i>Beedi</i> making | 32. <i>Khaddar</i> weaving |
| 4. Bell-metal work | 33. Lead vessel making |
| 5. Bee keeping | 34. Leaf platter making |
| 6. Boat making | 35. Leather goods manufacture |
| 7. Brass work | 36. Leather tanning |
| 8. Camp-furniture making | 37. Lime burning |
| 9. Cashew-nut roasting | 38. Match making |
| 10. Cane work | 39. Mat weaving |
| 11. Carpentry | 40. Marble industry |
| 12. Coconut coir industry | 41. Mica splitting |
| 13. Cotton carpet weaving | 42. Mill yarn handloom weaving |
| 14. Cotton dyeing | 43. Nursery and gardening |
| 15. Cotton <i>patti</i> weaving | 44. Oil and paint and brush making |
| 16. Cotton tape making | 45. Oil pressing |
| 17. Cutlery | 46. Paddy husking |
| 18. Dyes making | 47. Palmyra fibre extraction |
| 19. Electro-plating | 48. Pith hat making |
| 20. Emery powder manufacture | 49. Pen manufacture |
| 21. Eucalyptus oil distillation | 50. Ready-made garments manufacture |
| 22. Fishing and fish curing | 51. Rope making |
| 23. Fishing net making | 52. Rough pottery |
| 24. Flour grinding | 53. Screw pine weaving |
| 25. Glass blowing | 54. Seamless quilt manufacture |
| 26. Glass bangle making | 55. Silk rearing |
| 27. Gunny manufacture | 56. Silk weaving |
| 28. <i>Gur</i> making | |
| 29. Hand-made paper making | |

- | | |
|-------------------------------|----------------------------------|
| 57. Slate making | 61. Tile and brick making |
| 58. Soap making | 62. Woollen <i>cumbli</i> weavin |
| 59. Soap stone vessel making | 63. Wool spinning |
| 60. Steel trunk and iron safe | |

7. N. W. F. PROVINCES

A. Art Crafts :

- | | |
|------------------------|-------------------------------|
| 1. Afridi wax cloth | 6. Ornamental leather work |
| 2. Enamelled Jewellery | 7. Silk and cotton embroidery |
| 3. Glazed pottery | 8. Silver-smithy |
| 4. Lacquer work | 9. Toy making |
| 5. <i>Nakhai</i> work. | |

B. Other Crafts :

- | | |
|--|---|
| 1. Art Silk weaving | 22. Mirror frame making |
| 2. Brick making | 23. Oil pressing |
| 3. Bee keeping | 24. Poultry keeping |
| 4. Copper smithy | 25. Pottery and unglazed crockery |
| 5. Charcoal making | 26. Paddy husking |
| 6. Cutlery making | 27. Repairing |
| 7. Carpentry | 28. Rope Twisting |
| 8. Coarse cotton cloth weaving | 29. Rifle making |
| 9. Dairy farming | 30. Sheep rearing |
| 10. Flour grinding | 31. Soap making |
| 11. <i>Ghee</i> making | 32. <i>Tonga</i> building |
| 12. <i>Gur</i> making | 33. Vegetable and mineral dye manufacture |
| 13. <i>Gur</i> pan making | 34. Woollen blanket weaving |
| 14. Hand spinning | 35. Woollen felted mats and saddle cloth making |
| 15. Leather tanning | 36. Woollen camel bags making |
| 16. Leather goods making | 37. Wool pulling |
| 17. Lock-smithy | 38. <i>Yakhdan</i> making |
| 18. Lime burning | 39. Yarn and cloth dyeing |
| 19. Making of sausages containers from animal intestines | 40. Palm leaf, basket and mat weaving |
| 20. Medicines and drugs | |
| 21. <i>Mazri</i> making | |

8. ORISSA

A. Art Crafts :

- | | |
|----------------------------------|--------------------------------|
| 1. Gold and Silver-smithy | 5. Painted playing card making |
| 2. Horn work | 6. Silver filigree work |
| 3. Ivory work | 7. Stone carving |
| 4. Lac and brass ornament making | 8. Toy making |

VI] COTTAGE INDUSTRIES IN PROVINCES

B. Other Crafts:

- | | |
|-------------------------------|-----------------------|
| 1. Brass work | 12. Mat making |
| 2. Bell metal work | 13. Metal bead making |
| 3. Basket weaving | 14. Oil pressing |
| 4. Bee keeping | 15. Pottery |
| 5. Cotton weaving | 16. Paper making |
| 6. Confectionery | 17. Silk weaving |
| 7. Fish curing | 18. Stone work |
| 8. Gunny cloth weaving | 19. Salt manufacture |
| 9. Hat making | 20. Sugar making |
| 10. Iron implement making | 21. Tailoring |
| 11. Leather goods manufacture | 22. Wood work |

9. PUNJAB

A. Art Crafts :

- | | |
|---|------------------------------|
| 1. Artistic brass and copper ware | on cotton cloth |
| 2. Damascene work (<i>Koftgari</i>) | 9. <i>Kimkhab</i> weaving |
| 3. Embroidery (<i>Phulkari work</i>) | 10. Lacquer work |
| 4. Gold, Silver and Enamelled jewellery making | 11. <i>Papier mache</i> work |
| 5. Gold and silver wire and lace making | 12. Pile carpet weaving |
| 6. Ivory carving | 13. Polished pottery |
| 7. Ivory in laying on wood | 14. Straw basket making |
| 8. Hand printing and painting | 15. Toy making |
| | 16. Wood carving |

B. Other Crafts :

- | | |
|--|---------------------------------------|
| 1. Basket making | 19. Lock making |
| 2. Boat building | 20. Machinery making |
| 3. Book binding | 21. Musical instrument making |
| 4. Billiard ball making | 22. Paper making |
| 5. Brass and bell metal work | 23. Picture frame making |
| 6. Brick making | 24. Porcelain work |
| 7. Carpentry | 25. Reed and palm leaf mat making |
| 8. Clay modelling | 26. Shawl weaving |
| 9. Coloured glass making | 27. Silk weaving |
| 10. Coloured tile manufacture | 28. Skin coat making |
| 11. Corn grinding by water mills | 29. Soap making |
| 12. Cotton cloth weaving | 30. Snuff making |
| 13. Glass blowing and bangle making | 31. Sugar making |
| 14. Hand-spinning | 32. Textile dyeing |
| 15. Hosiery | 33. Vegetable oil manufacture |
| 16. Iron vessel manufacture | 34. Woollen blankets weaving |
| 17. Leather tanning | 35. White metal ware manu- facture |
| 18. Leather goods manufacture | |

10. SIND

A. Art Crafts :

- | | |
|-------------------------------|----------------------------|
| 1. Cloth dyeing and printing | 6. <i>Hooka</i> making |
| 2. Embroidery and needle work | 7. Lacquered work |
| 3. Enamel work | 8. Silver smithy |
| 4. Fine cloth weaving | 9. Toy making |
| 5. Glazed Pottery | 10. Woollen carpet weaving |

Other Crafts :

- | | |
|-------------------------------|-----------------------------|
| 1. Camel saddle making | 9. Mat making |
| 2. Cotton weaving | 10. Rough pottery |
| 3. Cutlery | 11. Silk weaving |
| 4. Dwarf palm leaf weaving | 12. Salt manufacture |
| 5. <i>Ghee</i> making | 13. Tile manufacture |
| 6. Lacquered wood work | 14. Weapon making |
| 7. Leather goods manufacture. | 15. Woollen blanket weaving |
| 8. Metal work | |

11. UNITED PROVINCES.

i. Cottage Industries:*

- | | |
|--|--|
| 1. Weaving of cotton, wool and silk | 24. Dyeing |
| 2. Shellac making | 25. Lock making |
| 3. Carpet weaving | 26. Steel trunks and iron safe making |
| 4. <i>Durris</i> weaving | 27. Cutlery |
| 5. Embroidery, silk, cotton and gold wire work | 28. Pottery |
| 6. Gold thread making | 29. Hosiery |
| 7. Metal utensil manufacture | 30. Tobacco for chewing and smoking |
| 8. Oil pressing | 31. Wire drawing |
| 9. Saltpetre refining | 32. Making of gold wire for embroidery |
| 10. Art brass ware manufacture | 33. Wooden and horn comb making |
| 11. Whip making | 34. Toy making |
| 12. Cotton and silk printing | 35. <i>Biri</i> making |
| 13. Glue making | 36. Tent making |
| 14. Wood work and wood carving | 37. Brass inlay on wood work (<i>tarkashi</i>) |
| 15. Scissors making | |
| 16. Leather working | |
| 17. Leather manufacture | |
| 18. <i>Talpatti</i> weaving | |
| 19. Marble work and stone dressing. | 38. Perfumery |
| 20. Silk rearing | 39. <i>Namda</i> or felt making |
| 21. Glass bangle making | 40. Ebony work |
| 22. Cricket ball manufacture | 41. <i>Gota</i> weaving |
| 23. Saddlery | 42. <i>Ghee</i> making |
| | 43. Jewellery work |

* This list contains those industries in which work is done in the homes of the artisans without the use of mechanical power.

VII COTTAGE INDUSTRIES IN PROVINCES

- | | |
|---|---|
| 44. Gold and silver ornament manufacture | 60. <i>Rath</i> and bullock cart making |
| 45. Lac bangle making | 61. Confectionery |
| 46. Vinegar making | 62. Tin smithy |
| 47. Kite flying yarn twisting | 63. Taxidermy |
| 48. Lead leaf making | 64. <i>Kutch</i> making |
| 49. Gold and silver lace making | 65. <i>Bidri</i> work |
| 50. Pickle and jams manufacture | 66. Artificial flowers |
| 51. <i>Surma</i> or antimony making | 67. Fireworks |
| 52. <i>Tabla</i> and other Indian musical instruments | 68. Moss stone work (<i>Banda</i>) |
| 53. Brush making | 69. <i>Munj</i> mat and twine |
| 54. Ivory work | 70. Cane and bamboo work |
| 55. Basket making | 71. Cast brass fitting |
| 56. Rope making | 72. Book binding |
| 57. Clay figure modelling | 73. Cardboard box making |
| 58. <i>Papier mache</i> | 74. Picture framing |
| 59. Glass bead curtains | 75. Lampshade making |
| ii. Minor Industries: * | |
| 1. Iron and Engineering works (including electric works). | 20. Electric fans |
| 2. Tanning | 21. Fire works manufacture |
| 3. Soap making | 22. Shellac making |
| 4. Ink manufacture. | 23. Pharmaceutical works |
| 5. Cigarette and Beedi making | 24. Lime burning |
| 6. Pencil making | 25. <i>Kutch</i> making |
| 7. Card Board Box making | 26. Tile and brick making |
| 8. Tobacco chewing and smoking | 27. Disinfectants |
| 9. Wood working and carving and saw mills | 28. Confectionery |
| 10. Printing press | 29. Embroidery |
| 11. Lock making | 30. Cricket ball manufacture |
| 12. Iron foundry (Small workshop) | 31. Open pan sugar making |
| 13. Glass bangle making | 32. Handloom weaving factories |
| 14. Brass casting | 33. Carpet and durce weaving |
| 15. Shoe making | 34. Saltpetre manufacture |
| 16. Perfumery (<i>ists</i>) | 35. Chemicals including acids |
| 17. Biological specimens and slides | 36. Scientific instruments making |
| 18. Sunn hemp baling | 37. Fountain pens manufacture |
| 19. Lace making | 38. Scents, hair oils and cosmetics |
| | 39. Electroplating |
| | 40. Wire drawing |
| | 41. Enamelling |
| | 42. Steel trunk making |

*This list includes all medium and small power driven factories as well as non-power factories.

COTTAGE INDUSTRIES OF INDIA

[Sec.

- | | |
|----------------------|--|
| 43. Hosiery | 52. Dyeing |
| 44. Button making | 53. Mathematical and Geometrical instruments manufacture |
| 45. Cutlery | |
| 46. Scissors making | 54. Tent making |
| 47. Marble work | 55. Taxidermy |
| 48. Boot lace making | 56. Jam making |
| 49. Lead leaf making | 57. Biscuit making |
| 50. Saddlery | 58. Rice hulling |
| 51. Pottery | |

B. STATES

1. BARODA

A. *Art Crafts* :

- | | |
|---------------------------------------|------------------|
| 1. Block engraving for cloth printing | 5. Ivory carving |
| 2. calico printing | 6. Lacquer work |
| 3. Embroidery | 7. Toy making |
| 4. Gold & Silver smithy | 8. Wood carving |

B. *Other Crafts* :

- | | |
|------------------------------|---------------------|
| 1. Brass & Copper work | 8. Silk worm rearin |
| 2. Hand-loom weaving | 9. Silk reeling |
| 3. <i>Khaddar</i> industry | 10. Silk weaving |
| 4. Leather tanning | 11. Tailoring |
| 5. Leather goods manufacture | 12. Textile dyein |
| 6. Oil pressing | 13. Wood work |
| 7. Pottery | |

2. COCHIN

A. *Art Crafts* :

- | | |
|-----------------------------|---------------------------------------|
| 1. Artificial stone cutting | 7. Ivory carving |
| 2. Cane work | 8. Musical instrument makin |
| 3. Clay modelling | 9. Screw pine fancy goods manufacture |
| 4. Crochet lace work | 10. Toy making |
| 5. Embroidery | |
| 6. Gold & Silver smithy | |

B. *Other Crafts* :

- | | |
|--|---------------------------------|
| 1. Arecanut curing | 14. Grass mat making |
| 2. <i>Ayurvedic</i> medicine manufacture | 15. Hand-loom weaving |
| 3. Bamboo work | 16. Jaggery manufacture |
| 4. Bee-keeping | 17. Leather goods manufacture |
| 5. <i>Bidi</i> manufacture | 18. Lime burning |
| 6. Bell-metal work | 19. Match making |
| 7. Cashewnut curing | 20. Millinery work |
| 8. Cabinet & furniture making | 21. Oil pressing |
| 9. Confectionery | 22. <i>Pappadam</i> manufacture |
| 10. Coir industry | 23. Pottery |
| 11. Dairy farming | 24. Poultry farming |
| 12. Fire works manufacture | 25. Sericulture |
| 13. Fish curing | 26. Soap & candle making |
| | 27. Umbrella manufacture |

3. HYDERABAD

A. *Art crafts* :

- | | |
|-------------------------------|--------------------------------|
| 1. <i>Bidri</i> work | 6. Muslin weaving |
| 2. Brocade weaving | 7. Native playing card making |
| 3. Cloth printing | 8. Silver smithy |
| 4. Embroidery and needle work | 9. Silver and gold lace making |
| 5. Filigree work | 10. Toy making |

B. *Other Crafts* :

- | | |
|---|--|
| 1. Brass work | 16. Leather water bottle and bucket making |
| 2. Button manufacture | 17. <i>Paithani</i> weaving |
| 3. Black smithy | 18. Paper making |
| 4. Cotton weaving | 19. Pottery |
| 5. Copper smithy | 20. Salt petre manufacture |
| 6. Cutley | 21. Sword stick making |
| 7. Cotton Carpet weaving (<i>Sat-ranji</i>) | 22. Silk weaving |
| 8. Carpentry | 23. Stone tumbler and cup-making |
| 9. Dairying | 24. Scented hair oil making |
| 10. <i>Gur</i> manufacture | 25. Tailoring |
| 11. Glass bangle making | 26. <i>Tasar</i> weaving |
| 12. <i>Ghee</i> making | 27. Woollen <i>cumbli</i> weaving |
| 13. Joss stick making | 28. Woollen carpet weaving |
| 14. Leather tanning | |
| 15. Leather goods manufacture | |

4. INDORE

A. *Art Crafts* :

- | | |
|------------------|-----------------|
| 1. Stone carving | 2. Wood carving |
|------------------|-----------------|

B. *Other Crafts* :

- | | |
|-------------------------|--------------------------------------|
| 1. Black smithy | 6. Leather goods manufacture |
| 2. Brass work | 7. Repair of agricultural implements |
| 3. Basket weaving | 8. Stone cutting |
| 4. Coarse cloth weaving | |
| 5. Carpentry | |

5. JAMMU AND KASHMIR

A. *Art Crafts* :

- | | |
|---------------------------------|---|
| 1. Calico printing | 7. <i>Papier-mache</i> |
| 2. Embroidery and needle work | 8. <i>Pattu</i> and <i>Pashmina</i> weaving |
| 3. Furrier work and skin curing | 9. Silver work |
| 4. Lacquered work | 10. Toy making |
| 5. Lapidary work | 11. Woollen shawl weaving |
| 6. Metal enamelling | 12. Wood carving |

B. Other Crafts :

- | | |
|-----------------------|-------------------------------|
| 1. Brass work | 10. Leather goods manufacture |
| 2. Boat making | 11. Oil pressing |
| 3. Blacksmithy | 12. Paper making |
| 4. Copper work | 13. Sericulture |
| 5. Carpentry | 14. Silk weaving |
| 6. Electro plating | 15. Tinkering |
| 7. Fruit canning | 16. Wine manufacture |
| 8. <i>Ghee</i> making | 17. Woollen blanket weaving |
| 9. Leather tanning | |

6. MYSORE

A. Art Crafts :

- | | |
|---|---------------------------------|
| 1. Hand printing | 5. Sandal wood carving |
| 2. Lacquer work | 6. Silk fancy goods manufacture |
| 3. Manufacture of musical instruments and strings | 7. Toy making |
| 4. Perfumery & joss stick making | 8. Woollen carpet weaving |

B. Other Crafts :

- | | |
|--|-------------------------------|
| 1. Brass & bell metal work | 11. Leather goods manufacture |
| 2. Carpentry | 12. Oil pressing |
| 3. Cotton handloom weaving | 13. Pottery |
| 4. Dyes making | 14. Rope making |
| 5. <i>Gajamara</i> (Elephant tree) bark bag making | 15. Silk weaving |
| 6. Glass bangle making | 16. Silk worm rearing |
| 7. Gunny bag making | 17. Stone jug making |
| 8. Hand spinning | 18. Tape making |
| 9. Iron work | 19. Wood sawing |
| 10. Jaggery making | 20. Woollen blanket weaving |

7. TRAVANCORE

A. Art Crafts :

- | | |
|-----------------------------|----------------------------------|
| 1. Bell-metal mirror making | 6. <i>Kafigari</i> work |
| 2. Cloth doll & toy making | 7. Screw pine fancy goods making |
| 3. Embroidery | 8. Wood carving |
| 4. Ivory carving | |
| 5. Lace making | |

B. Other Crafts :

- | | |
|-----------------------------|----------------------------------|
| 1. Bell-metal work | 10. Jaggery manufacture |
| 2. Blacksmithy | 11. Lemon grass oil distillation |
| 3. Carpentry | 12. Oil pressing |
| 4. Cashewnut roasting | 13. <i>Pappadam</i> manufacture |
| 5. Coconut coir industry | 14. Pottery |
| 6. Cotton hand-loom weaving | 15. Salt manufacture |
| 7. Fishing & fish curing | 16. Soap making |
| 8. Fish oil extraction | 17. Tile & brick making |
| 9. Gunny cloth manufacture | 18. Wood sawing |

II. IMPORTANT INDUSTRIAL CENTRES IN PROVINCES AND STATES

A. PROVINCES

1. ASSAM

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|--------------------------------|---|---|
| <i>A. Art Crafts :</i> | | | |
| 1 | Gold and Silver-smithy | Khasi & Jaintia Hills Manipur State Nowgong District Sibsagar District | A few Towns Do. Nowgong Jorhat |
| 2 | Gold filigree Work | Kamrup | Barpeta |
| 3 | Ivory work | Kamrup Sibsagar Sylhet | Kamrup Jorhat Sylhet |
| 4 | Lacquer ornament making | Darrang Khasi & Jaintia Hills Manipur State | Darrang A few villages A few towns |
| 5 | Leather enamelling | Manipur State | Manipur |
| 6 | Lac inlaid work | Sylhet | Laskarpur |
| 7 | Metal inlaid work | Sylhet | Laskarpur |
| 8 | Ornamenting cloth with cowries | Naga Hills Dt. | A few villages |
| 9 | Perfumery making | Sylhet | Sylhet |
| 10 | Toy making | Sylhet | Sylhet |
| 11 | Wood carving | Sylhet | Sylhet |
| <i>B. Other Crafts :</i> | | | |
| 1 | Agricultural implement making | Kamrup Khasi & Jaintia Hills Lushai Hills Manipur State Sylhet | Numerous villages Do. Do. Do. A few villages |
| 2 | Brass work | Cachar Darrang Kamrup Manipur State Lakshimpur Nowgong Sibsagar | Cachar Darrang Kamrup A few towns Do. Do. Do. |

VI]. INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------------|---|--|
| 3 | Black-smithy | Cachar Nowgong Sylhet Khasi & Jaintia Hills | Cachar Numerous village A few villages Numerous villages |
| 4 | Bell metal work | Darrang Kamrup Manipur State Nowgong Sibsagar | Darrang Kamrup A few towns Do. Do. |
| 5 | Bamboo work | Khasi & Jaintia Hills | A few villages |
| 6 | Basket work furniture making | Nowgong Sylhet | Nowgong Sylhet |
| 7 | Boat building | Sylhet | Coastal villages |
| 8 | Cotton weaving | Cachar Darrant Kamrup Khasi & Jaintia Hills Lakimpur Lushai Hills Naga Hills Nowgong Sibsagar Sylhet | Cachar Numerous villages Kamrup Jaintia Hills A few villages Many villages A few villages Do. Do. Do. |
| 9 | Cane work | Khasi & Jaintia Hills Manipur State | A few villages A few towns |
| 10 | Cotton spinning | Cachar Darrang Kamrup Nowgong | Cachar Numerous villages Kamrup A few villages |
| 11 | Fish oil manufacture | Sylhet | Sylhet |
| 12 | Jhapi making | Nowgong | Nowgong |
| 13 | Lime stone burning | Cachar Sylhet | Cachar Sylhet |
| 14 | Lac making | Kamrup Nowgong | A few villages in forest area Do. |
| 15 | Leather tanning | Manipur State | Manipur |

COTTAGE INDUSTRIES OF INDIA

[Sec.]

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------------|---|--|
| 16. | Leather goods making | Manipur State | Manipur |
| 17 | Leaf umbrella making | Sylhet | A few towns |
| 18 | Mosquito curtain making | Cachar Sylhet | Cachar A few villages |
| 19 | Oil pressing | Kamrup Sibsagar | A few villages Do. |
| 20 | Rough Pottery | Cachar Darrang Kamrup Khasi & Jaintia Hills Lushai Hills Manipur State Naga Hills Nowgong Sylhet | Numerous villages Do. Do. Do. Do. A few villages Numerous villages Do. Do. |
| 21 | Reed mat making | Manipur State Nowgong Sylhet | A few villages Nowgong Sylhet |
| 22 | Silk weaving | Darrang Khasi & Jaintia Hills Nowgong Sibsagar | Numerous villages Jaintia Hills Nowgong A few villages |
| 23 | Silk worm rearing | Manipur | A few villages |
| 24 | Spear head and arrow making | Naga Hills | A few villages |
| 25 | Shell bangle making | Sylhet | Sylhet |
| 26 | Tailoring | | All important towns |
| 27 | Wooden canoe making | Kamrup | Barpeta |
| 28 | Wood work | Manipur State | Numerous villages |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|------------------------|----------------------|---|---|
| 2. BENGAL. | | | |
| <i>A. Art Crafts :</i> | | | |
| <i>Men's Crafts :</i> | | | |
| 1 | Cane industry | Burdwan Mymensingh Birbhum Chittagong | Panagar Prayagpur Mymensingh Dubrajpur Sitakund Paduja |
| 2 | Conch-shell industry | Bankura Pabna Dacca Tipperah | Bankura Vishnupur Pabna Dacca Ramcharanpur Ranidia |
| 3 | Dacca muslin weaving | Dacca | Abdullapur Baliati Siddhiganj Dhamrai Nawpara Parabo |
| 4 | Doll and Toy making | Calcutta Birbhum Mymensingh Midnapore 24 Parganas | Calcutta Birbhum Khatau Visvabharati Mymensingh Midnapore Baranagore |
| 5 | Engraving | Calcutta | Calcutta |
| 6 | Gold & silver smithy | Calcutta Birbhum Midnapore Dacca | Calcutta Dubrajpur Tantipara Patna Bazar Dacca Pashail Ichchapur Daragram Baliati Sonabaju Kiundia Syampur Bhadra |

COTTAGE INDUSTRIES OF INDIA

[**SEC.**

| S. No. | Name of the Industry | Districts | Centres |
|-------------------------|--------------------------|--|---|
| 7 | <i>Hooka</i> manufacture | Howrah Jessore Tipperah | Bogri Khatora Keshupore Komilla |
| 8 | Horn work | Dacca Rangpur Backerganj | Dacca Kanga Barisal Amtali Patnakhali |
| 9 | Ivory work | Dacca Rangpur Calcutta Murshidabad | Dacca Kanga Calcutta Khagra |
| 10 | Lacquer work | Calcutta Birbhum Bankura | Calcutta Illam bazar Sonamukhi |
| 11 | Mat weaving | Calcutta Howrah Dacca Khulna | Calcutta Uluberia Dacca Itinda Bagerhat |
| 12 | <i>Nalcha</i> making | Tipperah | Komilla |
| 13 | <i>Papier mache</i> work | Calcutta | Calcutta |
| 14 | Perfumery | Calcutta | Calcutta |
| 15 | Picture framing | Calcutta | Calcutta |
| 16 | Pith, sola work | Calcutta Nadia Chittagong | Calcutta Nadia Chittagong |
| 17 | Pottery | Howrah Khulna Calcutta | Shakrail Kallyganj Calcutta |
| 18 | Textile printing | Birbhum Calcutta | Visvabharati Calcutta |
| 19 | Wood carving | Calcutta | Calcutta |
| <i>Women's Crafts :</i> | | | |
| 1 | Embroidery and work | <i>Shicon</i> Howrah Hooghly Murshidabad Dacca | Barasad Halisahar Hooghly Berhampore Shannara Siddhiganj |

VI] INDUSTRIAL CENTRES IN PROVINCES

| . No. | Name of the Industry | Districts | Centres |
|--------------------------|-----------------------------------|------------------------------|---|
| | | | Nawpara Dagar |
| B. Other Crafts : | | | |
| 1 | Bamboo work | Burdwan | Panager Prayagpur Kakea |
| | | Birbhum | Dubrajpur |
| | | Dacca | Marichadi Telkhira Gawpara Simulia Kanchanpur |
| | | Chittagong & Hills tracts | Khas Mahal Satkania Charati Sitakund |
| | | Tipperah | Kalikapur Brahmanberia |
| 2 | Bangle making | Calcutta | Calcutta |
| | | Dacca | Dacca |
| 3 | Boat building | Dacca | Rohitpur Autashahi Dorabati Singara Duragram |
| | | Chittagong & Hill tracts | Ashurasta Kalapole Kolagaon |
| | | Backerganj | Debaikhali Syampur Ghanteswar |
| | | Tipperah | Homna Bancharampur Sarail |
| 4 | Book-binding | Calcutta | Calcutta |
| | | Dacca | Dacca |
| 5 | Brass & bell-metal ware making | Calcutta | Calcutta |
| | | Jessore | Keshubpore |
| | | 24 Parganas | Basirhat Baduria |
| | | Howrah | Kalyanpore |
| | | Midnapore | Kharar Kristopur Patna bazar |

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------------|-------------|--------------|
| | | Murshidabad | Khagra |
| | | | Berhampore |
| | | Bankura | Vishnupur |
| | | | Bankura |
| | | Birbhum | Patrasayar |
| | | | Nalhati |
| | | | Dubrajpur |
| | | Dacca | Dacca |
| | | | Lohganj |
| | | | Firingibazar |
| | | | Sholaghur |
| | | Rajshahi | Dhamrai |
| | | | Kanaikhali |
| | | | Paluapara |
| | | | Kalam |
| | | Maldah | Englishbazar |
| | | | Bilpara |
| | | | Kasharipara |
| | | Chittagong | Chittagong |
| | | Noakhali | Noakhali |
| | | Tipperah | Brahmanberia |
| | | | Mogra |
| 6 | Cabinet and furniture making | Calcutta | Calcutta |
| | | Dacca | Dacca |
| | | Chittagong | Chittagong |
| | | Backerganj | Backerganj |
| 7 | Card-board box making | Calcutta | Calcutta |
| | | Dacca | Dacca |
| 8 | Cigar & Tobacco manufacture | Calcutta | Calcutta |
| | | Howrah | Nawabgunje |
| | | Rangpur | Chengamari |
| | | | Nirlakchandi |
| | | Dacca | Dacca |
| 9 | Cotton weaving | Calcutta | Calcutta |
| | | Howrah | Uluberia |
| | | | Kalyanpore |
| | | | Begri |
| | | 24 Parganas | Poora |
| | | | Baduria |
| | | Jessore | Jessore |
| | | | Kotchandpur |
| | | | Madhyakul |
| | | | Siddipasa |
| | | Khulna | Phultola |
| | | | Bardal |
| | | | Bagrehat |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|-----------|---------------|
| | | Birbhum | Dubrajpur |
| | | | Tantipara |
| | | Burdwan | Boktarnagar |
| | | | Kenna |
| | | Bankura | Bankura |
| | | | Patrasayar |
| | | Hooghly | Serampore |
| | | | Begumpur |
| | | | Kharsarai |
| | | | Dhaniakhali |
| | | | Jajpur |
| | | | Parialpur |
| | | | Noagachi |
| | | | Rashidpur |
| | | | Ramnagar |
| | | | Chandranagore |
| | | | Bolpur |
| | | Dacca | Abdullapur |
| | | | Baliati |
| | | | Demra |
| | | | Siddhiganj |
| | | | Katchpur |
| | | | Dacca |
| | | | Mireswar |
| | | | Kumarbhog |
| | | | Haldia |
| | | | Simulia |
| | | | Rohitpur |
| | | Rajshahi | Dokachi |
| | | | Ishabari |
| | | | Lohachar |
| | | | Rajapur |
| | | Rangpur | Rangpur |
| | | | Fatilapur |
| | | | Dimla |
| | | Pabna | Khukheri |
| | | | Randhunadari |
| | | | Tamai |
| | | | Shuhagpur |
| | | | Sibpur |
| | | | Ruknia |
| | | | Sadullapur |
| | | | Bagdi |
| | | | Gangarampur |
| | | Dinajpur | Khansama |
| | | | Jharbari |
| | | | Dangapara |
| | | | Gorca |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--|---|
| | | | Baragaon Shabajpur Bhandara |
| | | Jalpaiguri | Baharpur Balapara Mandalghat Dharampur Kristnagar Patgram Bholpati |
| | | Bogra | Jagaipur Dashtika Bamnigram Muradpur |
| | | Darjeeling Chittagong & Hill tracts | Kalimpong Gasberia Satbaria Dolghat Patiya Noapara Madarsha Fateyabad Mahmudbazar Mirsarai |
| | | Backerganj | Rangamati Gabhkan Kirtipasha Uzirpur |
| | | Tipperah | Nyamati Tantipara Minamati Kalikaput Gunapati Komiilla |
| | | Naakhali | Feni Chaumuhani Begumganj |
| 10 | Cutlery | Calcutta Khulna Jessore Howrah | Calcutta Kaligunge Jessore Domjar Makardah |
| | | 24 Parganas Burdwan Bankura Hooghly | Natagarh Kanchannagur Shahaspur Chinsura |
| 11 | Electro-plating | Calcutta Dacca | Calcutta Dacca |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------|---|---|
| 12 | Fire-works manufacture | Calcutta Dacca Hooghly Backerganj | Calcutta Dacca Hooghly Backerganj |
| 13 | Fishing net making | Jessore Dacca Chittagong & Hill tracts Backerganj Tipperah Hooghly | Numerous village- Daragram Atipara Nihalpur Kotalia Baktarpur Juldi Ratanpur Dhemsha Madarsha Syampur Ganteswar Debaikhali Barisal Nabinagar Sarial Hooghly |
| 14 | Haul spinning | Midnapur } Bankura } Howrah } Hooghly } Nadia } Jessore } Chittagong & } Hill tracts } Tipperah Noakhali Calcutta Birbhum 24 Parganas | Numerous village- Mirsarai Patiya Fatikchery Tatnekania Chakaria Numerous village- Parasuram Chhagalnayia Calcutta Viswabarati Sodepur |
| 15 | Hosiery | Jessore Howrah Calcutta Backerganj Tipperah | Jessore Howrah Calcutta Barisal Patuakhali Komilla |
| 16 | Ink manufacture | Calcutta Dacca | Calcutta Dacca |

COTTAGE INDUSTRIES OF INDIA

[SEC.]

| S. No. | Name of the Industry | Districts | Centres | | |
|-----------------------------|--------------------------------|-----------------------------|---|----------|----------|
| 17 | Jute spinning and weaving | Dacca | Kristnap Kalmau Bashail | | |
| | | Rangpur | Goybari Nadabesh | | |
| | | Bogra | Bogra | | |
| | | Dinajpur | Raigunj Itahar | | |
| | | Jalpaiguri | Kaliagunj Debiganj Boda | | |
| | | Chittagong & Hill tracts | Chittagong town | | |
| | | Backerganj | Backerganj Gournadi Patihar Chandshi Satla Billagram Boisha | | |
| | | Tipperah | Tipperah Rammohan Shibnagar Mirpur Bolakot | | |
| | | Noakhali | Chaumuhani Nateswar Hatripur | | |
| | | 18 | Leather tanning | Calcutta | Calcutta |
| | | | | Burdwan | Sripur |
| Birbhum | Tantipara Suri Dubrajpur | | | | |
| Rajshahi | Shipaipara Lalpur | | | | |
| Malda | Hyderpur | | | | |
| Chittagong & Hill tracts | Jowarganj Chittagong | | | | |
| Backerganj | Barisal Nalchiti | | | | |
| Tipperah | Komilla Brahmanberia | | | | |
| 19 | Leather goods manufac- ture | Calcutta | Calcutta | | |
| | | Howrah | Uluberia Ampa Bagnam | | |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|---|---|
| | | Bankura Birbhum | Natoonchati Pantipara Suri Dubrajpur |
| | | Burdwan | Sripur Asansol |
| | | Dacca | Dacca |
| | | Rajshahi | Shipaipara Lalpur |
| | | Rangpur Malda | Rangpur Malda |
| | | Chittagong Tipperah | Hyderpur Chittagong Komilla Tipperah Chandpur Chandina |
| 20 | <i>Navar</i> making | Howrah Calcutta | Howrah Calcutta |
| 21 | Oil pressing | Calcutta Chittagong & Hill tracts Backerganj | Calcutta Chittagong Bola Amani Nalchiti Jhalakhati |
| | | Tipperah | Ashuganj Chandpur |
| | | Noakhali | Noakhali Sandip Madarhat Mritganga Choudhury's hat. |
| 22 | Paper making | Hooghly | Kalsa Mahanad Shahbazar |
| | | Murshidabad | Kristopur |
| | | Dacca | Arial |
| | | Chittagong | Kagzipara |
| | | Calcutta | Calcutta |
| | | Pabna | Pabna |
| 23 | Pottery | Howrah | Patihal Shakrail |
| | | Khulna | Kallygunge Allaipore |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------|-----------------------------|---|
| | | Burdwan | Rupnarainpur Machidi Ramchandrapur |
| | | Birbhum Dacca | Dubrajpur Galimpur Jafrabad Sultanganj Sibpur Simulia Golla Nihalpur Khaliabad Goupara Tankar |
| | | Backerganj | Nalchiti Mehendiganj Barisal |
| | | Tipperah | Haripur Brahmanberia |
| | | Noakhali | Chaupaknagar Andharmanik |
| 24 | Rope making | Howrah Calcutta Dacca | Howrah Calcutta Dacca Kalma Noadda |
| | | Pabna | Serakganj Berankalia |
| | | Chittagong & Hill tracts | Chittagong town Bardona Rupkania Madrasha Kutubdia |
| | | Backerganj | Backerganj Barisal |
| | | Tipperah | Tipperah |
| 25 | <i>Satranji</i> weaving | Rangpur | Parbatipur Pirijabad Barabari |
| 26 | Silk reeling | Malda | Rajanagar Lakshmipur Amriti Bibigram Hyderpur Mehedipur Halipur Nazirpur |

VII] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--|--|
| | | | Shershahi Sujapur Bakharpur |
| 27 | Silk weaving | Jessore Howrah Hooghly Birbhum Bankura Burdwan Midnapur Rajshahi Malda Bogra Chittagong & Hill tracts | Jessore Howrah Hooghly Bistupur Kalipur Vishnupur Memari Sripur Khya Radhakantapur Anandapur Dakraraipur Chandanshafar Palashi Kengachi Sibganj Hazaridanga Mohanbad Jyot Bala Bogra Cox's bazar Maishkhali Rangamati |
| 28 | Soap manufacture | Calcutta Dacca Chittagong & Hill tracts Noakhali | Calcutta Dacca City Chittagong |
| 29 | Sugar & Gur making | Khulna Jessore 24 Parganas Howrah Birbhum Dacca Dinajpur Backerganj | Hatya Island Khulna Kotchandpore Tahirpore Kaliganj Gobardanga Kalyanpore Shampore Kukutia Narayanganj Munshiganj Manikganj Birgunj Patnitola Backerganj Muladi Gowinadi |

| S. No. | Name of the Industry | Districts | Centres |
|------------------------|------------------------------------|--|---|
| | | Noakhali | Sandip |
| | | Burdwan | Bagsi Asansol |
| 30 | Woollen blanket weaving | Rajshahi | Keshabpur Veripara |
| | | 3. BIHAR | |
| <i>A. Art Crafts :</i> | | | |
| 1 | <i>Bidri</i> work | Purnea | Purnea Kasba |
| 2 | Brocade weaving | Patna | Patna Chauk Khwajakalam Town |
| 3 | Bafta cloth weaving | Bhagalpur | Bhagalpur |
| 4 | Embroidery and needle work | Patna | Patna Chauk Khwajakalam Town |
| 5 | Ebony jewel case making | Monghyr | Monghyr |
| 6 | Glazed pottery | Saran | Siwan |
| 7 | Gold and silver wire & leaf making | Patna | Patna |
| 8 | Hand stick making | Monghyr | Monghyr |
| 9 | Lacquered bangle making | Santhal Parganas | Nunihat |
| 10 | Lacquer bracelet making | Bhagalpur Palamau Patna | Bhagalpur Palamau Patna |
| 11 | Muslin weaving | Patna | Patna |
| 12 | Painted pottery making | Shahabad | Sasaram |
| 13 | Silver-smithy | Monghyr Palamau Santhal Parganas | Monghyr Palamau A few towns |
| 14 | Textile printing | Monghyr Saran | Shaikhpura Saran |
| 15 | Wood carving | Santhal Parganas | A few towns |
| | Woollen carpet weaving | Bhagalpur Muzaffarpur | Bhagalpur Muzaffarpur |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|-------------------------------|--|---|
| | | Patna | Patna Sultanganj Pirabahor Chauk |
| | | Shahabad | Sasaram |
| <i>B. Other Crafts :</i> | | | |
| 1 | Agricultural implement making | Bhagalpur Hazaribagh Palamau Santhal Parganas | Bhagalpur Hazaribagh Palamau Numerous villages |
| 2 | Aerated water manufacture | Bhagalpur | Bhagalpur |
| | | Monghyr Patna | Monghyr Patna |
| 3 | Basket weaving | Monghyr Santhal Parganas | Monghyr Some villages |
| 4 | Boat making | Monghyr | Monghyr |
| 5 | Bell metal work | Manbhum Patna | A few places Barh |
| 6 | Black-smithy | Bhagalpur Hazaribagh Monghyr Patna | Bhagalpur Hazaribagh Monghyr Patna |
| 7 | Brass work | Bhagalpur Manbhum Palamau Patna | Bhagalpur A few centres Palamau Patna Barh |
| | | Saran Santhal Parganas Darbhanga | Siwan Some villages Jhanjarpur |
| 8 | Bamboo work | Santhal Parganas | Some villages |
| 9 | Cutlery | Monghyr Manbhum Muzaffarpur Santhal Parganas | Monghyr Jhalida Lawarpur Many villages |
| 10 | Carpentry | Muzaffarpur Purnea Santhal Parganas | Muzaffarpur Kishanganj A few villages |
| 11 | Cabinet making | Monghyr Patna | Monghyr Dinapore |

| S. No. | Name of the Industry | Districts | Centres |
|--------|--------------------------------|---|---|
| 12 | Cotton weaving | Bhagalpur Champanan Hazaribagh Monghyr Manbhum Muzaffarpur Palamau Patna Purnea Saran Santhal Parganas Shahabad Singbhum Darbhanga | Bhagalpur Champanan Hazaribagh Monghyr Many centres Muzaffarpur Palamau Patna Purnea Kishlangari; Saran Some villages Shahabad Singbhum A few villages Do. |
| 13 | Clay water bottle making | Monghyr | Monghyr |
| 14 | Dairying | Santhal Parganas | Some villages |
| 15 | Gher making | Bhagalpur Palamau Santhal Parganas | Bhagalpur Palamau Some villages |
| 16 | Gunny cloth weaving | Palamau Purnea | Palamau Kishangang |
| 17 | Gur making | Bhagalpur Monghyr Santhal Parganas | Banka Jamia Gidhaur A few villages |
| 18 | Glass hangle making | Bhagalpur | Bhagalpur |
| 19 | Glass making | Bhagalpur Patna | Bhagalpur Patna |
| 20 | Hooka pipe making | Monghyr Patna Purnea | Sheikhpura Patna Kasba |
| 21 | Leather tanning | Santhal Parganas | Some towns |
| 22 | Leather goods manu- facture | Patna Santhal Parganas | Patna A few towns |
| 23 | Manufacture of weapons | Santhal Parganas | Numerous villages |
| 24 | Mat making | Muzaffarpur Purnea Darbhanga | Muzaffarpur Kishanganj Janjharpur Darbhanga |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------|---|--|
| 25 | Newar making | Darbhanga | Darbhanga |
| 26 | Oil pressing | Santhal Parganas Darbhanga | Some villages Darbhanga |
| 27 | Perfumery | Patna | Patna Barh |
| 28 | Paper making | Patna | Patna |
| 29 | Pottery | Champaran Muzaffarpur Patna Santhal Parganas Dharbhanga | Champaran Muzaffarpur Patna Some villages Do. |
| 30 | Rope making | Manbhum Darbhanga | Patkum Baghmundi Barabhum Hesla pargana Darbhanga |
| 31 | Silk worm rearing | Palamau Santhal Parganas Singbhum Bhagalpur | Palamau A few villages Do. Bhagalpur |
| 32 | Stone carving | Monghyr Manbhum Singbhum | Monghyr Chandel Some villages |
| 33 | Straw work | Monghyr | Monghyr |
| 34 | Shellac making | Manbhum Santhal Parganas | Kalida Balramgore Dunka Pakiaur |
| 35 | Sugar refinery | Champaran Shahabad | Champaran Nasriganj Jagdispur |
| 36 | Soap making | Monghyr Patna | Monghyr Bihar sub-division |
| 37 | Tile and brick making | Santhal Parganas | Some villages |
| 38 | Tasar silk weaving | Bhagalpur Manbhum Palamau Patna Santhal Parganas | Bhagalpur Raghunathapur Palamau Bihar sub-division Some villages |

| S. No. | Name of the Industry | Districts | Centres |
|------------------------|-------------------------------|---|--|
| 39 | Wooden toy making | Hazaribagh Patna | Hazaribagh Patna |
| 40 | Woollen <i>cumbli</i> making | Bhagalpur Champaran Hazaribagh Monghyr Palamau Purnea Shahabad Gaya | Bhagalpur Champaran Hazaribagh Monghyr Palamau Kathihar Shahabad Gaya |
| 4. BOMBAY | | | |
| <i>A. Art Crafts :</i> | | | |
| 1 | Cloth printing | Ahmedabad Nasik Poona East Khandesh West Khandesh Bijapur Bombay | Ahmedabad Nasik Poona Bijapur Bombay |
| 2 | Embroidery and needle work | Ahmedabad Kaira Surat Broach & Panch Mahals Nasik Satara East Khandesh West Khandesh Bijapur Dharwar Bombay | Ahmedabad Kaira Surat Broach Division Panch Mahals Division Nasik Satara Bijapur Dharwar Bombay |
| 3 | Gold and Silver thread making | Surat Nasik Bombay | Surat Nasik Bombay |
| 4 | Horn work | Surat Poona | Surat Poona |
| 5 | Ivory carving | Ahmedabad Surat Poona Bombay Kanara | Ahmedabad Surat Poona Bombay |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|---------------------------|-----------------------|---|
| 6 | Lacquer work | Ahmedabad | Ahmedabad |
| | | Surat | Surat |
| | | Broach & Panch Mahals | Broach Division Panch Mahals Division |
| | | West Khandesh | .. |
| 7 | Sandal wood carving | Satara | Satara |
| | | Kanara | .. |
| | | Ahmedabad | Ahmedabad |
| | | Poona | Poona |
| 8 | Toys making | Kanara | .. |
| | | Bombay | Bombay City |
| | | Ahmedabad | Ahmedabad |
| | | Kaira | Kaira |
| 9 | Wood carving | Surat | Surat |
| | | Broach & Panch Mahals | Broach Division Panch Mahals Division. |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |
| | | Sholapur | Sholapur |
| | | East Khandesh | .. |
| | | West Khandesh | .. |
| | | Belgaum | Belgaum |
| | | Dharwar | Dharwar |
| | | Kolaba | Kolaba |
| | | Ratnagiri | Ratnagiri |
| | | Kanara | .. |
| Bombay | Bombay City | | |
| 10 | Wood carving | Ahmedabad | Ahmedabad |
| | | Surat | Surat |
| | | Broach & Panch Mahals | Broach Division |
| <i>B. Other Crafts :</i> | | | |
| 1 | Aerated water manufacture | Ahmedabad | Ahmedabad |
| | | Bombay | Bombay City |
| | | Belgaum | Belgaum |
| | | Sholapur | Sholapur |
| 2 | Bangle making | Surat | Surat |
| | | Thana | Thana |
| | | Satara | Satara |
| | | Bijapur | Bijapur |
| 3 | Basket weaving | Kaira | Kaira |
| | | Surat | Surat |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|-----------------------|---|
| | | Thana | Thana |
| | | Broach & Panch Mahals | Panch Mahals Division |
| | | Nasik | Nasik |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |
| | | Sholapur | Sholapur |
| | | Belgaum | Belgaum |
| | | Bijapur | Bijapur |
| | | Dharwar | Dharwar |
| | | Ratnagiri | Ratnagiri |
| | | East Khandesh | .. |
| | | Kanara | .. |
| | | Kolaba | Kolaba |
| 4 | Bell-metal work | Nasik | Nasik |
| | | Poona | Poona |
| | | East Khandesh | .. |
| | | Dharwar | Dharwar |
| | | Kolaba | Kolaba |
| 5 | Bidi making | Broach & Panch Mahals | Broach Division Panch Mahals Division |
| | | Nasik | Nasik City |
| | | Poona | Poona |
| | | Satara | Satara |
| | | Belgaum | Belgaum |
| | | Dharwar | Dharwar |
| | | Ratnagiri | Ratnagiri |
| | | Kanara | .. |
| | | Bombay | Bombay |
| 6 | Black-smithy | Ahmedabad | Ahmedabad |
| | | Kaira | Kaira |
| | | Surat | Surat |
| | | Bombay | Bombay City |
| | | Dharwar | Dharwar |
| | | Sholapur | Sholapur |
| | | Nasik | Nasik |
| | | East Khandesh | .. |
| | | Kolaba | Kolaba |
| 7 | Brass work | Ahmedabad | Ahmedabad |
| | | Kaira | Kaira |
| | | | Nadiad |
| | | Surat | Surat |
| | | Nasik | Nasik |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------------------|---|---|
| | | Satara Dharwar | Satara Dharwar |
| | | Kolaba Bombay | Hubli Kolaba Bombay City |
| 8 | Brick laying | All Districts | |
| 9 | Brick and tile making | Surat Thana Broach & Panch Mahals Poona Satara Belgaum Kolaba | Surat Thana Panch Mahals Division Poona Satara Belgaum Kolaba |
| 10 | Brush making | Ahmedabad East Khandesh Ratnagiri Bombay | Ahmedabad Amalner Ratnagiri Bombay City |
| 11 | Cane work | Ahmedabad Bombay Poona Belgaum Satara | Ahmedabad Bombay Poona Belgaum Satara |
| 12 | Carpentry | All Districts | |
| 13 | <i>Chumam</i> burning | Kaira Thana Broach & Panch Mahals Nasik Poona Ahmednagar Sholapur Satara West Khandesh Kanara | Kaira Thana Broach Division Panch Mahals Division Nasik Poona Ahmednagar Sholapur Satara |
| 14 | Collection of <i>Bidi</i> leaves | Nasik Broach & Panch Mahals Satara Belgaum Dharwar Ratnagiri Kanara | Nasik Broach Division Panch Mahals Division Satara Belgaum Dharwar Ratnagiri .. |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--|--|
| 15 | Condiment making | All Districts | |
| 16 | Confectionery | All Districts | |
| 17 | Copper smithy | Ahmedabad Kaira Surat Nasik Poona Ahmednagar Satara Dharwar Kolaba Bombay | Ahmedabad Kaira Nadiad Surat Nasik Poona Ahmednagar Satara Dharwar Kolaba Bombay |
| 18 | Dairying | Ahmedabad Kaira Surat Broach & Panch Mahals East Khandesh West Khandesh Belgaum Bombay | Ahmedabad Kaira Anand Surat Broach Division Belgaum Bombay |
| 19 | Drying rayon | Kaira | Kaira |
| 20 | Fishing | Thana Kolaba Ratnagiri Kanara Bombay | Coastal villages Coastal villages Coastal villages Coastal villages Coastal villages |
| 21 | Fish curing | Same as for fishing. | Majali in Kanar District is specially noted. |
| 22 | Fruit canning | Poona Kanara | Poona Kanara |
| 23 | Flour grinding | All Districts | |
| 24 | <i>Furriere</i> work | Ahmedabad East Khandesh Ratnagiri Bombay | Ahmedabad Amalner Ratnagiri Bombay City |
| 25 | <i>Ghee</i> making | Kaira Surat Broach & Panch Mahals | Kaira Mehmedabad Surat Broach Division |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | District. | Centres |
|--------|----------------------|---|-----------------|
| | | East Khandesh | .. |
| | | West Khandesh | .. |
| | | Belgaum | Belgaum |
| 26 | Grain parching | All Districts | |
| 27 | Gum collection | Ahmedabad | Ahmedabad |
| | | Surat | Surat |
| | | Ahmednagar | Ahmednagar |
| | | West Khandesh | .. |
| 28 | Hand spinning | All Districts | |
| 29 | Handloom weaving | All Districts particularly the following centres: | |
| | | Thana | Thana |
| | | Nasik | Nasik |
| | | | Malegaon |
| | | Ahmednagar | Sangamner |
| | | West Khandesh | Dulia |
| | | Bijapur | Guledgad |
| | | Dharwar | Gadak |
| | | | Hubli |
| | | Kanara | Ranibennur |
| | | Bombay | Bombay City |
| 30 | Honey collection | Surat | Surat |
| | | Thana | Thana |
| | | Broach & Panch Mahals | Broach Division |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |
| | | Satara | Satara |
| | | Belgaum | Belgaum |
| | | Ratnagiri | Ratnagiri |
| | | Kanara | Honavar |
| 31 | Hosiery | Ahmedabad | Ahmedabad |
| | | Poona | Poona |
| | | Bombay | Bombay City |
| 32 | Leather tanning | Ahmedabad | Ahmedabad |
| | | Kaira | Kaira |
| | | Surat | Surat |
| | | Nasik | Nasik |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |
| | | Satara | Satara |
| | | East Khandesh | .. |
| | | West Khandesh | .. |
| | | Belgaum | Belgaum |

| S. No. | Name of the Industry | Districts | Centres |
|--------|---|---|---|
| | | Bijapur Dharwar Bombay | Bijapur Dharwar Bombay City |
| 33 | Leather goods manufacture | Same as | Leather tanning |
| 34 | Manufacture of <i>Dal</i> (pulses) | All Districts | |
| 35 | Mat making | Thana Poona Kolaba Ratnagiri Kanara | Thana Poona Kolaba Ratnagiri .. |
| 36 | Match making | Belgaum Nasik | Belgaum Sinnar |
| 37 | Oil pressing | All Districts | |
| 38 | Paper pulp making | Ahmedabad Surat Broach & Panch Mahals Satara East Khandesh West Khandesh Belgaum Dharwar Ahmedabad | Ahmedabad Surat Panch Mahals Division Satara Belgaum Dharwar Ahmedabad |
| 39 | Preparing <i>tulabjal</i> and <i>gulband</i> | Surat Broach and Panch Mahals Poona | Surat Broach division Poona |
| 40 | Power loom weaving | Ahmedabad Surat Thana Broach & Panch Mahals Nasik Poona Sholapur Satara East Khandesh Belgaum Dharwar Ratnagiri Bombay | Ahmedabad Surat Thana Boach Division Panch Mahals Division Nasik Poona Sholapur Satara Belgaum Dharwar Ratnagiri Bombay City |
| 41 | Paddy husking | All Districts | |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--|--|
| 12 | Pottery | All Districts | |
| 43 | Poultry keeping | Kolaba Bombay Satara Kaira Ahmedabad | Kolaba Bombay City Satara Kaira Ahmedabad |
| 44 | Rat-trap manufacture | Ahmedabad Kaira Broach and Panch Mahals Nasik Poona Ahmednagar West Khandesh Kolaba Thana | Ahmedabad Kaira Broach Division Nasik Poona Ahmednagar .. Kolaba Thana |
| 45 | Rope making | Ahmedabad Surat Thana Broach & Panch Mahals Poona Ahmednagar Sholapur Satara West Khandesh Belgaum Bijapur Dharwar Kolaba Ratnagiri Kanara | Ahmedabad Surat Thana Broach Division Panch Mahals Division Poona Bhamburda Ahmednagar Sholapur Satara .. Belgaum Bijapur Dharwar Kolaba Ratnagiri Honavar |
| 46 | Sugar making | Poona Ahmednagar Belgaum | Poona Ahmednagar Belgaum |
| 47 | Silk weaving | Nasik Poona | Nasik Poona |
| 48 | Snuff making | Broach and Panch Mahals Bombay Ahmednagar Poona | Panch Mahals Division Bombay Ahmednagar Poona |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------------|-------------------------|-----------------|
| 49 | Soap making | Ahmedabad | Ahmedabad |
| | | Kaira | Prantij |
| | | Thana | Kaira |
| | | Broach and Panch Mahals | Thana |
| | | | Broach Division |
| | | | Panch Mahals |
| | | | Division |
| | | Nasik | Nasik |
| | | Poona | Poona |
| | | Ahmednagar | Ahmednagar |
| | | Sholapur | Sholapur |
| | | Satara | Satara |
| | | East Khandesh | .. |
| | | West Khandesh | .. |
| | | Belgaum | Belgaum |
| | | Bijapur | Bijapur |
| | | Dharwar | Dharwar |
| | | Kanara | Kanara |
| | | Bombay | Bombay City |
| 50 | Tailoring | All Districts | |
| 51 | Umbrella and fan making | Thana | Thana |
| 52 | Wood turning | Ahmedabad | Ahmedabad |
| | | Surat | Surat |
| | | Nasik | Nasik |
| | | Satara | Satara |
| | | West Khandesh | .. |
| | | Broach and Panch Mahals | Panch Mahal |
| | | | Division |
| 53 | Woollen <i>cumbli</i> weaving | Satara | Satara |
| | | Belgaum | Belgaum |
| | | Bijapur | Bijapur |
| | | Dharwar | Dharwar |
| | | | Medler |
| | | Poona | Poona |
| | | Kaira | Kaira |

5. CENTRAL PROVINCES AND BERAR

A. Art Crafts :

| | | | |
|---|-----------------------------|--------|------------------------------|
| 1 | Alloy ornament manufacture | Chanda | Chanda Neri Brahmapuri |
| 2 | Gold and silver lace making | Nimar | Burhanpur |
| 3 | Glazed pottery | Damoh | Damoh |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | District | Centres |
|--------------------------|----------------------------|------------------------|--|
| 4 | Gold and silver smithy | Chanda Saugor | Chanda Etawa |
| | | Betul | Khurai Saugor Chicholi Betul Atner Satner |
| 5 | Lacquer work on bamboo | Chanda | Pomurna Chanda |
| 6 | Lacquer work on silver | Chanda | Pomurna Chanda |
| 7 | Ornamental slipper making | Chanda | Chanda |
| 8 | Stone carving | Jubbulpore | Tewar |
| 9 | Tov making | Wardha Chanda | Wardha Chanda Brahmapuri |
| | | Saugor | Saugor Etawa |
| | | Balaghat Jubbulpore | Waraseoni Jubbulpore Tewar |
| | | Nagpur Bilaspur | Nagpur Bilaspur Champa |
| 10 | Walking stick manufacture | Hoshangabad | Hoshangabad |
| B. Other Crafts : | | | |
| 1 | Bamboo work | Chanda Bhandara | Chanda Bhandara |
| 2 | Bee-keeping | Wardha | Maganvadi |
| 3 | Beedi making | Chanda | Chanda Brahmapuri |
| | | Hoshangabad Saugor | Hoshangabad Saugor Deori |
| | | Jubbulpore Damoh | Jubbulpore Damoh Hindoria |
| | | Nimar Nagpur | Burhanpur Nagpur |
| 4 | Bell metal work (utensils) | Balaghat | Waraseoni Hatta |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------------|---------------------|---|
| | | Mandla | Mandla |
| | | Damoh | Damoh |
| | | Bilaspur | Hindoria Rattanpur Champa |
| 4 | Bell metal work (Ornaments) | Saugor | Saugor Khurai Etawa Jubbulpore |
| | | Jubbulpore | Panagar Rattanpur |
| | | Bilaspur | Champa |
| 5 | Brass work | Chanda | Chanda Neri Brahmapuri |
| | | Chhindwara | Chhindwara |
| | | Hoshangabad | Lodhikheda Hoshangabad Handia |
| | | Saugor | Babai Deori Khuri Malthone |
| | | Balaghat | Waraseoni |
| | | Jubbulpore | Jubbulpore |
| | | Nagpur | Panagar Nagpur Kelod |
| | | Narasinghpur | Chicholi |
| | | Betul | Amla Ramli Jawalkheda |
| | | Bhandara | Bhandara |
| 6 | Carpentry | All districts | Important towns |
| 7 | Cotton spinning | Nagpur | Nagpur |
| | | Wardha | Sevagram |
| | | Bilaspur | Bamnidhi, kamod |
| | | All other districts | A.I.S.A. centres |
| 8 | Cotton carpet weaving | Nagpur | Saoner Patansaongi |
| 9 | Cotton cloth weaving | Wardha | Sevagram Other large villages |
| | | Chanda | Chanda Mul Saoli |

VII] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|-------------------------|--|
| | | Chhindwara | Brahmanpuri Norhai Karwal Chhindwara |
| | | Hoshangabad | Sobhapur Naharkola |
| | | Saugor | Saugor Rehli Deori Gourjhamar Garhakota |
| | | Sconi | Seoni Barghat Chhapra |
| | | Balaghat | Waraseoni Lalburra Linga Borgaon Hotta |
| | | Mandla Jubbulpore | Mandla Garha Majohli |
| | | Damoh | Bansakalam Damoh Hindoria Sitanagar Hatta |
| | | Drug Nimar Nagpur | Drug Khandwa Nagpur Umrer Kamptte Khapa |
| | | Narsinghpur | Gadarwara Singhpur Amgaon Narsinghpur |
| | | Betul Bhandara | Betul Bhandara Pauni Mohari Andhargaon Tumsar |
| | | Bilaspur | Bamnidhi Kamod |
| 10 | Cotton dyeing | Wardha Chanda | Sevagram Chanda Mul Saoli |

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------|---|---|
| | | Chhindwara | Brahmapuri Chhindwara Norhia Karwal |
| | | Hoshangabad Saugor | Sohagpur Saugor Rehli Deori Gourjhamar Garhakota |
| | | Seoni | Mungwani Chhapara Kahani Adegaon |
| | | Jubbulpore | Vijeraghogarb Ramkhiria Indrana |
| | | Damoh | Damoh Bansa Tarkheda Aslana Hindoria |
| | | Nagpur | Umrer Nagpur Sawargaon Mowar Narkheri |
| | | Narsinghpur | Gadarwara Singhpur Narsinghpur Amgaon |
| | | Bhandara Bilaspur | Beni Bilaspur |
| 11 | Cotton tape making | Wardha | Wardha |
| 12 | Copper-smithy | Chanda | Chanda Neri Brahmapuri |
| | | Jubbulpore | Jubbulpore Panagar |
| 13 | Cutlery | Hoshangabad Nagpur | Timunnri Nagpur |
| 14 | Dairy farming | Saugor Narsinghpur Damoh | Saugor Narsinghpur Damoh |
| 15 | Dried meat manufacture | All districts Narasinghpur Nagpur | Many towns Gadarwara Nagpur |

VI] ' INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|---|--|---|
| 16 | Fishing and fish curing | All districts | Many towns |
| 17 | Flour grinding | Wardha All districts | Maganvadi A.I.V.I.A. Centres and other towns |
| 18 | Ghee making | Saugor Damoh Narsinghpur All districts | Saugor Damoh Narsinghpur Important towns |
| 19 | Glass bangle making | Saugor Seoni Balghat Mandla Jubbulpore | Garhkota Pithoria Rahatgarh Chaonri Patan Chhapara Lanji Itka Katangi |
| 20 | Glass blowing (Beads, phials) | Saugor Jubbulpore Nimar Narsinghpur | Pithoria Katangi Burhanpur Nayakheda Barha Barmhan |
| 21 | Hemp mat and bag making | Wardha Chhindwara Betul | Pardi Chhindwara Betul |
| 22 | Iron implement making (Black-smithy) | Seoni Saugor Damoh Nagpur | Piparwani Lukhnadon Rahatgarh Jabera Nagpur |
| 23 | Lac bangle making | Seoni Mandla | Seoni Chhapara Bakhari Lukhnadon Mandla Bamhuni Hirdenagar |
| 24 | Leather tanning & leather goods manufacture | Seoni Wardha Nagpur All districts | Khawasa Sevagram Nagpur Many towns |

| S | No. Name of the Industry | Districts | Centres |
|----|--------------------------|---|---|
| 25 | Oil pressing | Nagpur (Berar) Akola Betul (Berar) Nagpur All districts | Bela Jamgaon Gawha Vitholi Giroli Mangonakalan Hivra Gomukhnanda Many towns |
| 26 | Paddy husking | Wardha All Districts | Maganvadi A.I.V.I.A. centre and other town |
| 27 | Paper making | Damoh Wardha | Panchamnagar Magavadi |
| 28 | Rough Pottery | Chanda Seoni Damoh Betul All districts | Warora Kaniwara Pachdhar Damoh Betul Many towns & Villages |
| 29 | Rope making | Chhindwara Hoshangabad Betul Wardha | Chhindwara Hoshangabad Betul Pardi |
| 30 | Silk worm rearing | Chanda Chhindwara Hoshangabad Bilaspur | Wairagarh forest Sindewahi forest Chhindwara Sohagpur Bilaspur Baloda Khokra Champa Chhuri |
| 31 | Silk weaving | Chanda Chhindwara Hoshangabad Seoni Nimar Nagpur Bilaspur | Chamursi Chanda Chimur Armori Chhindwara Sohagpur Seoni Burhanpur Nagpur Umrer Bilaspur |

VI INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------|-----------------------------------|-----------------------------------|
| 32 | Soap making | .. Wardha Nagpur Jubbulpore | Maganvadi Nagpur Jubbulpore |
| 33 | Stone jar making | .. Bhandara | Kaneri |
| 34 | Tile & brick making | .. Chanda Nagpur | Warora Nagpur |
| 35 | Woollen blanket weaving | Chhindwara Nagpur | Chhindwara Nagpur |

6. MADRAS

A. Art Crafts:

| | | | |
|-----|---|---|---|
| 1. | Cement image making | .. West Godavari East Godavari. Krishna. Nellore. Madras. | Ellore. Rajahmundry Cocanada. Bezwada. Kaluvayi- Rajupalem. Madras. |
| 2. | Cocoon shell carving | .. Malabar. | Quilandy. |
| 3. | Conch shell work | .. Tinnevelly Ramnad. Vizagapatam | Tuticorin. Rameswaram. Vizagapatam. |
| 4. | Cotton printing & painting (<i>Kalamakari</i>) | .. Krishna. West Godavari Tinnevelly. East Godavari. | Masulipatam. Ellore. Narasapur. Melapalayam. Tuni. |
| 5. | Enamel work | .. Madras. Krishna. Madura. | Madras. Bezwada. Madura. |
| 6. | Screen printing | .. Coimbatore. Madras. | Coimbatore. Madras. |
| 7. | Fine <i>khaddar</i> spinning | .. Vizagapatam. | Ponduru. Chiccacole. Bonthalakoduru |
| 8. | Glass painting | .. Ramnad. Trichy. | Rameswaram. Srirangam. |
| 9. | Horn work | .. Vizagapatam. Tinnevelly. | Vizagapatam. Ambasamudram |
| 10. | Ivory carving | .. Vizagapatam. | Vizagapatam. |

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------------|--|--|
| 11. | Lacquer work | .. Vizagapatam. Tuni. West Godavari. Madras. Kurnool. | Sringavarapukot. East Godavari. Etikoppaka. Ellore. Madras. Nossam. |
| 12. | Lace making | .. East Godavari West Godavari. Krishna. Madras. Salem. Tinnevelly. | Rajahmundry Ramachandra- puram. Dummagudem Narasapur. Palakolc. Masulipatam. Madras. Krishnagiri. Hosur. Tuticorin. Idayangudi. |
| 13. | Lapidary work | .. Coimbatore. Krishna. Salem. | Settipalayam. Masulipatam. Tiruchengode. |
| 14. | Metal image casting | .. Chittoor. Tanjore. Madras. | Perumalpalle. Kumbakonam. Madras. |
| 15. | Musical instrument making | Krishna. Tanjore. Salem. Madras. Nellore. | Masulipatam. Tanjore. Salem. Madras. Indur. |
| 16. | Palmyra hand stick making. | W. Godavari. | Kodurupadu. |
| 17. | Palm leaf fancy box making | Madras. Chingleput. Chittoor Trichinopoly Tanjore. Ramnad. | Madras. Pulicat. Tirupathi. Srirangam. Nagore. Rameswaram. |
| 18. | Perfumery and joss-stick making | Guntur. W. Godavari. Tanjore. | Guntur. Kondavidu. Ellore. Kumbakonam. Tanjore. |
| 19. | Pith garland making | .. South Kanara. | Coondapur. Udipi. Mangalore. |

VII. INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------|---|---|
| | | Madras. Tanjore. | Madras. Tanjore. |
| 20. | Stone carving | Guntur. Kurnool. Chittur. N. Arcot. N. Arcot. Salem. S. Kanara. | Kuppukonda, Durgi; Gumperumanu- dinne. Tiruchanur. Modayur. Sambandanpatti. Padubidri. Badagabettu. Udayavar. |
| | | Coimbatore | Tirumurghan- pudi. |
| 21. | Terracota image making | W. Godavari. E. Godavri. Chingleput. Madras. S. Arcot. | Ellore. Palakole. Rajahmundry. Conjeevaram. Madras. Pondicherry. |
| 22. | Toy making | Vizagapatam. E. Godavari Krishna. Chingleput. Madras. S. Arcot Chittoor. Trichinopoly. Tanjore. | Etikkoppaka. Tuni. Kondapalli. Conjeevaram. Tandrai. Madras. Panruti. Nellikuppam. Bhuvanagiri. Tirupathi. Kalahasti. Srirangam. Tanjore. Koil Tiruman- galam. Vaitheswaran Koil. Iravadanallur. Rameswaram. Ambasamu- dram. Mannarkoil. |
| | | Madura. Ramnad. Tinnevelly. | |
| 23. | Wood Carving. | Nellore. Chittoor. | Udayagiri Tirupati Kalahasti Adavoram. |

COTTAGE INDUSTRIES OF INDIA

[*Sec.*]

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|----------------------------|--|--|
| | | Madura. Tinnevelly. | Ragigunta. Madura. Vadagankulam. |
| 24. | Wollen pile-carpet weaving | W. Godavari. Krishna. N. Arcot. Salem | Ellore. Tangellamudi. Masulipatam. Vellore. Wallajapet. Salem. |
| <i>B. Other Crafts :</i> | | | |
| i. | Aluminum ware manufacture | E. Godavari. Vizagapatam. W. Godavari. Madras. | Rajahmundry. Vizianagaram. Ellore. Madras. |
| 2. | Bamboo work | .. Vizagapatam. E. Godavari. W. Godavari. Kurnool Nellore. Chingleput. Madras. Chittoor. N. Arcot. Salem. Coimbatore. Trichinopoly. Malabar. | Parvatipur. Rajahmundry. Ellore. Kurnool. Atmakur. Udayagiri. Kandukur. Kanigiri. Conjeevaram. Uttaramerur. Madurantakam. Madras. Pedda Anjimedu Renigunda. Ganganur. Palikonda. Cheduvalai. Kichupaliem. Gollapatti. Bairanattam. Krishnagiri. Mettupalayam. Karur. Turaiyur. Palghat. Ernad. Ellore. Guntur. Tenali. Vetapalem. |
| 3. | <i>Bidi</i> making | .. W. Godavari. Guntur. Kurnool. | Ellore. Guntur. Tenali. Vetapalem. Ammanabrou |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|-----------------|---------------|
| | | | Kurnool. |
| | | N. Arcot. | Owk. |
| | | | Chagalmarry |
| | | | Vellore. |
| | | Malabar. | Ambur. |
| | | | Vaniyambadi. |
| | | | Calicut. |
| | | Madura | Tellichee |
| | | | Badagara. |
| | | | Palghat. |
| | | | Dindigul. |
| | | S. Kanara. | Mangalore. |
| | | Trichinopoly. | Woriyur. |
| 4. | Bell-metal work | .. Vizagapatam. | Parvatipur. |
| | | | Anakapalli. |
| | | | Srungavarapu- |
| | | | kota. |
| | | | Lakkavarapu- |
| | | | kota. |
| | | E. Godavari, | Pithapuram, |
| | | | Tuni, |
| | | | Jagannatha- |
| | | | puram. |
| | | | Marripudi. |
| | | W. Godavari. | Palakole |
| | | Krishna. | Ramanakkapeta |
| | | Cuddappah. | Vonipenta. |
| | | Madras. | Madras. |
| | | Chittoor. | Tirupathi. |
| | | | Kalahasthi. |
| | | | Satravadi. |
| | | Tanjore. | Kumbakonam. |
| | | Madura. | Madura. |
| | | Malabar. | Palghat. |
| | | | Calicut. |
| | | | Quilandy. |
| 5. | Bee-keeping. | .. E. Godavari. | Pithapuram. |
| | | | Tuni. |
| | | W. Godavari. | Bhimavaram. |
| | | | Tanuku |
| | | Madras. | Madras. |
| | | S. Kanara. | Puttur. |
| 6. | Boat building | .. E. Godavari | Tallarevu. |
| | | | Yanam. |
| | | | Chintalanka. |
| | | | Kotapalli. |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|---------------|---|
| | | Malabar. | Quilandy. Tellicherry. |
| | | Tinnevelly. | Tuticorin. |
| 7. | Brass work | Vizagapatam. | Kotapadu. Bobbili. Somalingapalli. |
| | | E. Godavari. | Rajahmundry. Peddapuram. |
| | | W. Godavari. | Ajjaram. Sriparru. Kaldhari. Vissakoderu. Pasivedala. |
| | | Krishna. | Ramanakkapeta Mailavaram. |
| | | Guntur. | Durgi. |
| | | Cuddappah. | Vonipenta. |
| | | Nellore. | Nellore. |
| | | Chingleput. | Tirukkalikun- dram. |
| | | Madras. | Madras. |
| | | S. Arcot. | Melpadi. |
| | | Chittoor. | Tirupathi |
| | | Salem. | Viraganur. Dharmapuri. Salem. |
| | | Trichinopoly. | Sirugambur. |
| | | Tanjore. | Kumbakonam. Nachiyarkoil. |
| | | Madura. | Madura. Silamalaipatti. Nilakottai. Dindigul. |
| | | Ramnad. | Karaikudi. |
| | | Tinnevelly. | Srivilliputhur. Vaigaikulam. Eral. |
| | | | Mannar Koil Tinnevelly. Pudikudi. |
| | | Malabar. | Palghat. Irumpalyam. Kuttiapuram. Kallai. Quilandy. |
| | | S. Kanara. | Coondapur. Udipi. |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------------|---|--|
| | | | Mangalore. Kasargod. Puttur. Nileshwar. |
| 8. | Camp furniture making | .. Guntur. | Narasaraopeta. |
| 9. | Cashew-nut roasting | .. Vizagapatam East Godavari | Vizagapatam Vizianagaram Rajahmundry |
| 10 | Cane work | .. Nellore Chingleput Madras Tanjore Madras Malabar S. Kanara | Nellore Indurkuret Poonamallee Madras Pakkeri Thekkal Karuvapulam Madras Cælicut. Cannanore Manjeri Chokkali Puttur Coondapur Nileshwar Kabaka |
| 11 | Coconut coir and rope industry. | E. Godavari W. Godavari N. Arcot Salem Coimbatore Tanjore | Tallarevu Komaragiri- patnam Ambajipeta Bendamurlanka Magalakurru Sambaldivi Muthyalapalli Ambur Vaniyambadi Vellore Jalakantapuram Vanavasi Palavadi Palakkodu Modur Kanganipatta Eravanur Mudukur Mallipatnam |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|-------------|----------------------|
| | | | Kornad |
| | | Ramnad | Kuttalam |
| | | | Periapatnam |
| | | Tinnevelly | Srivilliputtur |
| | | | Anjengo ¹ |
| | | Malabar | Tanganasseri |
| | | | Beypore |
| | | | Ponnani |
| | | | Tikkoti |
| | | | Quilandy |
| | | | Calicut |
| | | S. Kanara. | Uppinda |
| | | | Koni |
| | | | Malpe |
| | | | Valal |
| | | | Telangiri |
| | | | Kadni |
| 12. | Cotton dyeing | Vizagapatam | Vizagapatam |
| | | | Vizianagaram |
| | | | Payakaraopeta |
| | | E. Godavari | Gollapalem |
| | | | Rajahmundry |
| | | | Cocanada |
| | | W. Godavari | Palakole |
| | | | Narasapur |
| | | | Ellore. |
| | | Krishna | Masulipatam |
| | | | Ramudupeta |
| | | Guntur | Mangalagiri |
| | | | Addepalli |
| | | | Guntur |
| | | | Chirala |
| | | | Vetapalem |
| | | Bellary | Yemmiganur |
| | | | Rayadrug |
| | | Anantapur | Pamidi |
| | | Cuddappah | Jammalamedugu |
| | | | Thondur |
| | | Nellore | Nellore. |
| | | | Amalur |
| | | | Kandukur |
| | | | Venkatagiri |
| | | Chingleput | Saidapet |
| | | Madras | Madras |
| | | Chittoor | Kalahasti |
| | | N. Arcot | Arcot |
| | | | Gudiyatham |

VII. INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------------|---|--|
| | | Salem | Pudupanjam Salem Gugai |
| | | Madura Tinnevelly | Madura Melapalayam Kilavira- raghavapuram |
| | | Malabar | Tellicherry |
| 13 | Cotton tape making | .. Vizagapatam | Singanadora- palem |
| | | E. Godavari W. Godavari | Rajahmundry Viravasaram Toleru Sisali Komarada Mallavaram |
| | | Kurnool | Kurnool Nandyal |
| | | Chittoor | Pothapolu Gurnimitta |
| 14 | Cutlery | .. Guntur Anantapur | Cherukupalem Sangahatta Hindupur |
| | | Malabar S. Kanara | Shoranur Baindur |
| 15 | Eucalyptus oil distillation | .. Nilgiris | Coonoor Ootacamund |
| 16 | Fishing and fish-curing | .. E. Godavari Malabar | Uppada Quilandy Badagara Tellicherry |
| | | Madras | Madras |
| 17 | Glass bangle making | .. Vizagapatam | Paidipala Gompa Chikkala Tadikalapudi |
| | | W. Godavari | Dhone Muchigeri Doddankeri |
| | | Kurnool Bellary | Guttur Maddiledu Papanaidupet |
| | | Anantapur Chittoor | Kondakarla Tadepalligudem Maddipadu Rachavaripalem |
| 18 | Gunny manufacture | .. Vizagapatam W. Godavari Guntur | |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------------|---|---|
| | | Anantapur Cuddappah | Chilamutturu Induluru Singareddipalle Kambalakunta |
| | | Nellore | Palapalli Bhatlapalli Thurakapalem |
| | | S. Arcot | Pudur Vanavarathi Pakkirivari |
| | | Coimbatore Tinnevelly | Avayapalayam Udayarpatti Gopalsamudram Ambur Vellakkal |
| 19 | Gur making | E. Godavari | Ramachandra- puram Peddapuram |
| | | W. Godavari | Ellore Tadepalligudem Tanuku Narsapur |
| | | Cuddappah Nellore | Kesapuram Kavali Kandukur Gudur Kovur |
| | | Coimbatore | Avanashi Erode Gobichettipala- yam |
| | | Malabar | Edappal Naduvattam |
| 20 | Handmade paper industry | E. Godavari Krishna | Addampalli Masulipatam Bezwada |
| | | Kurnool Anantapur Cuddappah Madras | Guzulapalle Nyamadala Bugga Madras |
| 21 | Khaddar spinning & weaving. | Vizagapatam | Srungavarapu- kota Sripuram Tamada Viravalli Golukonda |
| | | E. Godavari | Tuni |

VI.] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--------------|-----------------|
| | | | Somavaram |
| | | | Vadiseleru |
| | | W. Godavari | Nidadavole |
| | | | Narsapur |
| | | Krishna | Konakanchi |
| | | | Tiruvur |
| | | | Masulipatam |
| | | | Ghantasala |
| | | | Puritagadda |
| | | Guntur | Nadendla |
| | | | Sattenapalli |
| | | Kurnool | Koilkuntla |
| | | | Cumbum |
| | | | Nandyal |
| | | Anantapur | Gooty |
| | | | Tadpatri |
| | | Cuddappah | Pulivendla |
| | | | Proddatur |
| | | Nellore | Kandukur |
| | | | Kanigiri |
| | | | Rapur |
| | | | Podili |
| | | S. Arcot | Pandalam |
| | | | Siruvangur |
| | | | Alathur |
| | | | Ilangianur |
| | | | Chinna Salem |
| | | Chittoor | Tirupathi |
| | | | Yerrakotapalle |
| | | Coimbatore | Tiruppur |
| | | | Kangayam |
| | | Tanjore | Palaiyur |
| | | | Adirampatnam |
| | | Madura | Kasipalayam |
| | | Ramnad | Srivilliputtur |
| | | | Pudupatti |
| | | | Sattur |
| | | | Rajapalayam |
| | | Tinnevelly | Padukapattu |
| | | | Thalai |
| | | | Viswanathaperai |
| | | S. Kanara | Nileshwar |
| | | Trichinopoly | Karumbalur |
| | | | Chinnadhara- |
| | | | puram |
| | | Malabar | Palghat |
| | | Salem | Payyanur |
| | | | Tiruchengode |

COTTAGE INDUSTRIES OF INDIA

[Sec.]

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|---|--|
| 22 | Lead vessel making | .. Vizagapatam W. Godavari E. Godavari | Anakapalli Palakole Rajahmundry Cocanada |
| 23 | Leaf platter making | .. Vizagapatam W. Godavari E. Godavari Krishna Nellore | Srungavarapukota Viraghattam Kottakota Kamavarapukota Thadakalapudi Bhadrachalam Jaggayyapeta Chilakalurpeta Nuzvid Kavali Kovur Gudur Kandukur Podalakur |
| 24 | Leather tanning | .. W. Godavari Krishna Nellore Madras Madura S. Kanara | Ellore Annadevarapeta Bezwada Nellore Madras Kothapatti Kasaragod Beltangadi |
| 25 | Match making | .. Vizagapatam N. Arcot Trichinopoly Ramnad Tinnevelly Malabar | Parvatipur Vellore Illupur Sattur Edaiyarampannai Sivakasi Surantudy Thisayanvilai Palghat |
| 26 | Mat weaving | .. Guntur Kurnool Cuddappah | Inavole Kocherla Nizam patnam Veldurthi Mandiram Utakur Venkamanu |

VII INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|-----------------------------|--------------|---|
| | | Nellore | Buchireddipalem Nellore Indur |
| | | Chingleput | Uppalapadu Velathur |
| | | S. Arcot | Yedakanad Melpadi Cuddalore Murarabad Vanur |
| | | Chittoor | Palmaner Siddhavaram Kalicherla |
| | | N. Arcot | Wandiwash Cheri Vinayagapuram |
| | | Salem | Salem Goganur |
| | | Trichinopoly | Pugalur Karur Lalapet |
| | | Tanjore | Chakrapalli Sikkil |
| | | Madura | Palni Balasamudram |
| | | Ramnad | Rajapalayam Siethur |
| | | Tinnevelly | Pethai Kayattar Kalakkad Pattamadai Ravanasamudram. |
| | | Malabar | Vadavanur Ponnani |
| | | S. Kanara | Bangadi Kanjur Haravur Udipi |
| 27. | Mica Splitting | Nellore | Gudur Saidapuram |
| 28. | Mill yarn handloom weaving. | Vizagapatam | Chipurupalli Rajam Payakaraopeta Bandarlanka Uppada |
| | | E. Godavari | |

COTTAGE INDUSTRIES OF INDIA

[Sec.]

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--------------|----------------|
| | | | Mori |
| | | W. Godavari | Muramanda |
| | | | Ellore |
| | | | Palakole |
| | | | Velpur |
| | | Krishna | Masulipatam |
| | | | Pedana |
| | | | Vissannapet |
| | | | Ghantasala |
| | | Guntur | Mangalagiri |
| | | | Ilavaram |
| | | | Pandillapalli |
| | | Kurnool | Kodumur |
| | | | Kothakota |
| | | | Pyapally |
| | | Bellary | Yemmiganur |
| | | | Rayadrug |
| | | | Adoni |
| | | Anantapur | Tadpatri |
| | | | Uravakonda |
| | | Cuddappah | Jammalamadugu |
| | | | Pullampet |
| | | | Madhavaram |
| | | Nellore | Venkatagiri |
| | | | Yellayapalem |
| | | Chingleput | Conjeevaram |
| | | | Saidapet |
| | | Madras | Madras |
| | | S. Arcot | Bhuvanagiri |
| | | | Cuddalore |
| | | Chittoor | Narayanavaram |
| | | | Palmaner |
| | | | Kalahasti |
| | | N. Arcot | Arni |
| | | | Gudiyatham |
| | | | Sathuvachari |
| | | | Vaniyambadi |
| | | | Kesavarajupeta |
| | | Salem | Salem |
| | | | Rasipuram |
| | | | Ammappet |
| | | | Athanur |
| | | | Athyampatti |
| | | Coimbatore | Coimbatore |
| | | | Ondiputhur |
| | | | Bhavani |
| | | Trichinopoly | Thuraiyur |
| | | | Jayamgonda- |
| | | | cholapuram |

VI INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|--------------------------|--|---|
| | | | Manamedu Woraiyur Sikkil Thuhili Mannargudi Kornad Madura Dindigul Ramnad Aruppukkottai Srivilliputtur Paramakudi Tinnevelly Kallidaikurichi Tenkasi Viravanallur Sankarankoil Malabar Badagara Cannanore Thaliparamba S. Kanara Udipi Mangalore |
| 29 | Oil and paint making | W. Godavari Guntur Madras | Bhimavaram Tenali Madras |
| 30 | Palmyra fibre extraction | Vizagapatam E. Godavari W. Godavari Nellore S. Arcot Tanjore Tinnevelly Malabar | Sarvasiddhi Bimlipatam Vadisaleru Pallipalem Nidadavole Chintalapudi Kavali Gudur Arnumandai Konthad Vedaranyam Udangudi Pallipattu Arasur Palghat |
| 31 | Pith hat making | E. Godavari Madras Tanjore S. Kanara | Rajahmundry Madras Tanjore Mangalore |
| 32 | Seamquilt manufacture | Chittoor | Kuppam |
| 33 | Silk weaving | E. Godavari Vizagapatam Krishna | Peddapuram Chodavaram Jaggayapeta |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------------|-----------------------------|--|
| | | Anantapur Cuddappah | Dharmavaram Uppalur |
| | | Chingleput | Idupulapaya Conjeevaram |
| | | N. Arcot | Reddipetai Arni |
| | | Salem | Walajapet Ammapet |
| | | Coimbatore | Namakkal Attiampatti |
| | | Tanjore | Kollegal Dharapuram |
| | | | Kornad Kumbakonam |
| 34 | Slate making | Kurnool | Markapur |
| 35 | Steel trunk and safe making. | E. Godavari W. Godavari | Dowlaiswaram Ellore Penukonda Narsapur |
| | | Madras Madura Tanjore | Madras Dindigul Negapatam |
| 36 | Woollen <i>cumbli</i> weaving | W. Godavari | Dharmajigudem Kalapparru Sivapuram |
| | | Krishna | Elakurru Kanumolu Perikigudem Chanubanda |
| | | Guntur | Dronadula Idimudi Koniki |
| | | Kurnool Bellary | Nandikotkur Adoni Kudatani Bellary |
| | | Anantapur | Kalyandrug Gooty |
| | | S. Arcot | Melandal Mamadur Kural Nagar |
| | | Chittoor N. Arcot | Madanapalle Madapalli Sathanur Bandarapalli |

VII] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|--------------|---|
| | | Salem | Vellayur Deveripalli Pallipatti Bundapatti |
| | | Coimbatore | Bastipuram Kannampala- yam |
| | | Trichinopoly | Perambalur Kallakampatta |
| | | Madura | Palni Nilakottai |
| | | Ramnad | Kurumbapatti Sindalacherry |

7. N.W.F. PROVINCE

A. Art Crafts :

| | | | |
|---|----------------------------|------------------------------|---------------------------------------|
| 1 | Afridi wax cloth | Peshawar | Peshawar |
| 2 | Enamelled jewellery | Hazara | Hazara |
| 3 | Glazed pottery | Peshawar | Peshawar |
| 4 | Lacquer work | Dera Ismail Khan Peshawar | Paharpur Peshawar |
| 5 | Nakhai work | Bannu | Sutjai |
| 6 | Ornamental leather work | Peshawar Kohat | Peshawar Kohat |
| 7 | Silk and cotton embroidery | Hazara Bannu | Haripur Bannu |
| 8 | Silver smithy | Hazara | Hazara |
| 9 | Toy making | Dera Ismail Khan Bannu | Dera Ismail Khan Paharpur Bannu |

B. Other Crafts :

| | | | |
|---|------------------|---------------------|----------------------|
| 1 | Art silk weaving | Peshawar | Mata, Mughal Khel |
| 2 | Brick making | Peshawar | Peshawar |
| 3 | Bee-keeping | Hazara Amb State | Thai Darband |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------------------|---|--|
| | | Dir State Swat State | Chackdara Saidushareef Mangora |
| 4 | Copper smithy | Peshawar | Peshawar |
| 5 | Charcoal making | Mardan Dera Ismail Khan Peshawar | Mardan Dera Ismail Khan Peshawar Jarnab |
| 6 | Cutlery making | Peshawar | Tangi |
| 7 | Carpentry | Peshawar Mardan | Peshawar Gurjar Garhi |
| 8 | Coarse Cotton cloth wea- ving | Dera Ismail Khan Bannu Kohat Hazara Bannu Peshawar | Dera' Ismail Khan Bannu Kohat Jungle Khel Hazara Ismail Khel Peshawar Mata Mughal Khel |
| 9 | Dairy farming | Mardan Nardan Peshawar | Garhi Kapura Gurjar Garhi Peshawar Tarnab |
| 10 | Flour grinding | Dir State Hazara | Khal Hazara |
| 11 | Ghee making | Peshawar Amb State Dir State Swat State | Peshawar Tarnab Dargand Chackdara Saidushareef |
| 12 | Gur making | Peshawar | Panikar |
| 13 | Gur pan making | Mardan Peshawar | Takhat-i-Bhai Tangi |
| 14 | Hand spinning | Mardan Numerous centres in | Garhi Kapura all districts |
| 15 | Leather tanning | Peshawar Mardan Hazara Kohat | Peshawar Mata Mughal Khel Takhat-i-Bhai Haripur Kohat |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|--|---|---|
| | | Bannu | Bazaar Ahmed Khan |
| 16 | Leather goods making | Amb State Peshawar Mardan Hazara Kohat Bannu | Darband Peshawar Takhat-i-Bhai Haripur Kohat Bazaar Ahmed-Khan |
| 17 | Lock smithy | Dera Ismail Khan Peshawar | Dera Ismail Khan Tangi |
| 18 | Lime burning | Bannu | Bazaar Ahmed Khan |
| 19 | Making of sausages containers from animal intestines | Peshawar | Peshawar |
| 20 | Medicines and drugs | Peshawar Hazara Amb State Dir State | Tarnab Abottabad Balakot Amb Dharband Chakh dara Darbar |
| 21 | Mazri making | Kohat | Hangu Kohat Billitang |
| 22 | Mirror frame making | Dera Ismail Khan | Dera Ismail Khan |
| 23 | Oil pressing | Peshawar Hazara Dera Ismail Khan | Peshawar Balakot Haripur Dera Ismail Khan |
| 24 | Poultry keeping | Hazara Peshawar | Havellian Tarnab |
| 25 | Pottery and unglazed crockery | Bannu Peshawar Kohat | Bannu Aza Khel Sarband Hazarkhani Pirpai Pirkhel Togh |

| S. No. | Name of the Industry | Districts | Centres |
|--------|---|--|---|
| 26 | Paddy husking | Hazara Dir State | Hazara Khal |
| 27 | Palm leaf, basket and mat weaving | Peshawar Hazara Kohat Dera Ismail Khan | Peshawar Haripur Kohat Dera Ismail Khan |
| 28 | Repairing | Numerous centres in all districts | |
| 29 | Rope twisting | Peshawar Kohat Dera Ismail Khan | Peshawar Kohat Dera Ismail Khan |
| 30 | Rifle making | Kohat | Kohat |
| 31 | Sheep rearing | Peshawar Hazara Kohat | Tarnab Mansehra Sandesar Pirkhel |
| 32 | Soap making | Hazara Bannu | Haripur Bannu |
| 33 | Tonga building | Peshawar | Peshawar |
| 34 | Vegetable and mineral dye manufacture | Kohat | Kohat Peshawar |
| 35 | Woollen blanket weaving | Peshawar Hazara Kohat Dera Ismail Khan Swat State | Mansehra Pirkhel Jungle-khel Dera Ismail Khan Islampur |
| 36 | Woollen felted mats and sadalcloth making | Peshawar Hazara Kohat Dera Ismail Khan | Peshawar Sandesar Haripur Pirkhel Dera Ismail Khan |
| 37 | Woollen camel bag making | Kohat | Kohat |
| 38 | Wool pulling | Peshawar | Peshawar |
| 39 | Yakhdan making | Peshawar | Peshawar |
| 40 | Yarn and cloth dyeing | Kohat | Kohat Jungle-khel |

V.L] INDUSTRIAL CENTRES IN PROVINCES

S. No. Name of the Industry Districts Centres

8. ORISSA

A. Art Crafts :

| | | | |
|---|-------------------------------|---------------------------------------|-------------------------------------|
| 1 | Gold & Silver-smithy | Cuttack Puri | Cuttack Puri |
| 2 | Horn | Feudatory States Ganjam Cuttack | Dhenkanal Parlakimidi Cuttack |
| 3 | Ivory work | Feudatory States Cuttack | Dhenkanal Cuttack |
| 4 | Lac and brass ornament making | Cuttack Puri | Cuttack Puri |
| 5 | Silver filigree work | Cuttack | Cuttack |
| 6 | Painted playing card making | Cuttack | Cuttack |
| 7 | Stone carving | Puri | Puri |
| 8 | Toy making | Cuttack | Cuttack |

B. Other Crafts :

| | | | |
|---|-----------------|---|--|
| 1 | Brass work | Feudatory States Angul Cuttack Puri Sambalpur | Narasinghpur Khandpara Angul Cuttack Puri Sambalpur |
| 2 | Bell metal work | Angul Balasore Cuttack Puri Sambalpur | Angul Balasore Cuttack Puri Tukra Ramenda Barpali Bijepur |
| 3 | Basket weaving | Angul Cuttack Puri | Angul Cuttack Puri |
| 4 | Bee keeping | Cuttack | Cuttack |
| 5 | Cotton weaving | Feudatory States Angul Balasore | Baramba Tigiria State Angul Balasore |

COTTAGE INDUSTRIES OF INDIA

[Sec.

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------|--|--|
| | | Cuttack Puri Sambalpur | Cuttack Puri Ramenda Barpali Chanderpur Sambalpur |
| 6 | Confectionery | Cuttack | Cuttack |
| 7 | Fish curing | Balasore Puri | Balasore Puri |
| 8 | Gunny cloth weaving | Cuttack | Cuttack |
| 9 | Hat making | Cuttack | Cuttack |
| 10 | Iron implement making | Feudatory States Angul Sambalpur | Band Dhenkanal Daspalla Khandpara Mayurbhan Talcher Angul Sambalpur |
| 11 | Mat making | Angul Balasore | Angul Balasore |
| 12 | Leather goods manufacture | Sambalpur | Sambalpur |
| 13 | Metal bead making | Sambalpur | Sambalpur |
| 14 | Oil pressing | Cuttack Cuttack Puri | Agarpara Balipada Delang |
| 15 | Pottery | Cuttack | Cuttack |
| 16 | Paper making | Cuttack Puri | Agarpara Balipada Delang |
| 17 | Silk weaving | Feudatory States Puri Sambalpur | Baramba Tigiria State Puri Sambalpur |
| 18 | Stone work | Feudatory States | Khandpara Dhenkanal Talcher |
| 19 | Salt manufacture | Balasore | Balasore |
| 20 | Sugar making | Puri | Puri |

VI] INDUSTRIAL CENTRES IN PROVINCE

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------|------------------|---|
| 21 | Tailoring | Cuttack | Cuttack |
| 22 | Wood work | Feudatory States | Khandpara Dhenkanal Mayurbhan Nayagarh |

9. THE PUNJAB

A. Art Crafts :

| | | | |
|---|---|---|---|
| 1 | Artistic brass & copper ware | Karnal Montgomery Amritsar Hoshiarpur Hissar | Karnal Montgomery Amritsar Hoshiarpur Bhiwani |
| 2 | Damascene work (<i>Kotfgari</i>) | Amritsar Hoshiarpur Lahore Sialkot Multan | Amritsar Hoshiarpur Lahore Sialkot Multan |
| 3 | Embroidery (<i>Phulkari</i> work) | Amritsar Attock Hissar Karnal Ludhiana Montgomery | Amritsar Attock Hissar Karnal Panipat Ludhiana Montgomery |
| 4 | Gold, silver & enamelled jewellery making | Amritsar Lahore Jullundur Kangra Karnal Multan Hoshiarpur | Amritsar Lahore Jullundur Shahabad Kangra Shahabad Multan Hoshiarpur |
| 5 | Gold & silver wire & lace making | Amritsar Jullundur | Amritsar Jullundur |
| 6 | Ivory carving | Amritsar Ludhiana Lahore Ambala Jullundur Hoshiarpur Kangra | Amritsar Ludhiana Jagraon Lahore Ambala Jullundur Hoshiarpur Kangra |

| S. No. | Name of the Industry | Districts | Centres |
|--------|--|--|--|
| 7 | Ivory inlaying on wood | Hoshiarpur Amritsar Lahore | Hoshiarpur Amritsar Lahore |
| 8 | Hand printing & painting on cotton cloth | Ambala Bahawalpur State Montgomery Multan Lahore Ludhiana | Ambala Khairpur Kamalia Multan Lahore Ludhiana |
| 9 | <i>Kimkhab</i> weaving | Lahore Amritsar Kangra | Lahore Amritsar Kangra |
| 10 | Lacquer work | Attock Ambala Dera Ghazi Khan Hoshiarpur Karnal Montgomery | Pindi Ghab Kharar Jampur Hoshiarpur Karnal Pak Pattan |
| 11 | <i>Papier mache</i> work | Hoshiarpur Jullundur | Hoshiarpur Jullundur |
| 12 | Pile carpet weaving | Amritsar Montgomery Dera Ghazi Khan Multan | Amritsar Chak Baba Khem Singh Plains Multan |
| 13 | Polished pottery | Multan Sialkot Lahore | Multan Sialkot Lahore |
| 14 | Straw basket making | Lahore Jhelum Amritsar | Lahore Jhelum Amritsar |
| 15 | Toy making | Ambala Bahawalpur State Montgomery Amritsar Ludhiana Lahore | Ambala Bahawalpur Pak Pattan Amritsar Ludhiana Lahore |
| 16 | Wood carving | Amritsar Chamba State | Amritsar Chamba |

VI] INDUSTRIAL CENTRES IN PROVINCES.

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|------------------------------|--|--|
| | | Hissar Lahore | Bhiwani Lahore |
| <i>B. Other Crafts :</i> | | | |
| 1 | Basket making | Kangra Muzaffargarh | Kangra Kulu Muzaffargarh |
| 2 | Boat building | Attock Jhelum | Makhad Jhelum Pind Dadan Khan |
| 3 | Book binding | Lahore Amritsar Jullundur | Lahore Amritsar Jullundur |
| 4 | Billiard ball making | Ludhiana | Ludhiana Jagraon |
| 5 | Brass & bell metal work | Ambala Chamba State Amritsar Dera Ghazi Khan Hoshiarpur Hissar Jhelum Jullundur | Jagadhri Chamba Amritsar Dera Ghazi Khan Bahadurpur Bhiwani Pind Dadan Khan Jullundur Kartarpur |
| 6 | Brick making | All districts | Many towns |
| 7 | Carpentry | Amritsar Ambala Hoshiarpur Hissar Jullundur Lahore | Amritsar Ambala Hoshiarpur Bhiwani Kartarpur Jullundur Lahore |
| 8 | Clay modelling | Ambala | Rupar |
| 9 | Coloured glass making | Hoshiarpur | Dasuya |
| 10 | Coloured tile manufacture | Jullundur | Jullundur |
| 11 | Corn grinding by water mills | Jhelum | Jhelum and other towns |
| 12 | Cotton cloth weaving | Amritsar Attock | Amritsar Kamra |

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------------|------------------|---------------------|
| | | Dera Ghazi Khan | Shamsabad |
| | | Hoshiarpur | Dera Ghazi Khan |
| | | Jullundur | Hoshiarpur |
| | | | Jullundur |
| | | | Rahon |
| | | Montgomery | Pak Pattan |
| | | | Montgomery |
| | | | Kamalia |
| | | Multan | } Numerous villages |
| | | Muzaffargarh | |
| | | Ludhiana | |
| | | Lahore | |
| | | Kangra | |
| 13 | Glass blowing and bangle making | Karnal | Panipet |
| | | Hoshiarpur | Hoshiarpur |
| 14 | Hand spinning | Lahore | } Numerous towns |
| | | Jullundur | |
| 15 | Hosiery | Ludhiana | Ludhiana |
| 16 | Iron vessel manufacture | Ambala | Rupar |
| | | Attock | Attock |
| | | Jullundur | Jullundur |
| 17 | Leather tanning | Jullundur | Jullundur |
| | | Attock | Attock |
| | | Hoshiarpur | Hoshiarpur |
| | | Karnal | Karnal |
| | | Lahore | Lahore |
| | | | Kasur |
| 18 | Leather goods manufacture | Attock | Attock |
| | | Amritsar | Amritsar |
| | | Bahawalpur State | Ahmedpur East |
| | | | Khairpur |
| | | Hoshiarpur | Hoshiarpur |
| | | Lahore | Lahore |
| | | | Kasur |
| 19 | Lock making | Attock | Attock |
| 20 | Machinery making | Ludhiana | Ludhiana |
| | | Lahore | Lahore |
| 21 | Musical instrument making | Karnal | Shahabad |
| 22 | Paper making | Multan | Multan |
| 23 | Picture frame making | Amritsar | Amritsar |
| | | Lahore | Lahore |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|------------------------------|--|---|
| 24 | Porcelain work | Bahawalpur State | Ahmedpur East Khairpur |
| 25 | Reed & palm leaf mat making | Attock Muzaffargarh | Numerous village Muzaffargarh |
| 26 | Shawl weaving | Amritsar Kangura Ludhiana | Amritsar Nurpur Ludhiana |
| 27 | Silk weaving | Amritsar Attock Bahawalpur State Dera Ghazi Khan Jhelum Jullundur Multan | Amritsar Attock Bahawalpur Dera Ghazi Khan Pind Dadan Khan Jullundur Multan |
| 28 | Skin coat making | Hoshiarpur | Hoshiarpur |
| 29 | Soap making | Attock Lahore | Attock Lahore |
| 30 | Snuff making | Attock Muzaffargarh | Hazro Alipur |
| 31 | Sugar making | Ludhiana Muzaffargarh } | Some towns |
| 32 | Textile dyeing | Amritsar Ambala Chamba State Lahore Montgomery Multan | Amritsar Ambala Chamba Lahore Kamalia Multan |
| 33 | Vegetable oil manufacture | Ludhiana } Lahore } | Many towns and villages |
| 34 | Woollen blanket weaving | Amritsar Dera Ghazi Khan Kangra | Amritsar Plains & Border Hills Kulu Lahul Spiti |
| 35 | White metal ware manufacture | Multan Montgomery Bahawalpur State | Multan Montgomery Bahawalpur Khanpur |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|----------------------------|---|---|
| 10. SIND | | | |
| A. Art Crafts : | | | |
| 1 | Cloth dyeing & printing | Khairpur State Larkana Upper Sind Frontier Dt. | Khairpur Larkana .. |
| 2 | Embroidery and needle work | Thar and Parker Upper Sind Frontier | Nara Valley Mirpur Ghauspur |
| 3 | Enamel work | Hyderabad | Hyderabad |
| 4 | Fine cloth weaving | Hyderabad Karachi | Hyderabad Karachi |
| 5 | Glazed pottery | Hyderabad | Hala |
| 6 | Hooka making | Sukkur Khairpur | Ghotki Dharki |
| 7 | Lacquered work | Hyderabad | Hyderabad |
| 8 | Silver-smithy | Khairpur | Khairpur |
| 9 | Toy making | Karachi | Karachi |
| 10 | Woollen carpet weaving | Karachi Khairpur Larkana Thar and Parker | Karachi Khairpur Larkana Nara valley & Desert regions |
| B. Other Crafts : | | | |
| 1 | Camel saddle making | Hyderabad Upper Sind Frontier | Hyderabad .. |
| 2 | Cotton weaving | Hyderabad Karachi Khairpur Larkana Sukkur Thar and Parker Upper Sind Frontier | Hyderabad Karachi Gambat Bubak Schwan Shikarpur Nara Valley .. |
| 3 | Cutlery | Sukkur | Sukkur |
| 4 | Dwarf palm leaf weaving | Upper Sind Frontier | .. |
| 5 | Ghus making | Thar and Parker | Nara Valley |
| 6 | Lacquered wood work | Khairpur State Upper Sind Frontier | Khairpur Kashmir |

VII INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------|---|---|
| 7 | Leather goods manufacture | Khairpur State Larkana Sukkur Upper Sind Frontier | Khairpur Larkana Ghotki Khairpur-Dharko Mirpur & Ghaurpur |
| 8 | Metal work | Hyderabad Karachi Larkana Sukkur | Hyderabad Karachi Larkana Shikarpur |
| 9 | Mat making | Larkana Upper Sind Frontier | Larkana .. |
| 10 | Rough pottery | Karachi Khairpur State Sukkur | Karachi Khairpur Shikarpur |
| 11 | Silk weaving | Karachi Khairpur State Sukkur | Karachi Khairpur Rohri |
| 12 | Salt manufacture | Larkana Thar and Parker Upper Sind Frontier | Larkana Dilyars Saran A few centres |
| 13 | Tile manufacture | Hyderabad | Hala |
| 14 | Weapon making | Khairpur State Hyderabad | Khairpur Hyderabad |
| 15 | Woollen blanket weaving | Hyderabad Karachi Larkana Thar and Parker Upper Sind Frontier | Hyderabad Karachi Larkana Nara Valley & Desert regies .. |

11. UNITED PROVINCES

A. Art Crafts :

| | | | |
|---|--------------------|---|--|
| 1 | Artistic Brassware | Moradabad Benares | Moradabad Benares |
| 2 | Calico printing | Farrukhabad Bulandshahr Lucknow Meerut | Farrukhabad Jhangirabad Lucknow Philkua |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|--|---|---|
| | | Muttra Fyzabad | Muttra Tanda |
| 3 | Clay modelling | Lucknow Moradabad | Lucknow Amroha |
| 4 | Ebony carving | Bijnor | Nagina |
| | Embroidery and gota weaving | Benares Agra | Benares Agra |
| 6 | Glazed pottery | Bulandshar Benares | Khuja Chunar |
| 7 | Marble and stone work | Agra Muttra | Agra Muttra |
| 8 | Wood carving | Saharanpur | Saharanpur |
| B. Other Crafts : | | | |
| 1 | Cotton weaving | Azamgarh Fyzabad Hardoi Etawah Gorakhpur Moradabad Meerut | Mau Tanda Sandila Bara-Banki Etawah Gorakhpur Amroha Meerut Philkhuwa |
| 2 | Silk weaving | Benares Azamgarh | Benares Mau |
| 3 | Blanket weaving | Muzaffarnagar Meerut Mirzapur Azamgarh Almora | Muzaffarnagar Meerut Mirzapur Bhadohi Almora |
| 4 | Hosiery weaving | Lucknow Saharanpur Meerut Agra Farrukhabad | Lucknow Saharanpur Meerut Agra Farrukhabad |
| 5 | Tat-patti weaving | Jaunpur Sultanpur | Jaunpur Sultanpur |
| 6 | Carpet weaving <i>Qalin</i> and <i>durres</i> | Mirzapur Agra Shahjahanpur Meerut | Mirzapur Agra Shahjahanpur Meerut |

VI] INDUSTRIAL CENTRES IN PROVINCES.

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------------|---|---|
| 7 | Brass and copper utensils | Moradabad Farrukhabad Mirzapur Aligarh | Moradabad Farrukhabad Mirzapur Hathras |
| 8 | Iron utensils | Agra Cawnpore Aligarh | Agra Cawnpore Hathras |
| 9 | Cutlery | Moradabad Aligarh Farrukhabad | Moradabad Hathras Qiamganj |
| 10 | Steel trunks and safes | Allahabad Cawnpore Agra Aligarh | Allahabad Cawnpore Agra Aligarh |
| 11 | Lock making | Aligarh | Aligarh |
| 12 | Scissors and razors | Meerut Aligarh Bijnor Bulandshahr | Meerut Aligarh Nagina Bulandshahr |
| 13 | Leather tanning | All districts | Numerous villages |
| 14 | Leather working and shoe making | Agra Lucknow Cawnpore Meerut | Agra Lucknow Cawnpore Meerut |
| 15 | Glass bangles | Agra | Firozabad |
| 16 | Glass beads | Benares Lucknow Azamgarh Bijnor | Benares Lucknow Azamgarh Bijnor villages |
| 17 | Glasswares | Bulandshahr | Bulandshahr |
| 18 | Glass blocks | Agra | Firozabad |
| 19 | Pottery black | Azamgarh | Nijamabad |
| 20 | Oil pressing | All districts | Numerous villages |
| 21 | Oil pressing (<i>ghanni</i>) | Gorakhpur Shahjahanpur Meerut Muttra | Gorakhpur Shaha Meerut Muttra |
| 22 | Soap making | Meerut Cawnpore | Meerut Cawnpore |

COTTAGE INDUSTRIES OF INDIA

[Sec.

| S. No. | Name of the Industry | Districts | Centres |
|--------|--|--|--|
| | | Bareilly Agra Bulandshahr Jaunpur Moradabad | Bareilly Agra Bulandshahr Jaunpur villages Moradabad |
| 23 | Essential Oils | | |
| | (a) <i>Itrs</i> | Ballia Jaunpur Ghazipur | Ballia Jaunpur Ghazipur |
| | (b) Scented oils | Hardoi Bahraich Aligarh Benares Allahabad Lucknow | Kanauj Bahraich Two centres Benares Allahabad Lucknow |
| 24 | Furniture | Bareilly Dehra Dun | Bareilly Dehra Dun |
| 25 | Horn combs | Moradabad Cawnpore Etawah | Sambhol Cawnpore Etawah |
| 26 | Brush making | Agra Meerut | Agra Meerut |
| 27 | Hats | Sharanpur Allahabad Lucknow | Roorkee Allahabad Lucknow |
| 28 | (a) Tape making } (b) Niwar " } (c) Net " } | Meerut Cawnpore | Meerut Cawnpore |
| 29 | Basket and cane furniture | Bareilly Allahabad Jhansi | Bareilly Allahabad Jhansi |
| 30 | Printing industry | Allahabad Cawnpore | Allahabad Cawnpore |
| 31 | <i>Khandsari</i> sugar | Bareilly Pilibhit | Bareilly Pilibhit |
| 32 | <i>Gur</i> making | Meerut Saharanpur | Meerut Saharanpur |
| 33 | <i>Bis</i> making | Jaunpur Allahabad Moradabad Jhansi Meerut | Jaunpur Allahabad Moradabad Jhansi Meerut |

VI] INDUSTRIAL CENTRES IN PROVINCES

| S. No. | Name of the Industry | Districts | Centres |
|--------|--|--------------------|-------------------------------------|
| 34 | Paper making | Muttra Jalaun | Muttra Kalpi |
| 35 | Motor body building Tonga making Cart making | Meerut | Meerut |
| 36 | Fountain pen making | Meerut Cawnpore | Meerut Cawnpore |
| 37 | Ayurvedic medicine Unani medicine Hill Jams | Meerut | Meerut |
| 38 | Stick making | Dehra Dun | Rishiksha Mussooree Dehra Dun |
| | Lime burning | Dehra Dun | Dehra Dun |
| 40 | Tobacco chewing making | Lucknow | Lucknow |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|-------------------------|---|---|
| B. STATES | | | |
| 1. BARODA | | | |
| <i>A. Art Crafts :</i> | | | |
| 1 | Calico printing | Baroda Mehsana | Baroda Padra Vadnagar |
| 2 | Embroidery | Baroda | Baroda |
| 3 | Gold & Silver smithy | Baroda Mehsana Navasari Amreli | Baroda Padra Mehsana Patan Navasari Amreli |
| 4 | Ivory carving | Baroda | Baroda |
| 5 | Lacquer work | Baroda | Sankheda |
| 6 | Toy making | Baroda Mehsana | Paroda Sankheda Vijapur |
| 7 | Wood carving | Mehsana | Vijapur Visnagar |
| <i>B. Other Crafts :</i> | | | |
| 1 | Brass & Bell metal work | Baroda Mehsana | Baroda Visnagar |
| 2 | Hand-loom weaving | Baroda Navasari Amreli Mehsana | Baroda Gundevis Amreli Unza Patan Visnagar |
| 3 | <i>Khadkar</i> industry | Navasari | Mahuwa Vyara |
| 4 | Leather tanning | Baroda | Baroda |
| 5 | Silk weaving | Mehsana | Patan |
| 6 | Textile dyeing | Baroda Mehsana | Baroda Padra Vadnagar |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|--|--|-----------------------------------|
| 2. COCHIN | | | |
| <i>A. Art Crafts :</i> | | | |
| 1 | Cane work | Trichur Cochin-Kanayan- nur | Trichur Ernakulam Ernakulam |
| 2 | Clay modelling | Do. | Ernakulam |
| 3 | Crochet lace work | Do. | Ernakulam |
| 4 | Embroidery | Trichur Cochin-Kanayan- nur | Trichur Ernakulam |
| 5 | Gold & Silver smithy | Trichur Cochin-Kanayan- nur | Trichur Ernakulam |
| 6 | Ivory carving | Trichur Cochin-Kanayan- nur | Trichur Ernakulam |
| 7 | Musical instrument ma- king | Trichur | Trichur |
| 8 | Screw pine fancy goods manufacture | Cochin-Kanayan- nur Trichur Chittur | Cochin Trichur Chittur |
| 9 | Toy making | Trichur Cochin | Trichur Cochin |
| <i>B. Other Crafts :</i> | | | |
| 1 | <i>Ayurvedic</i> medicine manu- facture | Trichur Cochin-Kanayan- nur | Trichur Ollur Cochin |
| 2 | Bamboo work | Mukundapuram | Chalakudi Irinjalakuda |
| 3 | Bee-keeping | Cochin-Kanayan- nur Chittur Trichur | Cochin Chittur Trichur |
| 4 | Bell-metal work | Trichur Chittur Cranganur | Trichur Chittur Cranganur |

| S. No. | Name of the Industry | Districts | Centres |
|--------|---------------------------------|---|--|
| | | Mukundapuram Cochin-Kanayan- nur | Irinjalakuda Chennamangalam |
| 5 | Cabinet and furniture making | Cochin-Kanayan- nur Trichur | Ernakulam Cochin Trichur Chevoor |
| 6 | Confectionery | Cochin-Kanayan- nur | Ernakulam Cochin |
| 7 | Coir industry | Cochin-Kanayan- nur Cranganur | Cochin Mattancheri Pallipuram Cranganur |
| 8 | Fire works manufacture | Trichur | Trichur |
| 9 | Grass mat making | Chittur Talapilly Trichur | Chittur Talapilly Trichur |
| 10 | Hand-loom weaving | Talapilly Chittur Cranganur Cochin-Kanayan- nur | Kuthampilly Desamangalam Chittur Nemmara Cranganur Kumbalam Chennamangalam |
| 11 | Leather goods manufac- ture | Cochin-Kanayan- nur Trichur | Ernakulam Trichur |
| 12 | Match making | Trichur | Trichur |
| 13 | Sericulture | Ollur | Trichur |
| 14 | Soap & Candle manufac- ture | Cochin-Kanayan- nur Mukundapuram Cranganur | Ernakulam Cochin Irinjalakuda Cranganur |
| 15 | Umbrella manufacture | Trichur | Trichur |

3. HYDERABAD

A. Art Crafts :

| | | | |
|---|-----------------|-------------|------------|
| 1 | Bidri work | Bidar | Bidar |
| 2 | Brocade weaving | Mahbubnagar | Narayanpet |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|-----------------------------|--|---|
| 3 | Cloth printing | Nizamabad Medak Nander Adilabad | Nizamabad Medak Deglur Bhaisa Sirpur |
| 4 | Embroidery and needle work | Aurangabad Bidar Nander | Aurangabad Bidar Nander |
| 5 | Filigree work | Karimnagar | Karimnagar |
| 6 | Muslin weaving | Aurangabad Nander | Aurangabad Nander |
| 7 | Native playing card making | Nizamabad | Bimgal Nirmal |
| 8 | Silver-smithy | Aurangabad | Aurangabad |
| 9 | Silver and gold lace making | Aurangabad Nander | Aurangabad Nander |
| 10 | Tov making | Nizamabad Raichur | Bimgal Nirmal Kanakgiri |
| <i>B. Other Crafts :</i> | | | |
| 1 | Brass work | Atraf-i-Balda Nizamabad Medak Nander | Asafnagar Bimgal Nirmal Lingampet Ramayampet Mukkher |
| 2 | Button manufacture | Atraf-i-Balda | Hyderabad |
| 3 | Black-smithy | Adilabad Atraf-i-Balda | Adilabad Sirpur Hyderabad |
| 4 | Cotton weaving | Atraf-i-Balda Aurangabad Bhir Bidar Nizamabad Raichur Mahbubnagar Medak Nalgonda Nander | Chandur Jalna Bhir Bidar Nizamabad Raichur Lingsugur Narayanpet Medak Nalgonda Nander |

| S. No. | Name of the Industry | Districts | Centres |
|--------|----------------------------------|---------------|--------------|
| | | Osmanabad | Osmanabad |
| | | Parbhani | Parbhani |
| | | Adilabad | Sirpur |
| | | Warangal | Hanumagonda |
| | | Gulbarga | Shaikpur |
| | | Mahbubnagar | Makhtul |
| | | Nalgonda | Devarkonda |
| | | Medak | Patancheru |
| | | Parbhani | Manwath |
| | | Osmanabad | Sholapur |
| 5 | Copper-smithy | Atraf-i-Balda | Asafnagar |
| | | Nander | Mukkher |
| 6 | Cutlery | Nizamabad | Bimgal |
| | | | Nirmal |
| | | Karimnagar | Karimnagar |
| | | Raichur | Gadwal |
| 7 | Cotton Carpet (Satranji) Weaving | Warangal | Warangal |
| | | | Parkal |
| 8 | Carpentry | Gulbarga | Gulbarga |
| | | Nizamabad | Nizamabad |
| | | | Bimgal |
| | | | Nirmal |
| 9 | Dairying | Atraf-i-Balda | Hyderabad |
| | | | Secunderabad |
| 10 | Gur manufacture | Bidar | Bidar |
| 11 | Glass bangle making | Nizamabad | Bimgal |
| | | | Nirmal |
| 12 | Ghee making | Nander | Nander |
| 13 | Joss stick making | Nizamabad | Nizamabad |
| 14 | Leather tanning | Atraf-i-Balda | Bo'arum |
| | | Nizamabad | Nizamabad |
| | | Karimnagar | Karimnagar |
| | | Medak | Sivanagar |
| | | | Jogipet |
| | | | Patancheru |
| | | Nalgonda | Nalgonda |
| | | Osmanabad | Osmanabad |
| | | Warangal | Warangal |
| | | Mahbubnagar | Mahbubnagar |
| 15 | Leather goods manufacture | Medak | Medak |
| | | Nizamabad | Nizamabad |
| | | | Bimgal |
| | | | Nirmal |

| S. No. | Name of the Industry | Districts | Centres |
|--------|--------------------------------------|---|--|
| 16 | Leather water bottle & bucket making | Atraf-i-Balda Bhir Nizamabad Mahbubnagar Medak Osmanabad Adilabad | Hyderabad Bhir Nizamabad Mahbubnagar Medak Osmanabad Sirpur |
| 17 | <i>Paithani</i> weaving | Aurangabad | Aurangabad Paithan |
| 18 | Paper making | Aurangabad Karimnagar Mahbubnagar Nander Warangal Atraf-i-Balda Raichur | Ellora Daulatabad Kagazipura Koratla Mahbubnagar Koikonda Mirjahipet Warangal Hyderabad Gangavati |
| 19 | Pottery | Nalgonda | Bhongir |
| 20 | Salt petre manufacture | Aurangabad | Numerous villag |
| 21 | Sword stick making | Bhir Raichur | Bhir Gadwal |
| 22 | Silk weaving | Bhir Nizamabad Medak Nalgonda Warangal | Bhir Nizamabad Armour Medak Charlapall Palgal Hunumakonda |
| 23 | Stone tumbler & cup making | Nizamabad | Bingal Nirmal |
| 24 | Scented hair oil making | Nizamabad | Nizamabad |
| 25 | Tailoring | Medak | Medak |
| 26 | Tasar weaving | Karimnagar Warangal Gulbarga | Mahadevpur Warangal Parkal Jokalva Hasanparti Kosgi |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|----------------------------------|--|--|
| 27 | Woollen <i>cumbli</i> weaving | Bhir Bidar Raichur Mahbubnagar Osmanabad Warangal | Bhir Bidar Raichur Mahbubnagar Osmanabad Warangal |
| 28 | Woollen carpet weaving | Warangal | Warangal Hanumakonda |
| | | 4. INDORE | |
| <i>A. Art Crafts :</i> | | | |
| 1 | Stone carving | Mehidpur | Mehidpur |
| 2 | Wood carving | Mehidpur | Mehidpur |
| <i>B. Other Crafts :</i> | | | |
| 1 | Black-smithy | Indore Mehidpur | Numerous villages- Do. |
| 2 | Brass work | Indore Mehidpur | Some towns Do. |
| 3 | Basket weaving | Mehidpur | A few villages |
| 4 | Coarse cloth weaving | Indore Mehidpur | Numerous villages- Do. |
| 5 | Carpentry | Indore Mehidpur | A few towns Do. |
| 6 | Leather goods manufacture | Indore | Indore |
| 7 | Repair of agriculture implements | Indore Mehidpur | Numerous villages- Do. |
| 8 | Stone cutting | Mehidpur | Mehidpur |
| 5. JAMMU & KASHMIR | | | |
| <i>A. Art Crafts :</i> | | | |
| 1 | Calico printing | Srinagar | Srinagar City |
| 2 | Embroidery and needle work | Srinagar Punch | Srinagar City Islamabad |
| 3 | Furrier work and skin curing | Srinagar | Srinagar City |
| 4 | Lacquered work | Srinagar Punch | Srinagar City Kulgam |
| 5 | Lapidary work | Srinagar | Srinagar City |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|-----------------------------------|-----------------------------|---|
| 6 | Metal enamelling | Srinagar | Srinagar City |
| 7 | <i>Papier-muche</i> | Srinagar | Srinagar City |
| 8 | <i>Pattu and Pashmina</i> weaving | Ladakh Srinagar Punch | A few villages Srinagar City Numerous Village |
| 9 | Silver work | Srinagar | Srinagar City |
| 10 | Toy making | Srinagar | Srinagar City |
| 11 | Woollen shawl weaving | Srinagar | Srinagar City |
| 12 | Wood carving | Srinagar Punch | Srinagar City Bigbihara |
| <i>B. Other Crafts :</i> | | | |
| 1 | Brass work | Srinagar | Srinagar City |
| 2 | Boat making | Srinagar | Srinagar City |
| 3 | Black-smithy | Punch | Numerous village |
| 4 | Copper work | Srinagar | Srinagar City |
| 5 | Carpentry | Punch | A few towns |
| 6 | Electro-plating | Srinagar | Srinagar City |
| 7 | Fruit canning | Srinagar | Srinagar City |
| 8 | <i>Ghee</i> making | Punch | A few villages |
| 9 | Leather tanning | Srinagar | Srinagar City |
| 10 | Leather goods manu- facture | Srinagar | Srinagar City |
| 11 | Oil pressing | Punch | A few villages |
| 12 | Paper making | Srinagar | Srinagar City |
| 13 | Seri culture | Punch | A few villages |
| 14 | Silk weaving | Punch | A few villages |
| 15 | Tinkering | Srinagar Punch | Many villages Do. |
| 16 | Wine manufacture | Punch | Punch |
| 17 | Woollen blanket weaving | Srinagar Punch | Srinagar City Numerous villiage |

6. MYSORE

A. Art Crafts :

| | | | |
|---|---------------|---------------------|------------------------------------|
| 1 | Hand printing | Shimoga | Shimoga Ayanur |
| 2 | Lacquer work | Bangalore Mysore | Bangalore Channapatna Mysore |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|--|---|--|
| 3 | Manufacture of musical instruments & strings | Bangalore | Channapatna |
| 4 | Perfumery and Joss stick making | Mysore Bangalore | Mysore Bangalore |
| 5 | Sandal wood carving | Shimoga Mysore | Sorab Mysore Channarayapatna |
| 6 | Silk fancy goods manufacture | Hassan Bangalore | Hole Narsipur Bangalore |
| 7 | Toy making | Bangalore Mysore | Bangalore Channapatna Mysore |
| 8 | Woollen carpet weaving | Shimoga Bangalore | Shikarpur Bangalore |
| <i>B. Other Crafts :</i> | | | |
| 1 | Brass & bell metal work | Mysore Chitaldrug Shimoga Hassan Tumkur | Mysore Molakalmur Shimoga Sravanabelgola Tumkur |
| 2 | Carpentry | All districts | Many towns |
| 3 | Cotton handloom weaving | Mysore Chitaldrug Kadur Shimoga Hassan Tumkur Bangalore | Mysore Harihar Molakalmur Devangere Hosdurga Kadur Shimoga Ayanur Hole Narsipur Tumkur Bangalore |
| 4 | Dyes making | Chitaldrug | Harihar |
| 5 | Gajamara bark bag making | Hassan | Hole Narsipur Channarayapatna Arkalgud |
| | Glass bangle making | Chitaldrug Kadur | Mattod Kadur |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------------------|---|---|
| 7 | Gunny bag making | Hassan | Arkalgud Hole Narsipur Channarayapatna |
| 8 | Hand spinning | Chitaldrug | Devangere Hosdurga Badnavole |
| 9 | Jaggery | Mysore Chitaldrug Tumkur Kadur Shimoga | Many villages |
| 10 | Leather tanning & goods manufacture | Mysore Chitaldrug Bangalore | Hunsur Molakalmur Bangalore |
| 11 | Iron work | Chitaldrug Chitaldrug Kadur Shimoga Bangalore | Hosdurga Hiriyur Kadur Shimoga Magadi |
| 12 | Oil pressing | Chitaldrug Kadur Shimoga Hassan Bangalore | Chitaldrug Kadur Shikarpur Hassan Bangalore |
| 13 | Pottery | All districts | Numerous vil lag |
| 14 | Rope making | Tumkur | Tumkur |
| 15 | Silk weaving | Mysore Chitaldrug Tumkur Bangalore Kolar | Mysore Ganjam Molakalmur Harihar Kunigal Kadaba Koratagera Sira Bangalore Sidlaghatta Chikbalapur |
| 16 | Silk worm rearing | Mysore Bangalore Tumkur | Mysore Bangalore Tumkur |
| 17 | Stone jug making | Shimoga | Tirthahalli |

| S. No. | Name of the Industry | Districts | Centres |
|--------|-------------------------|---|---|
| 18 | Tape making | Bangalore Tumkur | Sarjapur Tumkur |
| 19 | Wood sawing | Shimoga | Honnali |
| 20 | Woollen blanket weaving | Mysore Chitaldrug Kadur Shimoga Hassan Tumkur Bangalore | Hunsur Devangere Jagalur Kadur Shimoga Hassan Hole Narsipur Chiknayakanahalli Bangalore |

7. TRAVANCORE

A. *Art Crafts :*

| | | | |
|----|--|-------------------------------|--------------------------|
| 1 | Cloth doll & toy making | Trivandrum | Trivandrum |
| 2 | Bamboo ribbon painted wall mats | Trivandrum | Trivandrum Kodankarai |
| 3 | Coconut shell carring | Trivandrum | Trivandrum |
| 4 | Embroidery | Trivandrum Padmanabhapuram | Trivandrum Nagercoil |
| 5 | Glazed pottery | Trivandrum | Trivandrum |
| 6 | Horn work | Trivandrum | Trivandrum |
| 7 | Ivory carving | Trivandrum | Trivandrum |
| 8 | <i>Koftgari</i> work | Trivandrum | Trivandrum |
| 9 | Lace making | Trivandrum Padmanabhapuram | Trivandrum Nagercoil |
| 10 | Lacquer toy making | Trivandrum | Trivandrum |
| 11 | Manufacture of birds etc. with clay and shells | Trivandrum | Trivandrum |
| 12 | Metal mirror making | Trivandrum | Aranmula Kundara |
| 13 | Musical instrument manufacture | Trivandrum | Trivandrum |
| 14 | Palmyrah fancy fan making | Trivandrum | Trivandrum |
| 15 | Paper lamp shade manufacture | Trivandrum | Trivandrum |

| S. No. | Name of the Industry | Districts | Centres |
|--------------------------|---------------------------------------|---|-------------------------------------|
| 16 | Screw pine fancy goods making | Padmanabhapuram | Nagercoil Trivandrum |
| 17 | Wood carving | Trivandrum | Trivandrum |
| <i>B. Other Crafts :</i> | | | |
| 1 | Bell metal work | Trivandrum | Trivandrum Vazhapolly |
| 2 | Bee Keeping | Padmanabhapuram | Marthandam |
| 3 | Brush making | Padmanabhapuram | Kolachal |
| 4 | Coconut coir industry | Quilon | Alleppey |
| 5 | Cotton weaving | Trivandrum Padmanabhapuram Kottayam | Trivandrum Nagercoil Kottayam |
| 6 | Fish curing & fish oil extraction | Quilon | Quilon |
| 7 | Hand made paper making | Trivandrum | Trivandrum |
| 8 | Iron implements and cutlery | Trivandrum | Trivandrum |
| 9 | Kora grass mat weaving | Trivandrum | Trivandrum |
| 10 | Leather tanning and goods manufacture | Trivandrum | Trivandrum |
| 11 | Rattan work | Trivandrum | Trivandrum |
| 12 | Salt manufacture | Trivandrum | Tamarakulam |
| 13 | Tile and Brick making | Quilon | Quilon |
| 14 | Upholstery | Trivandrum | Trivandrum |

II. TECHNICAL INSTITUTIONS IN PROVINCES AND STATES

A. PROVINCES

| S. No. | Name | Subjects taught | Centre |
|---------------------------------|--|-----------------|--------------|
| 1. BENGAL. | | | |
| <i>Government and aided :</i> | | | |
| 1 | School of Arts | .. Arts | Calcutta |
| 2 | Kalabhavan School of Arts and Crafts. | Arts & Crafts | Santiniketan |
| 3 | Sriniketan Handicraft School | Handicrafts | Sriniketan |
| 2. BIHAR | | | |
| 1 | Government Cottage Industries Institute. | .. | Gulzaribagh |
| 2 | Government Wool Weaving Institute | .. | Gaya |
| 3 | The School of Technology.. | .. | Patna. |
| 3. BOMBAY | | | |
| 1 | J. J. School of Arts | .. .. | Bombay |
| 4. CENTRAL PROVINCES AND BERAR | | | |
| <i>Government :</i> | | | |
| 1 | Handicrafts School | .. .. | Nagpur |
| 2 | Government Reformatory School | .. | Jubbulpore |
| <i>Private :</i> | | | |
| 1 | Gram Sevak Vidyalaya (A. I. V. I. A.) | .. | Wardha |
| 2 | Spinning Section (A.I.S.A.) | .. | Wardha. |
| 5. MADRAS | | | |
| <i>Government and Private :</i> | | | |
| 1 | Government School of Arts and Crafts | Arts and Crafts | Madras |
| 2 | Government Textile Institute | Textiles | Madras |
| 3 | Government Leather Institute. | Tanning | Madras |
| 4 | Government School of Technology. | .. | Madras |
| 5 | Chengalvaraya Naicker Technical Institute. | .. | Madras |
| 6 | All Saints' Industrial School.. | .. | Puthur |

VI] TECHNICAL INSTITUTIONS IN PROVINCES

| S. No. | Name | Subjects taught | Centre |
|--------|---|-----------------|--------------|
| 7 | American Advent Mission Industrial School. | .. | Madras |
| 8 | American Arcot Mission Women's Industrial School. | .. | Palmaner |
| 9 | American Mission Industrial Institute. | .. | Katpadi |
| 10 | All Industrial School for Boys. | .. | Nazarath |
| 11 | Ramakrishna Mission Industrial School. | .. | Madras |
| 12 | Mylapore Home Industries .. | .. | Madras |
| 13 | Board High School .. | Drawing | Narasapatam |
| 14 | Church of Scotland Mission Agricultural School. | .. | Melrasapuram |
| 15 | Danish Mission Girls' Industrial School | .. | Tirukkoilur |
| 16 | Danish Mission Lace Depot .. | Lace | Cuddalore |
| 17 | Deaf & Dumb School .. | .. | Madras |
| 18 | Educational & Industrial School for the Blind. | .. | Palamcottah |
| 19 | Government Industrial school. | .. | Madura |
| 20 | Leipzig Mission Women's Industrial School. | .. | Mayavaram |
| 21 | London Mission Girls' Industrial School. | .. | Ercde |
| 22 | Methodist Mission Industrial School. | .. | Karur |
| 23 | Municipal School of Arts & Crafts. | Arts & Crafts | Kumbakonam |
| 24 | Harijan Industrial School .. | .. | Kodambakkam |
| 25 | Gandhi National School | .. | Ellore |
| 26 | National College .. | .. | Masulipatam |
| 27 | National Elementary & Industrial School. | .. | Tindivanam |
| 28 | Pasumalai Trades School .. | .. | Madura |
| 29 | Raja R. V. P. G. Rama Rau Bahadur Orphanage | .. | Cocanada |
| 30 | Senior Certified School | .. | Chingleput |
| 31 | St. Francis Xavier's Orphanage Industrial School. | .. | Tanjore |
| 32 | St. Joseph's Industrial School. | .. | Bellary |

| S. No. | Name. | Subjects taught. | Centre |
|--------|--|------------------|----------------|
| 33 | St. Joseph's Industrial School. | .. | Coimbatore |
| 34 | St. Joseph's Industrial School. | .. | Trichinopoly |
| 35 | St. Joseph's Orphanage Industrial School. | .. | Tindivanam |
| 36 | St. Mary Industrial School for boys and girls. | .. | Badakankulam |
| 37 | U. N. C. Mission School for the Blind. | .. | Rentichintala. |

6. NORTH WEST FRONTIER PROVINCE

Government :

| | | | |
|---|--|---------|----------|
| 1 | Government Handloom Weaving Institute. | Weaving | Peshawar |
|---|--|---------|----------|

Aided :

| | | | |
|---|------------------------------------|----|----------|
| 1 | The Technical Training Centre. | .. | Peshawar |
| 2 | The Cunningham Technical Institute | | Haripur |

7. PUNJAB

Government :

| | | | |
|----|---|----------------|----------------|
| 1 | Government Central Weaving Institute. | Weaving | Amristar |
| 2 | Government Technical School. | .. | Lahore |
| 3 | Government Hosiery Institute. | Hosiery | Ludhiana |
| 4 | Government Metal Works Institute. | Metal Work | Ambala City |
| 5 | Government Training Institute. | Tanning | Jullundur City |
| 6 | Government Industrial School. | .. | Ambala City |
| 7 | Government Industrial School (for small machinery). | Machine Making | Ludhiana |
| 8 | Government Wood Working Institute. | Wood work | Jullundur City |
| 9 | Government Industrial school. | .. | Ferozapore |
| 10 | Government Industrial school. | .. | Multan City |

VI] TECHNICAL INSTITUTIONS IN PROVINCES

| S. No. | Name | Subjects taught | Centre |
|--------|---------------------------------|-----------------|----------|
| 11 | Government Technical Institute. | .. | Amritsar |
| 12 | Mayo School of Arts | .. Arts | Lahore |

8. UNITED PROVINCES

Government :

| | | | |
|----|---|--------------|---------------|
| 1 | Government School of Arts & Crafts. | .. | Lucknow |
| 2 | Harcourt Butler Technological Institute. | .. | Cawnpore |
| 3 | Government Technical Institute. | .. | Lucknow |
| 4 | Do. | .. | Gorakpur |
| 5 | Do. | .. | Jhansi |
| 6 | Government Central Textile Institute. | Textiles | Cawnpore |
| 7 | Government Central Weaving Institute. | Do. | Benares |
| 8 | Government Model Weaving | Do. | Mau(Azamgarh) |
| 9 | Government Model Weaving School. | Do. | Almorac |
| 10 | Government Model Weaving | Do. | Nazibabad |
| 11 | Do. | .. Do. | Khairabad. |
| 12 | Do. | .. Do. | Agra. |
| 13 | Do. | Do. | Muzaffarnagar |
| 14 | Government Weaving & Cloth Printing School. | Do. | Bulandshahr |
| 15 | Government Leather Working School. | Leather Work | Cawnpore |
| 16 | Do. | .. Do. | Meerut |
| 17 | Government Tanning School. | Tanning | Fatehpur |
| 18 | Government Wood Working Institute. | Wood work | Bareilly |
| 19 | Government Carpentry School | Do. | Allahabad |
| 20 | Do. | .. Do. | Nainital. |

COTTAGE INDUSTRIES OF INDIA

[Sec.

| S. No. | Name. | Subjects taught. | Centre. |
|--------------------------|---|------------------|-----------------|
| 21 | Do. | .. Do. | Fyzabad |
| 22 | Do. | .. Do. | Dehra Dun |
| 23 | Government Metal Working School. | Metal work | Aligarh |
| 24 | Government Batuc Prasad Khattri Industrial Institute. | .. | Benares |
| <i>District Board :</i> | | | |
| 1 | Industrial School | .. | Farrukhabad |
| 2 | Weaving School | .. Weaving | Mahoba |
| 3 | Weaving School | .. Do. | Gorakhpur |
| 4 | Weaving School | .. Do. | Orai |
| 5 | Weaving School | .. Do. | Kalpi |
| 6 | Weaving School (Carpets & Durries). | Do. | Telahat |
| 7 | Weaving School | .. Do. | Chhinka Gamsali |
| 8 | Weaving School | .. Do. | Gonda |
| 9 | Carpentry School | .. Wood work | Srinagar |
| 10 | Carpentry School | .. Do. | Almora |
| <i>Municipal Board :</i> | | | |
| 1 | Industrial School | .. .. | Moradabad |
| 2 | Weaving School | .. Weaving | Muttra City |
| 3 | Leather Working School | .. Leather work | Allahabad |
| 4 | Tailoring Class | .. Tailoring | Bareilly |
| <i>Private :</i> | | | |
| 1 | Hewett Weaving School | .. Weaving | Bara Banki |
| 2 | Muslim Weaving School | .. Do. | Aligarh |
| 3 | Roman Catholic Mission Weaving School. | Do. | Partabgarh |
| 4 | Roman Catholic Mission Weaving School. | Do. | Meerut |
| 5 | C. M. S. Industrial Mission Boys' School. | .. | Sikandra, Agra. |
| 6 | S. S. K. Industrial School... | .. | Moradabad |

VIJ TECHNICAL INSTITUTIONS IN PROVINCES

| S. No. | Name. | Subjects taught | Centre. |
|--------|--|-----------------|---------------------|
| 7 | Salvation Army Industrial School. | .. | Bareilly |
| 8 | Lady Hewett Industrial Girls' School. | .. | Pura, Cawnpore |
| 9 | Vaish Orphanage Technical School. | .. | Meerut |
| 10 | A. P. Mission Industrial school | .. | Saharanpur |
| 11 | Wesleyan Mission Industrial School. | .. | Benares |
| 12 | Arya Samaj Orphanage .. | .. | Bareilly |
| 13 | Industrial School .. | .. | Manikpur, Etawah |
| 14 | Home for Women in Distress. | .. | Benares |
| 15 | Kanwar Lal Singh Mansingh Industrial School. | .. | Manaupuri |
| 16 | Hindu Orphanage .. | .. | Cawnpore |
| 17 | Dayanand Orphanage (Carpentry). | Wood work | Lucknow |
| 18 | Arya Samaj Tailoring School. | Tailoring | Lucknow |
| 19 | Leather Working School .. | Leather Work | Rudanli, Barabanki. |
| 20 | Muslim Orphanage(Carpentry School). | Wood work | Cawnpore |
| 21 | Lal Kurti Hosiery School .. | Hosiery | Meerut |
| 22 | Khedi Memorial School .. | .. | Hardoi |
| 23 | Muslim Orphanage .. | .. | Lucknow |
| 24 | Dayalbagh Model Industries Leather School. | Leather work | Agra |
| 25 | Radha Swami Sat Sangh Sabha Technical College. | .. | Dayalbagh, Agra |
| 26 | All India Shia Orphanage. | .. | Lucknow |
| 27 | Depressed Class Industrial School. | .. | Khurja, Bulandshahr |
| 28 | Benares Hindu University .. | .. | Benares |
| 29 | St. Joseph Orphanage Industrial School. | .. | Agra |

| S. No. | Name | Subjects taught | Centre. |
|--------|---------------------------------------|-----------------|---------------------|
| 30 | Islamia Orphanage | .. .. | Bareilly |
| 31 | Muslim Orphanage | .. .. | Meerut |
| 32 | Industrial School | .. .. | Kameria Pilibhit |
| 33 | Sri Ram Orphanage (Carpentry section) | Wood work | Lucknow |
| 34 | Deen Hit Kerul Sabha | .. .. | Jhansi |
| 35 | Aman Sabha (Carpentry Section). | Wood work | Gonda |

B. STATES

1. BARODA

Government :

- | | | | |
|---|---|-----------|--------|
| 1 | Diamond Jubilee Cottages Industries Institute | .. | Baroda |
| 2 | Kala Bhavan | Fine Arts | Baroda |

2. HYDERABAD

- | | | | |
|---|----------------------------------|----|-----------|
| 1 | Government Polytechnic Institute | .. | Hyderabad |
|---|----------------------------------|----|-----------|

3. JAIPUR.

- | | | | |
|---|----------------------------|------|-----------------------|
| 1 | Maharajah's School of Arts | Arts | Jaipur (Rajputana) |
|---|----------------------------|------|-----------------------|

4. TRAVANCORE

Government :

- | | | |
|----|----------------------------------|-------------|
| 1. | The School of Arts, | Trivandrum. |
| 2. | The S.M.R.V. Technical Institute | Nagercoil |

VI] TECHNICAL INSTITUTIONS IN STATES

| S. No. | Name and address of the school. | Subjects taught | Taluq |
|--------------------------------|--|-----------------|----------------------|
| Government and private. | | | |
| 1. | Puthalam Orphanage Industrial School Parakka .. | Weaving. Do. | Agasteeswaram Do. |
| 2. | Kanimadam Weaving School, Kottaram .. | Do. | Do. |
| 3. | Neyyoor Weaving Institute, Neyyoor .. | Do. | Kalculam. |
| 4. | St. Joseph's Weaving Institute, Puthencada, Thiruvattar .. | Do. | Do. |
| 5. | K. R. V. Weaving Institute, Mekkamandapam .. | Do. | Do. |
| 6. | Selvamani Menas Vilas Weaving School Alathara, Palliady .. | Do. | Do. |
| 7. | Y.M.C.A. Industrial School, Marthandam .. | Do. | Vilavancode. |
| 8. | Sahayavilasom Weaving School, Piracode, Parasala .. | Do. | Do. |
| 9. | Kamala Vilasom Weaving School, Kaliyakavila .. | Do. | Do. |
| 10. | Sri Chitrodayam Weaving School, Kunnathoor, Puthukada .. | Do. | Do. |
| 11. | Sadhusamrakshanathy Weaving School, Perumpuzha, Oonnamalakada .. | Do. | Do. |
| 12. | The Rural Industrial School, Melpuram, Marthandam. | Do. | Do. |
| 13. | St. Josephs's Weaving School, Pulluvila, Nellikakuzhi .. | Do. | Neyyattinkara. |
| 14. | Dharma Vilasom Weaving School, Pariswakal, Parasala .. | Do. | Do. |
| 15. | Thirupuram Weaving School, Poovar .. | Do. | Do. |
| 16. | Sri Velayudha Vilasom Weaving School Arumanoor, Poovar .. | Do. | Do. |
| 17. | Kuttaninathu Weaving School Poovar .. | Do. | Do. |
| 18. | Little Flower Weaving School, Pulluvila Nellikakuzhi .. | Do. | Do. |

| S. No. | Name and address of the school. | Subjects taught | Taluq |
|--------|---|-----------------|---------------|
| 19 | Muttacad Weaving School, Venganoor .. | Weaving | Neyyattinkara |
| 20. | Kalathanni Weaving School, Nellikakuzhi .. | Do. | Do. |
| 21. | Vittivila Weaving School, Balaramapuram .. | Do. | Do. |
| 22. | Chengal Weaving School, Amaravila .. | Do. | Do. |
| 23. | Chempur Weaving School, Ottasekharamangalam .. | Do. | Do. |
| 24. | Kodangara Weaving School, Amaravila .. | Do. | Do. |
| 25. | Paraniyam Weaving School, Poovar .. | Do. | Do. |
| 26. | Adventapuram Weaving School, Amaravila .. | Do. | Do. |
| 27. | Areyoor Weaving School, Amaravila .. | Do. | Do. |
| 28. | Sri Rama Vilasom Weaving School, Balaramapuram | Do. | Do. |
| 29. | Kottukal Charivuvila Weaving School, Balaramapuram. | Do. | Do. |
| 30. | Sri Chitra Vilasom Weaving School, Venganoor. | | |
| 31. | Kulathoor Weaving School, Poovar. | Do. | Do. |
| 32. | Sri Neelacanta Vilasom Wea- ving School, Kovalam, Venganoor. | Do. | Do. |
| 33. | David Technical School Wea- ving School, Olathanai Neyyattinkara .. | Do. | Do. |
| 34. | Sri Yesu Asramam Weaving School Kunnappuzha, Thir- mala .. | Do. | Trivandrum. |
| 35. | Sri Yesu Asramom Girl's Tech- nical School, Thirumala .. | Do. | Do. |

VIJ TECHNICAL INSTITUTIONS IN STATES

| S. No. | Name and address of the school. | Subjects taught | Talug |
|--------|---|-----------------|--------------|
| 36. | Weaving School, for girl's, Thirumala .. | Weaving | Trivandrum |
| 37. | Sarvamangala Industrial School, Palkulangara .. | Do. | Do. |
| 38. | St. Mary's Weaving School, Poonthurai | Do. | Do. |
| 39. | Sri Padma Vilasom Weaving School, Manakad, Chalai | Do. | Do. |
| 40. | Vattiyurkavu Weaving School, Peroorkada .. | Do. | Do. |
| 41. | Hindu Mahila Mandiram Weaving School, Poojapura | Do. | Do. |
| 42. | Sri Krishna Vilasom Weaving School .. | Do. | Nedumangad |
| 43. | DhasVilasom Weaving School, Chullimanoor, Nedumangad | Do. | Do. |
| 44. | Kattakada Weaving School, Kattakada .. | Do. | Do. |
| 45. | Sivananda Vijayam Weaving School .. | Do. | Do. |
| 46. | Konniyoor Mylom Weaving School, Malayinkil .. | Do. | Do. |
| 47. | S.N.D.S. Orphanage Weaving School, Varkala .. | Weaving. | Chirayinkil. |
| 48. | Shunmugha Vilasom Weaving School, Kizhattingal Attingal. .. | Do. | Do. |
| 49. | Bhagavathi Vilasom Weaving School .. | Do. | Do. |
| 50. | Attingal Weaving Institute, Attingal . | Do. | Do. |
| 51. | Harijan Colony Weaving School, Varkala .. | Do. | Do. |
| 52. | S. N. Pillay's Weaving School, Attingal .. | Do. | Do. |
| 53. | Nazereth Orphanage Weaving School, Kottiyam .. | Do. | Quilon |
| 54. | Chathanoor Weaving School. | Do. | Co. |

| S. No. | Name and address of the school. | Subjects taught | Taluq |
|--------|--|-----------------|----------------|
| 55. | Onattukara Weaving School. | Weaving | Mavelikara |
| 56. | Dharmapradayani Weaving School .. | Do. | Do. |
| 57. | C.M..S. Weaving School .. | Do. | Thiruvella. |
| 58. | St. Mary's Weaving School | Do. | Do. |
| 59. | Padmodayam Weaving School Mulakuzha .. | Do. | Do. |
| 60. | Devi Vilasom Weaving School Peringilipuram, Cherukole, Mavelikara .. | Do. | Do. |
| 61. | P.R.D.S. Weaving School, Eraviperoor .. | Do. | Do. |
| 62. | St. Mary's Weaving School, Pampady .. | Do. | Do |
| 63. | St. Rita's Weaving school, Kattoor, Kalavoor. .. | Do. | Ambalapuzha. |
| 64. | Thuravoor Weaving School.. | Do. | Shertallai. |
| 65. | Bhagavathi Vilasom Weaving School, Uzhuva, Pattanakad .. | Do. | Do. |
| 66. | Lakshmi Vilasom Weaving, School, Thuravoor | Do. | Do. |
| 67. | Subhodayam Weaving School, Vechoor .. | Do. | Vaikon. |
| 68. | St. Joseph Weaving Institute. | Do. | Changanacherry |
| 69. | St. Patricks Weaving School.. | Do. | Do. |
| 70. | St. Thomas Weaving School, Thottacad .. | Do. | Do. |
| 71. | St. Mary's Weaving School, Kanam, Vazhoor, .. | Do. | Do. |
| 72. | P. John Memorial Weaving School, Madapally .. | Do. | Do. |
| 73. | St. Mary's Technical School, Kozhuvanal .. | Do. | Meenachil. |
| 74. | Thirukudumba Vilasom Weaving School .. | Do. | Do. |
| 75. | Gramodharana Kudil Vyavasaaya School, Memuri .. | Do. | Muvattupuzha. |

V1] TECHNICAL INSTITUTIONS IN STATES

| S. No. | Name and address of the school. | Subjects taught | Taluq |
|--------|--|--------------------------|-----------------|
| 76. | St. Thomas' Weaving School, Mookanoor .. | Do. | Do. |
| 77. | The Always Settlement Carpentry School, Alwaye .. | Carpentry. | N. Parur |
| 78. | S.K.V. Carpentry School, Attingal .. | Do. | Chirayinkil |
| 79. | C.M.S. Industrial School, Kottayam .. | Do. | Kottayam |
| 80. | Sri Sarada Vilasom Smithery School, Attingal .. | Smithery. | Chirayinkil |
| 81. | Siva Ram Smithery School, Attingal .. | Do. | Do. |
| 82. | Kattuvally Smithery School, Mavelikara .. | Do. | Mavelikara |
| 83. | Chitra Drawing School, Nagercoil .. | Drawing. | Agasteeswaram |
| 84. | R. V. Drawing & Painting Institute, Fort, Trivandrum.. | Drawing and painting. | Trivandrum |
| 85. | Rama Varma School of Painting, Mevelikara .. | Painting. | Mavelikara |
| 86. | Leela Vilsom Painting School, Attingal .. | Do. | Chirayinkil |
| | Harmonium School, Parassala | Harmonium manufacturing. | Neyyattinkara |
| 87. | Chettikulangara Mat Weaving School, Mavelikara.. | Mat Weaving. | Mavelikara |
| 88. | Little Flower Mat Weaving School, Payippad .. | Do. | Changanacherry. |

IV. COTTAGE INDUSTRIAL SALE DEPOTS IN PROVINCES
AND STATES

| S.No. | Name | Centre |
|----------------------------|--|------------------|
| A. PROVINCES | | |
| 1. BENGAL | | |
| 1. | Bengal House Industries Association | .. Calcutta |
| 2. | The Bengal Stores | .. Calcutta |
| 3. | Sriniketan Handicraft School Sales Depot. | .. Sriniketan |
| 2. BIHAR | | |
| 1. | Government Cottage Industries, Institute | .. Gulzaribagh |
| 2. | Government Textile Sales Depot | .. Gulzaribagh |
| 3. | Government Emporium for Woollen Textiles | .. Gaya |
| 3. MADRAS | | |
| 1. | The Central Industrial Museum | .. Madras |
| 2. | Government Sales Depot | .. Madras |
| 3. | The Madras Provincial Co-operative Marketing Society show room | .. Madras |
| 4. | Victoria Technical Institute | .. Madras |
| 5. | Emporia of the Madras Handloom Weaver's Provincial Co-operative Society, Ltd., | .. All Districts |
| 4. PUNJAB | | |
| 1. | Art & Crafts Emporium | Lahore |
| 2. | Government Delhi Sale Depot | .. Delhi |
| 3. | Government Lahore Sale Depot | .. Lahore |
| 4. | Government Simla Sale Depot | .. Simla |
| 5. UNITED PROVINCES | | |
| | Government U.P. Handicrafts Shop, Hazratganj & Aminabad ⁴ | Lucknow. |

VI] SALE DEPOTS IN PROVINCES & STATES

| S.No. | Name. | Centre. |
|-------|---------------------------------|--------------------------|
| 2. | Government U.P. Handicraft Shop | .. Gorakhpore |
| 3. | Government U.P. Handicraft Shop | .. Allahabad |
| 4. | Government U.P. Handicraft Shop | .. Almora |
| 5. | Government U.P. Handicraft Shop | .. Nainital |
| 6. | Government U.P. Handicraft Shop | .. Meerut |
| 7. | Government U.P. Handicraft Shop | .. Agra |
| 8. | Government U.P. Handicraft Shop | .. Dehra Dun |
| 9. | Government Handloom Store | .. Amroha, Moradabad |
| 10. | Government Handloom Store | .. Ghazipur |
| 11. | Government Handloom Store | .. Mau, Azamgarh |
| 12. | Government Handloom Store | .. Khalilabad, Basti |
| 13. | Government Handloom Store | .. Tanda, Fyzabad |
| 14. | Government Handloom Store | .. Chandpur Siau, Bijnor |
| 15. | Government Handloom Store | .. Sikandra Rao, Aligarh |

Private :

1. Lucknow Handloom Emporium .. Lucknow
2. Model Industries Depot, Dayalbagh .. Agra.

B. STATES

1. BARODA

1. Baroda Arts & Crafts Emporium .. Baroda.

2. HYDERABAD

1. Government Cottage Industries Sale Depot .. Hyderabad.

3. MYSORE

1. Government Arts & Crafts Emporium .. Bangalore.

4. TRAVANCORE

1. Government Sales Depot .. Trivandrum.
2. The Central Cottage Industrial Co-operative Society
Pazhavangadi,
Trivandrum.

V. ARTS AND CRAFTS MUSEUMS IN PROVINCES AND STATES

| S.No. | Name. | Centre |
|--|--|----------------|
| A. PROVINCES | | |
| 1. ASSAM | | |
| 1. | Gauhati Museum | .. Gauhati |
| 2. BENGAL | | |
| 1. | Indian Museum | .. Calcutta |
| 2. | Dacca Museum | .. Dacca |
| 3. | Aushutosh Museum | .. Calcutta |
| 4. | Darjeeling Museum | .. Darjeeling |
| 5. | Commercial Museum | .. Calcutta |
| 3. BOMBAY | | |
| 1. | Prince of Wales Museum | .. Bombay |
| 4. CENTRAL PROVINCES & BERAR. | | |
| 1. | Central Museums | .. Nagpur |
| 2. | The Magan Sangrahalaya (Museum for Khadi & Village Industries, A.I.V.I.A.) | .. Wardha |
| 5. MADRAS | | |
| 1. | Madras Central Industrial & Commercial Museum. | .. Madras |
| | The Vizagapatam District Industrial & Commercial Museum | .. Vizagapatam |
| | The East Godavari Museum Association | .. Rajahmundry |
| | The West Godavari Commercial Museum Association | .. Ellore |
| | The Kistna District Industrial & Commercial Museum | .. Bezwada |
| 6. | The Guntur District Museum of Handi crafts Industries and Antiquities | .. Guntur |
| 7. | The Anantapur District Museum of Arts and Crafts Association | .. Anantapur |

| S.No. | Name. | Centre. |
|-------|--|--------------|
| 8. | The Cuddapah District Commercial and Industrial Museum .. | Cuddapah |
| 9. | The Kurnool District Commercial and Industrial Museum .. | Kurnool |
| 10. | The Chittoor District Industrial and Commercial Museum .. | Chittoor |
| 11. | The Salem District Industrial and Commercial Museum .. | Salem |
| 12. | The Coimbatore District Industrial and Commercial Museum .. | Coimbatore |
| 13. | The Madura Ramnad District Industries Association .. | Madura |
| 14. | The Nellore District Industrial and Commercial Museum .. | Nellore |
| 15. | The South Arcot District Industrial and Commercial Museum .. | Cuddalore |
| 16. | The Cottage Industries Emporium .. | Tinnevelly |
| 17. | The Bellary District Museum Association .. | Bellary |
| 18. | The South Kanara District Museum of Arts and Crafts and Cottage Industries. .. | Mangalore |
| 19. | The Tanjore District Industrial and Commercial Museum .. | Tanjore |
| 20. | The Malabar District Museum Society .. | Calicut |
| 21. | The District Industries Museum .. | Trichinopoly |
| 22. | Rama Rao Art Gallery .. | Rajahmundry |
| 23. | Government Museum .. | Madras |

6. N.W.F. PROVINCE

- | | | | |
|----|-------------------|----|----------|
| 1. | Government Museum | .. | Peshawar |
|----|-------------------|----|----------|

7. PUNJAB

- | | | | |
|----|-----------------------|----|---------|
| 1. | Central Museum | .. | Lahore |
| 2. | Archaeological Museum | .. | Taxila |
| 3. | Harappa Museum | .. | Harappa |

| S. No. | Name. | Centre. |
|-------------------------------|---|-----------------|
| 8. SIND | | |
| 1. | Mohenjo-daro Museum | .. Mohenjo-daro |
| 2. | Victoria Museum | .. Karachi |
| 9. UNITED PROVINCES | | |
| 1. | Provincial Museum | .. Lucknow |
| 2. | Curzon Museum | .. Muttra |
| 3. | Forest Produce Museum (Forest Utilization Dept) | .. Dehra Dun |
| 4. | Archaeological Museum | .. Sarnath |
| B. STATES | | |
| 1. BARODA | | |
| 1. | Baroda Museum | .. Baroda |
| 2. COCHIN | | |
| 1. | Sri Mulam Chitra Sala | .. Trichur |
| 3. HYDERABAD | | |
| 1. | Government Museum | .. Hyderabad |
| 4. JAIPUR (RAJAPUTANA) | | |
| 1. | Jaipur Museum | .. Jaipur |
| 5. MYSORE | | |
| 1. | Government Museum | .. Bangalore |
| 6. TRAVANCORE | | |
| 1. | Theo. S.M.S.M. Institute | .. Trivandrum |

APPENDIX

I. SOME IMPORTANT ARTISAN COMMUNITIES OF INDIA

1. ALL INDIA

| | |
|-----------------|---|
| <i>Beparis</i> | .. Traders or merchants. |
| <i>Channars</i> | .. Leather workers or shoe makers. |
| <i>Kumbars</i> | .. Potters. |
| <i>Mochis</i> | .. Leather workers or shoe makers |
| <i>Mahajans</i> | .. Traders, particularly of the Vaisya caste, who generally act as middlemen. |
| <i>Telis</i> | .. Oil pressers. |

2. ASSAM

| | |
|------------------------------------|--|
| <i>Brithal Baniyas</i> | .. A class of jewle smiths in Assam. |
| <i>Kumhars</i> } <i>Hiras</i> } | .. Communities of potters. |
| <i>Morias</i> | .. A Community of low class Muslims engaged in brass work. |
| <i>Naths</i> | .. A caste of weavers of the Surma Valley of Assam. |

3. BENGAL

| | |
|----------------------------------|---|
| <i>Basaks</i> | .. Weavers connected with the Dacca Muslin industry. |
| <i>Bhedi wallas</i> | .. A class of low caste upcountry Hindus engaged in the woollen industry. |
| <i>Domes</i> | .. A class of workers engaged in cane and bamboo work. |
| <i>Goalas</i> | .. A sub-caste originally of milkmen. |
| <i>Jugis</i> } <i>Jolas</i> } | .. A community of weavers engaged in coarse cloth production and also in agriculture. |
| <i>Kaivartas</i> | .. A sub caste of fishermen. |
| <i>Kashais</i> | .. A class of Muslims engaged in tanning. |
| <i>Kallywallas</i> | .. A class of professional tinkers who tin the inside of cooking vessels. |
| <i>Kapalis</i> | .. A community of Hindus engaged in jute spinning and weaving. |

COTTAGE INDUSTRIES OF INDIA

[Sec.

- Karmakars* .. A class of Hindus engaged in *filigree* work.
- Katanis* .. The female spinners of East Bengal who spin muslin yarn.
- Kulos* .. A class of oil pressers.
- Muchis* .. A class of cobblers or leather workers.
- Malos* } .. Communities engaged in fishing industry.
- Nikaris* }
- Naths* .. Weaving caste in Eastern Bengal.
- Nama Sudras* } .. Hindu sub-castes engaged in boatmaking.
- Sutradhars* }
- Sankharis* .. A community of bangle makers.
- Swarna Banics* .. A class of Hindus engaged in *filigree* work.
- Tantis* .. Principal weaving caste of Bengal.

4. BIHAR

- Goreris* .. A community engaged in blanket industry.
- Jadapetias* .. A community of braziers in Bihar.
- Kharadis* .. A community engaged in the making of cheap wooden toys.
- Marayeahs* .. A community of blacksmiths in Bihar.

5. BOMBAY

- Dheds* .. A caste of weavers of Maharashtra engaged in spinning and some kind of rough weaving (blankets, etc.)
- Khatri* .. The principal weaving caste of Gujrat and its neighbourhood.
- Koshtis* .. The principal weaving caste of Maharashtra
- Kurbars* .. A class of shepherds.
- Kumbars* .. Potters and clay workers.
- Mangs* .. A sub caste engaged in rope making.

6. CENTRAL PROVINCES AND BERAR

- Basods* .. A sub-caste of bamboo workers in C.P.
- Bhamtas* .. A sub caste who grow hemp and make hemp matting and bags.
- Balahis* } .. Important local weaving castes of C.P.
- Caudas* }
- Maharas* }
- Koris* }
- Pankas* }

- Garpagaris* .. A class of hand spinners whose ancestral calling was the protection of the crops from hail.
- Tamera* .. A sub-caste of bronze workers.
- Dhimars* .. A sub-caste of silk worm rearers.
- Koskatis* .. A caste of silk weavers.
- Patuis* .. A sub-caste of silk weavers.
- Lakhias* .. A sub-caste of stone cutters.
- Chhipas* }
Rangaris } .. Sub-castes of textile dyers.
- Gadris* .. A shepherd class engaged in spinning coarse thread for making grain bags and also in weaving woollen blankets.
- Banjaras* .. A small class of artisans engaged in hemp mat production.
- Otaris* .. A sub-caste of brass workers.
- Kasars* .. A sub caste of beell metal workers.
7. MADRAS
- Devangas* .. One of the chief castes of weavers speaking Canarese.
- Kaikolars (Sengundas).* .. One of the chief castes of weavers speaking Tamil.
- Karanibhaktas* .. A minor weaving caste.
- Lubbais* .. Muslim weavers of South India.
- Rungriz* .. A caste of professional dyers of the Andhra.
- Sourahstras* .. Weavers' community which migrated from
(*Pattunulkarans*) Gujrat to South India some 3 centuries ago.
- Salis* }
Padma salis } .. Chief sub-castes of weavers speaking Telugu.
Pattu salis }
Suguna salis }
Swakula salis }
- Kammaris* .. A community of blacksmiths of the Andhra.
- Kancharis* .. A community of bell metal workers of the Andhra.
- Kummaris* .. A community of potters of the Andhra.
- Gollas* .. A community of milkmen of the Andhra.
- Telikulas* .. A community of oil pressers of the Andhra.
- Vadrangis* .. A class of carpenters in the Andhra.
- Taachers (Asaris)* .. A class of carpenters.
- Kamsali* .. A community of silver and gold smiths of the Andhra
- Tattars* .. A community of gold and silver smiths of the Tamil Nad.

COTTAGE INDUSTRIES OF INDIA

[**Sec.**

- Agasala* .. Canarese term, of gold and black smiths.
- Medaris* .. A community of bamboo workers in the Andhra.
- Chakalis* .. Professional dhobies and launderers in the Andhra.
- Vannan* .. Professional dhobies in Tamil Nad.
- Kurubas* .. A community of shepherds engaged in the woollen industry

8. N.W.F. PROVINCE

- Chammarangs* .. A community of professional tanners in N.W.F.P.
- Gujars* .. A primitive people living in cave-like dwellings who produce very fine woollen blankets.
- Telis* .. Oil pressers.

9. ORISSA

- Bhulia* .. A sub-caste of weavers.
- Doms* { .. Sub-castes of basket and mat makers.
- Gadras* {
- Haris* {
- Kairas* .. Sub-caste of mat makers.
- Kharuras* .. Sub-caste of brass and bell metal workers.
- Koshtas* .. A sub-caste of weavers who also spin yarn.
- Pans* .. A sub-caste of weavers.
- Tantis* .. A sub-caste of weavers.

10. PUNJAB AND 11. UNITED PROVINCES

- Jolahas (Momins)* .. Muslim weaving caste of the U. P. and Punjab.

12. BARODA

- Shaikhs* .. A community of Mussalmans engaged in weaving industry.

13. COCHIN

- Chetties* } .. Sub-castes engaged in handloom weaving.
- Kaikolans* }
- Chedans* }
- Calians* }
- Puliyas* }
- Cherunas* }
- Kakalans* } .. Sub-castes engaged in grass mat making.
- Nanjanad Koravan* }

14. HYDERABAD

- Chammars* .. Leather workers and shoe makers.
- Dhangars* .. A sub-caste of shepherds engaged in village industries.

VI] PRODUCTS, PROCESSES & APPLIANCES

| | |
|-----------------|---|
| <i>Khatri</i> | ⇒ A sub-caste of silk weavers. |
| <i>Lubbais</i> | ⇒ A community of Muslims engaged in leather trade. |
| <i>Rangaris</i> | ⇒ A sub-caste of silk printers and dyers. 15. MYSORE |
| <i>Kurubars</i> | ⇒ A caste of weavers engaged in spinning and rough weaving (blankets, etc.) |

II. SOME SPECIAL COTTAGE INDUSTRIAL PRODUCTS, PROCESSES AND APPLIANCES

There are a number of Indian terms relating to cottage industrial products and processes. Some of them are in vogue throughout the country while the others have only local usage. The following is a list of some important terms which are current all over the country and in Provinces and States:

1. ALL INDIA

| | |
|-------------------------|--|
| <i>Charkha</i> | ⇒ Spinning wheel. |
| <i>Chintz</i> | ⇒ Printed or dyed cotton cloth. |
| <i>Dhoti</i> | ⇒ A piece of cloth, grey or bleached, made of cotton or silk with a thin border used as loin cloth by men. The length varies from 2 to 4 yards in the south to 5 yards in the north. |
| <i>Dhurries</i> | .. Stout coarse pile-less cotton carpets or rugs made generally out of hand-spun yarn in many designs, colours and sizes in North and South India. |
| <i>Doria</i> | .. A cloth with stripes in warp arranged by cramming the ends or by using thicker ends at uniform intervals. |
| <i>Dosuti (dasuti)</i> | .. Cloth woven in plain texture with two threads running as one in both warp and weft. |
| <i>Ghani</i> | .. A country oil press made of wood and worked generally by bullock power. |
| <i>Gur</i> | .. Jaggery made of sugar cane or palmyrah juice. |
| <i>Hooka</i> | .. A kind of pipe fitted to a stand used for smoking among Muslims and Northern Indian Hindus also. |
| <i>Khaddar (Khadi)</i> | .. The commonest variety of cloth produced on the handloom in India. It is interwoven in plain order with single warp and weft. In the rural areas it is mostly woven out of hand or <i>charka</i> spun yarns. |

- Kharta* .. A loose shirt or under-gown worn by Muslims and North Indian Hindus.
- Lungi* .. A loin cloth generally in check pattern from two to two and half yards long and 29" to 44" wide woven from ordinary as well from an as mercerised cotton and sometimes admixture of cotton yarn with silk, artificial silk and mercerised cotton yarn. The ends are generally joined and stitched. They are generally worn by Muslims.
- Nawar* .. Cotton tape of width varying from 3/4 to inches woven out of coarse yarn for lacing cots.
- Palkis* .. Palanquins.
- Saree* .. Plain, or dyed cloth of five to 11 yards length worn by women in India. The product is in various qualities, sometimes inter-woven with silk, artificial silk yarn, or lace.
- Satranji* .. A large sized cotton floor mat without piles.
- Muslin* .. A cotton fabric of exquisite fineness of texture and lightweight produced formerly at Dacca. Some idea of its fineness may be gathered from the fact that a white piece of 20 yards by one yard could be passed through the aperture of an ordinary sized finger ring. The industry is now practically defunct. But an inferior material is produced in some Provinces from fine yarn and marked under this name.
- Takli* .. A Spindle.
2. PENINSULAR INDIA
- Addakam* .. Dyeing or printing of cloth.
- Angavastram* .. Uppercloth.
- Apta leaves* .. A variety of leaves used for *bidi* making (*Bombay*).
- Appalam* .. An edible prepared out of pulse or rice-flour usually circular in shape and taken after being fried in oil or roasted on fire.
- Boya* .. A kind of grass used for rope making (*C.P.*).
- Bali* .. A silk bordered saree also known as *Pala* (*C.P.*)
- Bhatti* .. Kiln.
- Bidri work* .. Inlaying of silver ware with zinc in a particular scheme of design. Bidar in Nizam's State is noted for this art-craft.
- Champals* .. Sandals (*Bombay*).
- Chandanam* .. Sandal paste.

VI] : PRODUCTS, PROCESSES & APPLIANCES

- Chhagals* .. Leathern water bottles (*Hyderabad State*).
- Chutki* .. A process of dyeing in which the design is knotted in the warp and weft and then yarn is dyed. The design becomes clear even in the process of weaving.
- Cumbli* .. Woollen blanket (also known as *kambli*).
- Devguddi* .. A kind of *sisal* hemp used for rope making (*Bombay*).
- Dhavani* .. A saree of 4 to 5 yards length used by girls (*Madras*).
- Duglu (Duglo)* .. Coat worn by Hindu, Parsee and Mohamedan males of Western India.
- Duppatta* .. uppercloth (*Tamil Nad*)
- Duppatti* .. Bed-sheet or *chaddar*.
- Faika* .. Head-dress of men woven of fine cotton yarn or silk, a piece measuring 9 yds. by 24 ''.
- Jamakalam* .. A pileless carpet of cotton made in parts of the Madras Presidency in various sizes out of yarn dyed mostly in vegetable dyes.
- Kaili* .. A class of coloured check goods of *lungi* type, made in Madras, generally 45'' in width.
- Kalamkari* .. A variety of coloured cotton fabric on which a rich variety of design and colour is produced by the use of bees' wax and brush-like pen. The process which is entirely hand-process is as laborious as it is skilled. Masulipatam in the Andhra has been for centuries past famous for this art-craft.
- Kambam* .. A variety of *lungi* with stripes of a columnal type.
- Kambli* .. Same as *Cumbli*
- Kami* .. Same as *Boya*.
- Kolam (Muggu)* .. An art craft practised by women in South India. It consists in decorating the house by drawing various designs on the floor with rice flour or powdered lime in a variety of colours. This is known as Ranguli in Bombay and parts of Northern India and Alpona in Bengal. The drawing of Kolams are symbols of joyous occasions.
- Kuppadam* .. A kind of solid border for *sarees* and *dhoties*.
- Madras Handkerchief* .. These so called handkerchiefs are made of grey and coloured yarns in warp and weft. Their peculiarity is that certain warp yarns are caused to 'bleed' during weaving and to tint the grey weft with the colour of warp thus producing solid

- effect in those colours., The yarns employed usually are 40s warp and 40 s weft. A piece of 8 yards by 36" weighs 26 ounces.
- Machwas* .. Sailing boats.
- Malanoolu* .. Handspun yarn produced by *Harijans* traditionally noted for producing fine yarn—particularly in the Andhra.
- Menda Tree* .. A kind of tree whose bark is used as an ingredient in joss stick making—particularly in C.P.
- Mundani* .. Heading of *saris* and *dhotis* in South India (*Tamil Nad*).
- Mundu* .. A coarse piece of cloth not more than two yards in length used as *dhoti* or towel especially in Malabar.
- Mushru* .. A fine fabric in which silk yarn is used in the warp and cotton yarn in the weft (*Bombay*).
- Nada* .. Same as *Nawar* in 'General' List.
- Neryathu* .. Fine uppercloth used by men in Malabar.
- Oorugai* .. Preserved-pickles.
- Paddar* .. Headings of *dhoties* and *saris*.
- Pag(Paga)* .. A turban usually of 8 yards by 1 yard woven out of fine yarn.
- Pagota* .. Variety of silk fabric (*Bombay*).
- Palampore* .. Originally derived from Hindusthani *Palangposh* (bed-cover) now used indiscriminately for Indian hand printed or painted cotton cloth such as canopies and prayer clothes, mats and handkerchiefs.
- Paithani* .. A special type of weaving of gold embroidered *sarees* and *pugries*. (*Hyderabad State*)—It takes its origin from Paithan.
- Palangposh* .. Bed spread.
- Palka* .. A double bordered turban cloth woven by hand (*Bombay*).
- Pancha* .. *Dhoti*.
- Patal* .. Same as *Bali*.
- Patti* .. (1) A variety of carpets produced in Madras Presidency. The patterns are not elaborate and consist only of two colours like blue, red and white.
(2) Long strip of cotton or woollen cloth wound spirally round the leg from ankle to knee.
(3) A narrow piece of cloth stitched together breadthwise to make *purdas* (screens),

VI] PRODUCTS, PROCESSES & APPLIANCES

- pedlars' bags or tents. The width of the piece is 9 to 12 inches.
- Pattu* .. Silk.
- Payadi* — A variety of *lungi* of mat weave.
- Poha* .. Flattened rice obtained by soaking paddy in boiling water overnight, then frying it a bit the next morning and pounding it in a stone mortar with wooden pestles (*Maharashtra*).
- Pugri* .. A piece of cloth tied round the head.
- Ranguli* .. Same as *kolam*.
- Rangoon South* .. A variety of *lungi* cloth.
- Rumal* — A handkerchief (*Bombay*).
- .. A kind of cotton handkerchief generally of check effect sometimes used as head cloth or worn about the neck, the size varying from 18" to 30" square. In parts of the Madras Presidency a special kind of *rumal* is manufactured for use as headwear. It measures 18" to 104" square having lace embroidered border.
- Sankhaveena* .. A kind of *veena* newly made by one Nookada Venkataratna Varma in Masulipatam in the *Andhra*. The inside of its head is shaped spirally like a conch. Its sound is far louder than that of an ordinary *veena*.
- Sappa Pani* .. Block printing of designs in red and black mordants (*Andhra*).
- Selai* .. *Sari* usually of 9 yards.
- Sitradai* .. *Sari* usually of 5 yards.
- Susai* .. A specialised fabric made from coloured yarn in Madras. It is largely used by Mohamedan women.
- Temburni leaves* .. A variety of leaves used in *bidi* making (*Bombay*).
- Tendu leaves* .. A variety of leaves used in *bidi* making (*C.P.*).
- Thundu* .. Towel.
- Tikadi grass* .. A kind of grass used for extracting Rusa oil (*C.P.*).
- Tiwasi* .. Pile carpet.
- Tuwal* .. Same as *Thundu*.
- Vastram* .. Cloth generally used as *dhoti* in Southern India.
- Veshti* — Same as *Pancha*.

3. NORTHERN INDIA

- Abrawan*
(Running water) .. A variety of Dacca *Muslin* of slightly inferior quality. "The fabric owes its name to its texture which is believed to have been so fine as to render the material invisible, if immersed in flowing water.
- Afridi Wax Cloth* .. A cotton speciality fabric of *N.W.F.P.* adorned with coloured wax.
- Agar Athar* .. A perfume distilled in Pargana Patharia in Sylhet from the resinous sap of the *agar* tree (*Aquilaria Agallocha*) which is much esteemed by Orientals. (Assam).
- Alpona* .. Women's art in Bengal consisting in the drawing of beautiful designs on the floor with white and coloured powder for decorating the house.
- Alta* .. A paint made out of shellac. (*Bengal*).
- Amlī* .. A kind of embroidery work done on shawls in which the design is worked in almost imperceptible stitches covering the whole ground of the fabric in an elaborate pattern. (*Kashmir*).
- Angarakha* .. A long skirted gown with long sleeves worn by men and women.
- Assamese jewellery* .. Popular ornaments in *Assam* consisting of lac covered with gold and enamel and set with cheap stones.
- Bafta* .. A lower grade of *kimkhab* (silk brocade) with raw silk warp and cotton weft in which the figures are produced from silk instead of gold thread (*U.P.*). A cloth of cotton and and silk mixture. (*Bengal*).
- Bani* .. Wage fixed on piece work basis. (*Bengal*).
- Begum Behar Sari* .. A beautiful check sari of cotton and silk woven at Tangail (*Bengal*).
- Binni cloth* .. Cloth made from cotton of a natural brown colour particularly in Chittagong Dt. (*Bengal*).
- Chandni* .. Cloth used for ceilings.
- Charkhana* .. Any checked cloth made from single or folded cotton, silk, art silk or woollen yarn and generally used for women's wear (*U.P.*).
- Chhabi* .. *Chikan* work done in white silk thread on white *pashmina* ground (*Kashmir*).

VI] PRODUCTS, PROCESSES & APPLIANCES

- Chikan work* .. Popular style of embroidery on cotton, silk or wool cloth consisting in producing floral designs, etc.
- Choga* .. A kind of loose garment made of wool or silk and usually embroidered.
- Dabbakhies* .. A variety of *khes* also known as *Majnu* or *Multanikhies*. They are made in the *Punjab* in various colours and geometrical designs on 8 to 16 shafts by skilled weavers on double cloth principle. Yarns of colours from two to four different shades are used, the principal colours being grey, blue, yellow and red.
- Daos* .. A kind of hill knife of curved shape and of local manufacture (*Assam* and *Bengal*).
- Dhotar* .. A coarse fabric loosely woven, sometimes with a red warp striped on one side.
- Dobara* .. Most highly refined sugar obtained from *Dolo* sugar (*Bengal*).
- Dolo* .. Soft powdery sugar largely used for sweet meats (*Bengal*).
- Doori* .. A variety of knot stitch work done on shawls, *chogas*, etc. (*Kashmir*).
- Dopatta* .. A kind of scarf generally worn by women.
- Dorya* .. A thin fabric of loose texture of 40s yarn (*U.P.*)
- Filigree work* .. Inlaying of metal on gold and silver ware.
- Gamcha* .. Coarse cloth of open texture, ordinarily of 5 to 6 ft. by 2 to 2½ ft. with or without border, used for cleaning the body or drying it.
- Garha (Gazi)* .. A coarse plain, closely woven fabric used by the poor as clothing or bedsheets especially in the cold weather. (*U.P.*)
- Golpatta* .. A Bengal palm whose leaves are useful as thatching material or for umbrella making.
- Gubba* .. An artistic textile product, peculiar to *Kashmir*, produced by working out designs on woollen cloth by the embroidery or applique methods.
- Himru* .. Brocade with cotton warp and weft with figures in silk and gold threads. (*U.P.*)
- Hogla* .. A variety of reeds used for mat and basket making. (*Bengal*).
- Ismes* .. Coarse needle work done on handspun woollen cloth or coarse cotton cloth. (*Kashmir*).
- Jali* .. A kind of *Chikan* work, mostly based on drawn thread work, so called because looks like a 'jal' (a fishing net).
- Jamdami* .. A figured *mulsin* cloth, hand embroidered the loom.

- Jhapi* — A broad-brimmed hat made of leaves and artistically ornamented with coloured cloth. (*Assam*).
- Jora* — The Muhammadan dress suit comprising— the *dustar* or turban, 2. the *nikah*, 3. the *jamah*, 4. the *kummerband*, 5. the *izar*.
- Kaba* .. Muhammadan garment having very wide sleeves and reaching to the knees.
- Kahan* .. A term denoting 1280 cocoons. (*Bengal*).
- Kamdani* .. A fine cloth ornamented with gold and silver threads. The ground material is a fine muslin and the gilt thread used is of hollow silver wire. A very fine thread is passed through the hollow of the wire and when a sufficiently long piece of wire has thus been passed on the thread, as much is stitched on to the fabric which is kept stretched horizontally on a frame work. The two processes of work are sometimes combined.
- Kammarband* .. A piece of cloth tied round the waist.
- Kani* .. A kind of shawl woven on the loom. (*Kashmir*).
- Kari-kalamdani* .. Work of sketching and designing done by lacquer workers on *papier mache* or smooth wood. It is called so as the best specimens of the old work were pen boxes (*kalamdan*) though a variety of articles like tables and trays are also made. (*Kashmir*).
- Kasida* .. A kind of embroidery in which work is done with untwisted *mug* silk thread (*Bengal*). *Muga* and gold thread embroidered scarf. (*U.P.*)
- Katau* .. A kind of *chikan* work so called from “*katna*” i.e., to cut, because the fabric is cut away in the course of the operation.
- Khais* .. Thick cotton bedsheet. (*Sind*).
- Khai* .. Puffed rice. (*Bengal*).
- Khatamband* .. A kind of ceiling work in which thin slices of pine wood are pieced together with marvellous skill and perfect design.
- Khes* .. Generally used for bed sheetings woven in plain, striped or checked designs and plain twill or other weave from double warp and weft. (*Punjab*).
- Koftgari* .. Damascening work.
- Kumees* .. A variety of old *Dacca muslin* used for making fine *koortas*.
- Lahnga* .. Women’s skirts or coloured and striped or checked cotton fabric used for making skirts.

VI] PRODUCTS, PROCESSÉS & APPLIANCES

- Logri* .. *Sari* used by lower class women in *Bihar* and *Orissa*.
- Lungi* .. In *Punjab* a favourite head-dress of Hindus and Muslims woven in many designs in medium counts on primitive looms.
- Malmal* .. A generic term for the finest fabric of *Dacca*.
- Mejlash* .. A flat dish made by the country potters with a rough surface. (*Bengal*).
- Mekhala* .. Cloth with ends sewn together and used by women as dress or petticoat. (*Assam*).
- Moori* .. Fried or puffed rice. (*Bengal*).
- Motia* .. Coarse cotton handloom cloth used as dress material or furnishing fabric. (*Bihar & Orissa*).
- Muca* .. Turban (*Bengal*).
- Muktas* .. Silk fabrics with cotton flower design. (*U.P.*).
- Muri* .. Raised needle work in *Chikans*. (*U.P.*).
- Mushru* .. A variety of *sofi* with black cotton warp of 30s. and red cotton weft of 40s. (*Punjab*).
- Mutka* .. Cloth made of handspun silk yarn and used for men's and women's wear. (*Bengal*).
- Nakhai* .. Woollen pile rugs. (*N.W.F.P.*).
- Naksha* .. Fancy weaving. (*Bengal*).
- Nal* .. A variety of reeds used for mat and basket weaving. (*Bengal*).
- Namda* .. A fabric made by pelting wool or wool and cotton mixture. (*Kashmir*).
- Pashm* .. The finest wool obtained from the goats of the Tibetan mountains and used for shawls
- Pais* .. A kind of rice measure. (*Bengal*).
- Peco* .. A *dhenki* used for paddy-husking and worked by watermill. (*N.W.F.P.*).
- Photos* .. Rough coloured cloths used in *Bihar*.
- Pish* .. Dwarf palm whose leaves are used for basket and rope-making. (*Sind.*).
- Pithambar* .. Costly dining silk robe worn by Hindu men and women.
- Salla* .. Coarse *sari* cloth of 20 s. (*U.P.*)
- Sangathi* .. One of the finest varieties of plain muslin, so called due to suitability for "presentation." (*Bengal*).
- Sujniwork* .. Needle work which is a spare time occupation of women. (*Bengal*).
- Takko* .. Spindle or *takli* used for spinning or twisting yarn by fishermen and others. (*Bengal*)

- Talim* .. A description of a carpet design, containing a series of hieroglyphs, showing numbers and colours like "lift four and use green," "lift six and use blue". These directions are intelligible only to carpet weavers who proceed with the design accordingly. (*Kashmir*)
- Tangil* .. A crude kind of axe (*Bihar*).
- Tat* .. Cloth for pack-bullock bags. (*Bihar*)
- Tehband* .. A loin cloth woven on the primitive loom with solid borders for the use of Muslim women. (*Punjab*)
- Tasha* .. A variety of wollen manufacture made out of special under wool. A piece of $1\frac{1}{2}$ yards width is so fine that it can pass through a ring easily. (*Kashmir*).
- Zera* .. A coarse cotton floor mat. (*U.P.*).

III. SOME VARIETIES OF PRODUCTS

I. ARTICLES OF BIDRI WORK

- | | |
|----------------------------|--------------------------|
| Ash trays. | Hair clips. |
| Anklets. | Hair clasps. |
| Aftabas. | Ink pots. |
| Bangles. | Jugs. |
| Bagloos buckles. | Jam pots. |
| Broaches. | Jewel boxes. |
| Butter dish. | Lotas. |
| Brush tops and handleless. | Letter racks. |
| Bains. | Letter boxes. |
| Badges. | Medals. |
| Book ends. | Menu card holders. |
| Book marks. | Match box covers. |
| Bed-posts. | Necklaces. |
| Bed-post tops. | Nagardan. |
| Bells. | Napkin rings. |
| Boxes round. | Paper knife. |
| Boxes square. | Pandan. |
| Boxes circular. | Photo frames. |
| Boxes olbong. | Powder boxes. |
| Boxes oval. | Plates. |
| Bicycle-handle grips. | Paper weights. |
| Buttons (all purposes). | Pen holders. |
| Calendars. | Pen racks. |
| Cups and Scissors. | Pipes (smoker's) |
| Cigarette cases. | Pin cushions. |
| Cigarette boxes. | Pen knives. |
| Card cases. | Rulers. |
| Car handles. | Rings (cigarette, etc.). |
| Candle stands. | Spittoons. |
| Cruet stands. | Sari pins. |
| Cutlery canteens. | Salvers. |
| Dish covers. | Sword hilts. |
| Dinner gong. | Scabbards. |
| Decanter stands. | Spoons (all purposes) |
| Car-rings. | Shaving brush grips. |
| Electric lamps. | Saylabchees. |
| Egg cups. | Tea pots. |
| Caster egg covers. | Tie pins. |
| Fruit dishes. | Tie cases. |
| Fish shape boxes. | Trophy cups. |
| Finger bowls. | Toys. |
| Flower vases. | Trays. |
| Flower pots. | Trinket boxes. |
| Ferm pots. | Table lamps. |
| Goglets. | Writing sets. |
| Hukkas. | Wall brackets. |

2. COTTON TEXTILE VARIETIES OF BIHAR

- (1) 60's Malmal.
- (2) 60's Dhoti.
- (3) 60's/80's Sari.
- (4) 60's Sari.
- (5) 42's 60's Dhoti.
- (6) 42's 60's Sari.
- (7) 42's Dhoti.
- (8) 42's Sari.
- (9) 42's Markin.
- (10) 40's Dhoti.
- (11) 40's Sari.
- (12) 9's Gamcha.
- (13) 42's Fancy shirting.
- (14) Superior striped shirting.
- (15) Superior Twill shirting
- (16) Superior check shirting
- (17) 20' Dhoti.
- (18) 20's Sari
- (19) 16's Dhoti.
- (20) 16's Sari
- (21) Lungi.
- (22) 30's 40's Dhoti.
- (23) 12's Motia.
- (24) 20's Nalanda Sari.
- (25) Diamond Bed Sheet
- (26) Ranchi Chaddar.
- (27) 30's Dhoti and Sari.
- (28) Rohtas check Duster.
- (29) Rohtas plain duster,
- (30) H.C. Towel.
- (31) Check Turkish Towel.
- (32) 60's Handkerchief.
- (33) Pardha Material 54" Wide.
- (34) Pardah Material 40" wide.
- (35) Bedsheets 3 Yds 90".
- (36) Oraon curtain
- (37) Small butta material.
- (38) Curtain Lotus.
- (39) Spare figured Jacquard material 40" wide.
- (40) Vaigated figured material No. 201—45" wide.
- (41) Nursing furnishing material 45" wide.
- (42) Mohab curtain.
- (43) Maharathi Purdah No. 204—2¼ yds. by 40".
- (44) Dosuti material 90" wide.
- (45) Raja Rani T.C.

IV. SMALL-SCALE AND COTTAGE INDUSTRIES IN BRITISH INDIA
 (i) For Handloom Weavers

| (1) Name of the Province. | (2) Number of Societies. | (3) Number of Members | (4) Number of looms engaged. | (5) Share capital Lakhs Rs. | (6) Working Capital Lakhs Rs. | (7) Value of finished goods sold during the year. Lakhs Rs. |
|------------------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------------|--|--|
| 1. Assam | 124 | 3,950 | 2,800 | 0.36 | 0.71 | 21.74 |
| 2. Bengal | 1,148 | 78,030 | 1,25,000 | 8.14 | 15.21 | 75.34 |
| 3. Bihar | 12 | 350 | * | 0.15 | 0.39 | 2.72 |
| 4. Bombay | 130 | 12,960 | * | * | 24.32 | 0.55 |
| 5. C.P. and Berar | 128 | 22,240 | 32,030 | † 4.35 | 15.44 | 4.00 |
| 6. Madras | 336 | 65,290 | 39,450 | 20.07 | 50.30 | 373.09 |
| 7. N.W.F. Province | 11 | 160 | 160 | 0.01 | 0.07 | 0.20 |
| 8. Orissa | 78 | 2,990 | * | 0.07 | 0.42 | 7.05 |
| 9. Punjab | 215 | 6,010 | * | † 0.43 | † 7.57 | † 0.30 |
| 10. Sind | 9 | 230 | * | 0.57 | 0.73 | ** |
| 11. United Provinces— | | | | | | |
| Central | 18 | 16,624 | 25,000 | 3.57 | 7.28 | 25.09 |
| Primary | 160 | 8,140 | | 1.24 | 6.12 | 10.15 |

* Information not furnished.

** These societies function only as credit societies.

† Includes particulars in respect of other cottage industries also.

COTTAGE INDUSTRIES OF INDIA

SMALL-SCALE AND COTTAGE INDUSTRIES (Contd.)
(ii) For other Cottage Industrial Workers.

| Name of the Province. | Number of Societies. | Number of members. | Share Capital | Working Capital. | Value of finished goods. | |
|-----------------------|----------------------|--------------------|---------------|------------------|---------------------------|-----------------------|
| | | | | | Produced during the year. | Sold during the year. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| | | | Rs. * | Rs. * | Lakhs Rs. * | Lakhs Rs. * |
| 1. Assam | 35 | * | 33,990 | 2,09,000 | 0.13 | 0.21 |
| 2. Bengal | 158 | 3,600 | * | 2,800 | * | * |
| 3. Bihar | 10 | 390 | * | 1,13,000 | 3.49 | * |
| 4. Bombay | 69 | 4,130 | * | 43,600 | 0.53 | 0.33 |
| 5. C.P. and Berar | 15 | 840 | 12,250 | 4,55,000 | 10.10 | 9.56 |
| 6. Madras | 222 | 15,260 | 1,59,200 | 5,700 | 0.25 | 0.50 |
| 7. N.W.F. Province | 5 | 80 | 150 | 2,04,300 | 4.26 | 4.68 |
| 8. Orissa | 30 | 1,950 | 44,000 | † | † | † |
| 9. Punjab | 157 | † | † | † | † | † |
| 10. Sind | .. | .. | .. | .. | .. | .. |
| 11. United Provinces | 29 | 990 | 26,370 | 1,13,400 | * | 1.58 |

* Information not furnished.

† Particulars included in the figures furnished for weaver's societies.

Note:—Assam and Sind—1944-45

Bihar—1945

Other Provinces—1945-46

(From Agenda and Notes of the XV Conference of Registrars of Co-operative Societies, May, 1947, with the kind permission of the Registrar of Co-operative Societies, Madras).

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