

Kerala Model of Development – Critical Analysis and a Design for the Future

THESIS

Submitted in partial fulfillment
of the requirements for the degree of
DOCTOR OF PHILOSOPHY

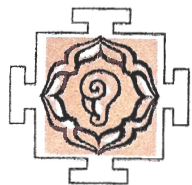
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This is to certify that the thesis entitled "KERALA MODEL OF DEVELOPMENT – CRITICAL ANALYSIS AND A DESIGN FOR THE FUTURE" which is submitted for award of Ph.D. Degree of the Institute, embodies original work done by SRI S. KRISHNA KUMAR under my supervision.

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Abstract

This thesis is intended to fashion and construct a new and upgraded model for Kerala's socio economic development on the foundations of the hitherto model which has been internationally lauded for high degrees of human development with comparatively low investment. The origin and history of Kerala's development process since ancient times, through the pre-independence period of colonial rule and post-independent rule of democratic governments have been traced. The contribution of the socio religious reform movements in the beginning of the 20th century, the role of missionaries and the progressive policies of democratic governments have built the foundations of the state's education, health and social services infrastructure. The social development with equity and justice in turn has resulted in the positive outcome of a demographic transition and population stabilisation. The growth history of Kerala with initial stagnation and present high rate of growth powered by the tertiary sector in spite of poor central government and private investment has been traced.

The progress and the effect of economic reforms from early 1990s on the Kerala economy in the different sectors have been analysed. The views of experts on the very sustainability of the Kerala model in the face of fiscal crisis, chronic unemployment and the lopsided economic development led by the tertiary sector, with the industry and agriculture stagnating, have been highlighted.

A swot analysis of Kerala has been done listing out perceived strengths, weaknesses opportunities and threats faced by the state. The necessity and rationale to utilise the unique strengths, mitigate the weaknesses, meet the threats and seize the great potential and opportunities for the state's socio economic development have been enunciated. The opinion of the people of Kerala on the existing situation and the need for a new model as well as the desired initiatives have been collected under six major variables and 115 sub variables. The variables are grouped under (i) agriculture and allied sectors, (ii) industry, infrastructure and environment, (iii) social security and welfare, (iv) education, skill building and employment, (v) finance and fiscal policies and (vi) governance and project implementation. A predictor equation procedure has been used for designing the upgraded model through regression analysis. The experience of the researcher as an engineer, civil servant and political leader in Kerala for five decades, the opinion of

experts, the results of the swot analysis as well as the findings of the survey of respondents have been used to delineate the structure of the new model.

The subsequent chapters on total justice, comprehensive economic development, full employment and fiscal health and governance detail out the conclusions and suggestions for fulfilling the goal in the next decade of 2012 to 2021 coinciding with 12th and 13th five year plans of a modern prosperous Kerala. Major policy initiatives, separate missions, restructuring of government, establishment of new structures and other details of policy and programmes have been proposed in these chapters. The new projected model is built on the solid and beneficial foundations of the old and embodies a pragmatic course of public polices to achieve the intended aims with the fullest cooperation and mobilisation of all Keralites in consonance with the realities of the globalised environment.

More than 240 items of research literature and books have been surveyed and studied to provide the substratum of the thinking behind this thesis and several eminent resource persons have been personally interviewed and their views incorporated wherever appropriate. The thesis thus is an attempt to fill a gap between the prolific research available on each of the sectors and aspects of the Kerala model and an integrated new model with a realistic policy and programme framework and a route map of pragmatic action to achieve the dream of a new Kerala where the state's potential shall be fully realised.

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LIST OF ABBREVIATIONS

ADAK	Agency for Development of Agriculture, Kerala
ADS	Area Development Societies
AEZ	Agri-Export Zone
AFI	All Financial Institutions
AGMS	Adivasi Gotra Maha Sabha
APL	Above Poverty Line
BPL	Below Poverty Line
BPO	Business Process Outsourcing
BT	Bio-Technology
CBO	Community Based Organisation
CBR	Crude Birth Rate
C-DAC	Centre for Development of Advanced Computing
C-DIT	Centre for Development of Imaging Technology
CDR	Crude Death Rate
CEE	Controller of Entrance Exam
CFU	Catholic Fishermen Union
CIMAP	Central Institute of Medicinal and Aromatic Plants
CMIE	Centre for Monitoring Indian Economy
CPCRI	Central Plantation Crops Research Institute
CPS	Central Public Sector
CSIR	Council of Scientific & Industrial Research
CWRDM	Centre for Water Resources Development and Management
CWRM	Commission on Water Resource Management
DFL	Direct Fiscal Liabilities
DOD	Department of Ocean Development
DWCRA	Development of Women and Children in Rural Areas
EDC	Entrepreneurship Development Committee
EIA	Environment Impact Assessment
EOU	Export-Oriented Unit
ERC	Enterprise Reform Committee
EWS	Economically Weaker Sections
FDI	Foreign Direct Investment
FEDA	Fish Farmer's Development Agency
FFDA	Fish Farmers Development Agency

FIRMA	Kerala State Fisheries Resource Management Society
FRP	Fibreglass Reinforced Plastic
FTA	Free Trade Area
GATT	General Agreement on Tariff and Trade
GDCF	Gross Domestic Capital Formation
GDI	Gender Development Index
GDP	Gross Domestic Product
GEI	Gender Inequality Index
GEM	Gender Empowerment Mission
GIM	Global Investors Meet
GP	Grama Panchayats
GSDP	Gross State Domestic Product
HDI	Human Development Index
HDR	Human Development Report
HDS	Hospital Development Society
HDER	Human Development Expenditure Ratio
I & PRD	Information and Public Relation Department
IAY	Indira Awaaz Yojana
ICAR	Indian Council of Agricultural Research
ICDS	Integrated Child Development Scheme
ICT	Information and Communication Technology
IEM	Industrial Entrepreneur Memorandum
IHDI	Inequality-adjusted Human Development Index
IMR	Infant Mortality Rate
IRC	Indian Roads Congress
IRDP	Integrated Rural Development Programme
ITES	Information Technology Enabled Service
IUCN	International Union for Conservation of Nature
JnNURM	Jawaharlal Nehru National Urban Renewal Mission
KAU	Kerala Agricultural University
KCMMF	Kerala Co-operative Milk Marketing Federation
KELTRON	Kerala State Electronic Development Corporation
KFWFB	Kerala Fishermen Welfare Fund Board
KINFRA	Kerala Industrial Infrastructure Development Corporation
KLGF	Kerala Local Government Development Fund
KMAS	Kerala Muslim Aikya Sangham
KMD	Kerala Model Development
KMS	Kerala Migration Study

KRFB	Kerala Road Fund Board
KSCSC	Kerala State Civil Supplies Corporation
KSIE	Kerala State Industrial Enterprises
KVATIS	Kerala Value Added Tax Information System
LSGI	Local Self-governance Institutions
Matsyafed	Kerala State Cooperative Federation for Fisheries Development Ltd.
MEMU	Mainline Electrical Multiple Units
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MGP	Modernising Government Programme
MLRO	Mean Recorded Level Opinion
MORTH	Ministry of Road Transport & Highways
MSS	Mahila Swasthya Sanghs
MSW	Municipal Solid Waste
MTFP	Medium Term Fiscal Plan
MTFPSS	Medium Term Fiscal Policy Strategy and Statement
NABARD	National Bank for Agriculture and Rural Development
NAC	National Advisory Council
NASSCOM	National Association of Software and Services Companies
NBRI	National Botanical Research Institute
NCDC	National Cooperative Development Corporation
NET	Nursing Education and Training
NFHS	National Family Health Survey
NHG	National Health Care Group
NLM	National Literacy Mission
NORKA	Non-Resident Keralites Affairs Department
NPC	National Productivity Council
NRDWP	National Rural Drinking Water Programme
NRHM	National Rural Health Mission
NREGA	National Rural Employment Guarantee Act
NRI	Non-Resident Indian
NRK	Non-Resident Keralite
NSDP	Net State Domestic Product
NSS	Nair Service Society
NSSO	National Sample Survey Organisation
O&M	Operation and Maintenance
OEF	Oxford Economic Forecasting
PAA	Project Approvals Authority
PDS	Public Distribution System
PPP	Public Private Partnership

PQLI	Physical Quality of Life Index
PRDS	Prathyaksha Raksha Daiva Sabha
PRI	Panchayati Raj Institutions
PST	Purposive Sampling Technique
PUCL	People's Union for Civil Liberties
ROB	Road Overbridge
RSS	Ribbed Smoked Sheets
SAR	Structural Adjustment Reforms
SDP	State Domestic Product
SGSY	Swaranajayanthi Gram Swarozgar Yojana
SHG	Self Help Group
SHM	State Horticulture Mission
SHP	Small Hydro-Power
SIPB	State level Investment Promotion Board
SJPS	Sadhu Jana Paripalana Sangam
SLPE	State Level Public Enterprises
SMART	Simple, Moral, Accountable, Responsive and Transparent
SMPZ	Special Milk Production Zones
SPS	Sanitary and Phytosanitary
SRS	Sample Registration System
SSLC	Secondary School Leaving Certificate
SSNP	Social Safety Net Programme
STR	State's Own Tax Revenue
TBGRI	Tropical Botanical Garden and Research Institute
TEQUIP	Technical Education Quality Improvement Programme
TFR	Total Fertility Rate
TNAU	Tamil Nadu Agricultural University
TRIPS	Trade-related Intellectual Property Rights
TRYSEM	Training of Rural Youth for Self-employment
TSC	Total Sanitation Campaign
TSP	Tribal Sub-Plan
UHT	Ultra High Temperature
UPOV	Union for the Protection of New Varieties of Crops
VFPCK	Vegetable and Fruit Promotion Council, Kerala
WCP	Women Component Plan
WIPO	World Intellectual Property Rights Organization
WTTC	World Travel and Tourism Council

CHAPTER - I

INTRODUCTION

1.1 Prelude to Research

In 2001, Prof. Amartya Sen — the Nobel Laureate stated, “from Kerala’s experience and from objective indicators of what it has achieved in social, economic and political fields through education, which has been spectacular, the rest of India had much to learn”. Lauding Kerala’s achievements in human development, he had earlier commented — “Kerala, despite its low income level has achieved more than even some of the most admired high growth economies such as South Korea” (Sen, 1997).

Table 1.1
Major Social Development Indices - Kerala, India and Select Countries

Index	Kerala	India	Other Countries
Literacy	93.91	74.04	China- 92.2, Chile-95.7, Bangladesh-56.8, Pakistan-54.9, United States-99, N. Korea- 99
Female Literacy	91.98	65.46	China-88.5, Chile-95.6, Bangladesh-52.2, Pakistan-30.3, United States-99, Korea-99
Male Literacy	96.02	82.14	China-96,Chile-95.8, Bangladesh-52.2, Pakistan-68.6, United States-99, N. Korea-99
Primary Education Enrolment	85.59	92	China-87, Chile-95, Bangladesh-NA, Pakistan- 69, United States-96, Bolivia-88, N. Korea-99
Infant Mortality Rate (2005-2010)	11	46.07	China-15.62, Chile-7.4, Bangladesh-48.99, Pakistan-61.27, United States-6, N. Korea-4.08
Expectancy of Life	68	63.20	China-84.41, Chile-77.70, Bangladesh-60.25, Pakistan-64.57, United States-78.37, N. Korea-63.81
Birth Rate (According to OECD, 2011)	14.60	21.8	China-11.9, Chile-14.5, Bangladesh-19.2, Pakistan-27.5, United States-12.7, N. Korea- 14.4
Death Rate (According to OECD, 2011)	6.60	7.1	China-7.1, Chile-5.9, Bangladesh-5.6, Pakistan- 7.3, United States-8.1, Korea-9.0
Human Development Index (estimates for 2013)	0.920	0.554	China-0.882, Chile-0.819, Bangladesh-0.515, Pakistan- 0.515, United States- 0.937, N. Korea- 0.766
Sex Ratio-males/females	0.923	1.08	China-1.06, Chile-1.05, Bangladesh-0.93, Pakistan-1.09, United States-0.97, Korea-0.95
GDP (PPP) per capita	3560	3650	China-8400, Chile-17270, Bangladesh-1777, Pakistan-2745, United States-48112, S.Korea-29834

Compiled from - World Fact Book- 2012, Census of India- 2011 and Kerala Economic Reviews.

The Kerala economy and its developmental history have received global attention, as the state was able to achieve developmental targets comparable to developed economies with a fraction of the investment. The state has realised “an economy growing with extraordinary rapidity”, despite its failure to achieve large-scale industrial development. It achieved better human development compared to other states in India despite poor performance in the areas of employment and income. While the productive sectors like agriculture and industry remained sluggish, the service sector achieved rapid progress. Unemployment resulted in large-scale migration of educated young labour force to other parts of the country and abroad for many decades. Developmental economists and planners appear to be impressed as well as bewildered by this paradox of ‘social development’ and ‘economic stagnation’ coexisting in the state. Kerala has often been described as an economically backward state, on the basis of the dominant negative characteristics like low capita income, stagnant business environment, failure to attract new investment, and a backlog of about 5 million unemployed.

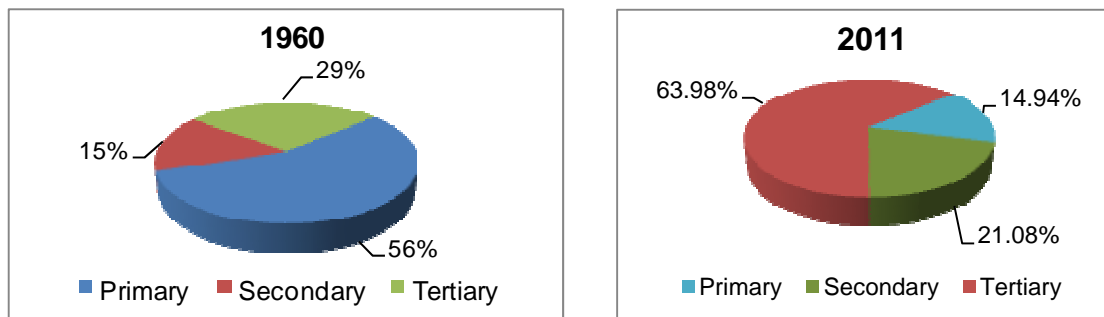
The emigration driven remittance has always played a significant role in the Kerala economy (Zachariah, Mathew and Rajan, 2000). The resultant buoyant effect was an average of 21 percent of the SDP for the period 1991-92 to 1999-2000. A sizeable proportion of remittances are in the form of non-resident Indian (NRI) deposits in banks (Kannan and Hari, 2002). The non-resident Keralite (NRK) remittance reported 35 percent increase during the period 1999-2004.ⁱ During 2003-2008, the number of emigrants went up from 18.4 lakh to 21.9 lakh, registering an increase of 19 percent (Zachariah and Rajan, 2009). The total remittance of the Keralites was estimated to be approximately Rs.50, 000 (Rs.49, 695) crores in 2011 compared with Rs 43,228 crore in 2008. Remittance was Rs.63, 315 per household in 2011 compared with Rs. 57,227 in 2008 (Zachariah and Rajan, 2012).

The indirect result of this fund flow was growth especially of the construction industry, travel related service sector and the self-employment sector. It improved the housing conditions, enabling households to acquire modern amenities, gadgets and consumer durables. The remittances had also reduced the gap between the rich and the poor leading perhaps to a more egalitarian society in Kerala. Only 16 percent of the Gross Domestic Product (GDP) of the state is derived from Agriculture, 23 percent from industry, while

ⁱSee, “The Gulf Revisited Economic Consequences of Kerala, Emigration and Unemployment”, project report submitted to Kerala Research Programme on Local Development (Thiruvananthapuram, Centre for Development Studies) quoted in, P. P Nikhil Raj and P A Azeez , Real EState and Agricultural Wetlands in Kerala, *Economic&Political Weekly*, January 31, 2009. p.63.

almost 61 percent of the economy is contributed by services (Government of Kerala, 2010). The following figure (Figure.1.1) clearly shows sector wise contribution of the state economy and its drastic transformation over the last four decades.

Figure 1.1 - Sectoral Distribution of GSDP, Kerala



Source: Kerala Economic Review, 2011.

The development experience of Kerala was brought to worldwide attention by Raj through his 1975 publication based on a series of case studies. As per the 2010 Human Development Report of UNDP, Kerala and countries such as Costa Rica, Cuba and Sri Lanka had attained much higher human development than other countries at similar incomes. The Physical Quality of Life Index (PQLI) calculated using the index developed by Morris and McAlphin and revised by George (1994) and Oommen (2004) clearly shows that Kerala is far ahead in this index among all Indian states. This unique phenomenon of development without corresponding economic capability sought to disprove the accepted paradigm of the ‘Harrod-Mahalanobis Modelⁱⁱ’ and gave the Kerala development experience the status of an independent model that is often termed the ‘the Kerala Model’.

Social scientists like Parayail (1996) argue that ‘despite its limitations, the ‘Kerala Model’ of development (KMD) should be counted as a possible idealization of a ‘sustainable development paradigm’. Kerala came into existence in 1957 following the linguistic reorganization of Indian states. Its political life started with its government focusing on mass literacy, agrarian relations, amelioration of oppressed castes, women empowerment and education with public policy interventions, which led to a progressive transformation of the state. Kerala’s development paradigm had primarily concentrated on healthcare and education. A most impressive achievement was the provision of health care to both urban as well as rural population at a reasonable price. According to the 1991

ⁱⁱ This model was created by renowned Indian Statistician Prsanta Chandra Mahalanobis in 1953 in order to analyse economic development. He also played a significant role in the formulation of India’s Second Five Year Plan. For details, See, Dasgupta, A.K., (1993) *A History of Indian Economic Thought*, United Kingdom: Routledge.

Census, Kerala had already established the largest private health care sector in India and had achieved the millennium goals for Healthcare long before all other Indian states.ⁱⁱⁱ But the sustainability of this Kerala achievement is in question as recent health statistics of the state reveal a distressing story of a degenerating public health system and mushrooming of expensive private healthcare that is beyond the reach of a large segment of the population.

Knowledge of family planning is near universal and the proportion of couples effectively protected by family planning methods is highest in the state. Kerala's birth rate hovers around 18 per thousand, compared with 16 per thousand in the United States — and is falling faster. The widely acclaimed CDS-UN study (1977) emphasised that it is possible 'in less industrialized and urbanized societies' to attain the third state of demographic transition by means of social development without simultaneous 'rise in per capita income, urbanization and industrialisation'. Kerala is a living realisation of this hypothesis having almost achieved a zero population growth rate.

Performance of the state in the education sector has been truly impressive. It was the first state to have achieved universal literacy and there is near universal school enrolment with gender equality. Another area of remarkable achievement of the KMD is the Public Distribution System (PDS). The state has been able to provide essential commodities such as rice, wheat, sugar, edible oils and kerosene at subsidized prices through a network of 'ration shops'. The statutory rationing system was introduced in 1965 and later the network was systematically expanded. By the turn of the twenty-first century, the state had 14266 outlets from where the ration cardholder could purchase basic essential commodities. Kerala's 20-year lead in implementing ration shops was emulated by most Indian states but so far only four other states (Tamil Nadu, Andhra Pradesh, Gujarat and Karnataka) can actually claim that the PDS system is working equally efficiently both in the urban as well as rural areas^{iv}.

Kerala had a good record among all the states in poverty alleviation due to the high social justice orientation of state programmes and the work of grass root women's organisations such as the '*Kudumbashree*' based on neighbourhood groups. The state pioneered the most progressive land reforms in the country in the sixties but the results were partial in terms of 'land to the tiller' and has resulted in overall fall in agricultural production. This

ⁱⁱⁱ In Kerala, significantly, private hospitals have outpaced the facilities of government hospitals in terms of high-tech methods of diagnosis and treatment. For details see, Ramankutty. V (2000), "Historical analysis of the development of health care facilities in Kerala State, India", *Health Policy and Planning*, 15(1): 103–109.

^{iv} (<http://www.greenstone.org/greenstone3/nzdl;jsessionid=8FA233E3813A861C71DA1109FBCEBF58?a=d&c=edudev&d=HASH01aa95e38a1ea7557754f5ea.8.pp&sib=1&p.s=ClassifierBrowse&p.sa=&p.a=b>)

has been attributed to factors such as land fragmentation as also high farm wages and resistance to mechanisation and technology. The significant fall in rice production has adversely affected food security.

The state is a rural-urban continuum and has a fairly well developed social and economic infrastructure. It has unique mineral resources of china clay and mineral rich beach sands. It stands in the forefront in the implementation of the constitutional mandate for decentralisation with units of local self government with genuine powers and responsibilities and financial delegation.

Chronic unemployment especially of the educated is a most serious social and economic problem of the state. There has been neglect of higher education as well as quality of education in general. The education system is largely divorced from the job market and opportunities. Infrastructure sectors like irrigation and power are inefficient and mismanaged. There has been all round industrial stagnation due to preponderance of traditional industries plagued by high wages, labour problems and vulnerability to the international trade regime. Public Sector Enterprises are poorly managed and are virtually bleeding the exchequer. The state is labelled as an 'investor unfriendly state' because of perceived labour militancy and a poor investment promotion mechanism. Economic growth has been lopsided with high growth of the tertiary sector and stagnation of the other productive sectors of agriculture and industry.

The fiscal crisis, which Kerala confronts today, is adversely affecting the sustainability of its human development attainments. In general Kerala is perceived to be soft state lacking political will to overcome vested interests and obstructionist forces inimical to development. The fractured polity of coalition governments of several parties lack unified and wilful decision making in the state's best interests.

The state's main problem lies in its inability to redirect the path of social development to meet the challenges of globalization ensuring social equity. The state needs to acquire a pro-active role in setting priorities, guiding development, channelling investment and ensuring the realization of both efficiency and equity in the development process. Some of the key areas cited are; relative roles of public and private sectors, importance of induced technological change, state industrial policy, policy on labour and employment, development of agriculture and issues in governance.

The ecological crisis facing the state is also causing concern. As one of the densely populated regions of the country, the state requires careful conservation and powerful control over the ravages of a growing consumerist culture. Kerala enjoys rare varieties of

flora and fauna, and probably, the richest biomass per unit of area in the world, which needs to be conserved.

Kannan (2003), in research conducted at Centre for Development Studies (CDS), Thiruvananthapuram, points out that Kerala is really at a crossroad in its path to further development. International factors exert a much more crucial influence on the economy of Kerala because the state's integration with the outside world is much deeper than India as a whole calling for a fresh approach to planning at the national and state levels. As an important step, Kerala needs a conscious policy on technological change to prevent plunging into further economic stagnation with entrepreneurship caught between labour shortage and the inability to introduce technological changes.

The state also needs a shift from poverty reduction or alleviation to one of absolute elimination of poverty within a time-frame. Due emphasis must return to agriculture and, entrepreneurship and the new approach should give equal emphasis of productivity enhancement as well as welfare policies. The silver lining in the evolution of the KMD is that fears of the model's unsustainability are now receding in the face of what appears to be a new 'virtuous' phase of Kerala's development. Human development and economic growth seem to have started reinforcing each other positively, in contrast to the earlier experience of 'human development lopsidedness' with weak economic growth.

Kerala saw a revival of its economy since the late 1980s, when all the three sectors-primary, secondary and tertiary – exhibited an impressive growth momentum. The enabling conditions were the demographic dividend, emigration and certain economic reforms – which have been collectively termed the engine of 'virtuous' growth in Kerala. HDR 1996, and several other social studies find that state has passed the phase of lopsided development and that "economic growth has not eluded Kerala after all" (Chakraborty, 2005).

1.2 Objectives of the Research

1. To critically analyse the much lauded 'Kerala Model of Development' for its strengths and weaknesses.
2. To identify the key variables associated with social and economic development of Kerala.
3. To propose an upgraded model for social and economic development of Kerala.
4. To suggest specific policy-guidelines and administrative strategies for putting in place the inputs, and devise modalities for achieving the outputs, considering the practical constraints under which the model has to be operated.

1.3 Background of the Study

For a state that has high HDI and supply of rich cognitive capital, the degree of economic development it has achieved is grossly inadequate. The state has not adopted scientific policies for development, commensurate with its developmental potential. The traditional attempts using conventional policy approaches have contributed to the negative aspects of its development. What is needed is a clear departure from the beaten track and adoption of a supplementary package, which will streamline and augment the routine policy initiatives of the government. At one end are the firsts that Kerala has achieved and at the other end are narrow interests myopic to the dynamism of change, lacking the understanding or intentions that could engineer a new model essential for coping with the economic challenges of globalization. The silver lining in the evolution of the Kerala Model is that fears of the model's un sustainability are now receding in the face of what appears to be a new 'virtuous' phase of Kerala's development.

1.4 Need and Importance of the Study

Kerala's rich green landscape, breathtaking beauty, snaking backwaters, high literacy, highest longevity, lowest infant mortality, best healthcare, highest sex ratio, gender equality, robust media, and vibrant rural and urban markets are all, however, caught in a web of paradoxes that has no parallel in any other Indian state. It is high time the state utilises its strengths — to make maximum progress—to create wealth and surplus in the economy that can fuel further investment. A progressive Kerala can access whatever goods and services it is deficient in from the global market place.

The state should adopt rational scientific models for development while considering the ground level realities in which they are to be operated and evolve procedures for achieving the intended outcomes, in the form of special operations with a time-frame set for their realisation. Kerala needs second generation planning when compared to other states in India.

The present day harsh realities point to the inescapable need of Kerala to rethink its entire development objectives and policies. Poverty and regional disparity have to be eradicated, unemployment reduced, agricultural productivity improved, industrial base strengthened and better infrastructure set up.

It is high time for Kerala to settle down to conceive and implement realistic policies rather than indulging in predatory and meaningless partisan political strife. The development strategy has to project a very clear and unambiguous focus on encouraging targeted sectors, harnessing manpower and providing a conducive environment to promote infrastructure, business and industry.

This study aims at strengthening the pluses and rectifying the minuses of the existing model of Kerala's development and identifying areas of proactive interventions to take the state to a new elevated level of growth and welfare – a state on the path of full-fledged dynamic development, social justice and employment.

1.5 Hypotheses of the Study

1. The existing Kerala Model is not conducive either for balanced and sustained social and economic development or for harnessing Kerala's full potential.
2. The proposed upgraded Kerala Model shall be conducive for sustained, social and economic development and for realising Kerala's full potential for achieving the aims of total social justice, comprehensive development, full employment, fiscal health and good governance.

1.6 Scope and Methodology

Research on developmental planning aims at manipulating the input variables on the basis of the knowledge about the output variables, keeping in mind the processes involved. The methodology used for this purpose has to be chosen carefully in order to achieve the objectives. This would imply the identification of essential input and output variables and delineating the ways in which the input variables are to be manipulated to achieve the outputs.

The present study is based on primary survey, pilot study, sampling technique, structured interview schedules, and a respondents' analysis followed by a stepwise regression for selecting the best predicted Kerala upgraded model. In addition the study utilises analytical reasoning by the researcher on the expert opinions of several resource persons. In order to modify the unconstructiveness of the existing Kerala development model, the study follows generally the qualitative research method known as Delphi method to forecast and develop the policies to a new Development Model. Delphi Method is 'a systematic method of collecting opinions from a group of experts through a series of questionnaires, in which feedback from the group is distributed among the members of the group to get the new responses, keeping the confidentiality of the responses' (Helmer, 1966).

The study also highlights the perceived Strengths, Weaknesses, Opportunities and Threats to the socio economic development of Kerala. It analyzes the factors responsible for the evolution of the present Kerala Model of Development. It also encompasses the causes that lead to the unsustainability of the Kerala model and seeks to develop broadly an upgraded alternate planning model for sustainable development of the state. The

method of study is also empirical, based on the experience drawn from planning and public administration. The research is partly descriptive and attempts a critical evaluation of the issues involved. The researcher has applied his mind, suggesting solutions for pressing practical problems of the state.

The approach is generally qualitative, assessing attitudes and opinions on the Kerala situation. Attempt has been made for the diagnosis of the events that take place, and to analyse the processes needed for progress in future.

A review of 238 items of literature, conceptual and empirical, has been made.

The special relevance of the present research is that it benefits from four decades of the researcher's engagement, as a technocrat, administrator, and a peoples' representative, with the socio-economic and political environment of the state. The nuances of the existing KMD and the suggestions for an upgraded model are buttressed with the researcher's 'view' from both the 'outside and the inside' as well as from 'above and below' and these insights are major inputs in this dissertation.

1.7 Limitations of the Study

The conclusions drawn in this study are from the views expressed by experts and sample respondents. Also, the present study is a developmental study, covering 238 review items covering the social and the economical situation in Kerala. If we try to limit the review of items and the variables envisaged in the study, loss of generality may happen on the results of the study. The breadth of the canvas thus has its inherent limitations. Being a study of forecasting for sustainability of social and economic development of Kerala, a broad spectrum subject, the number of pages in the report also could not be limited greatly.

The researcher had wide exposure in the area of the topic of research for the past many years. Getting into too much details of any specific topic also would not be expedient and may deviate the research from the objectives. The effort of the present research has been to highlight the outlines of policies the government and the public of Kerala could possibly follow in order to realise the tremendous political of the state in social and economic development.

The study has attempted to provide a framework of an upgraded model based on which further work can be done detailing out further differentiates of policy and operational plans as well as quantification of their results.

1.8 Chapterisation

The introductory chapter provides the background of the study and delineates its objectives. It also presents the hypotheses and discusses the methodology and the tools as employed in the course of this research. It is followed by a review of literature which takes stock of the existing studies on the evolution of the Kerala Model of Development, the crisis it seems to be facing and its sustainability. The pressing need for designing an upgraded model for the development of the state has been emphasised.

Chapter III deals with the historical evolution of the KMD especially in terms of its human development aspect, the emergence of social reform movements, the emancipation of the deprived classes, the redistributive development strategies of successive governments, the growth history of the state, structural changes in the economy and the effect of economic reforms. It highlights the issue of sustainability of the present model, the critical issues of the present and the recent silver lining of a tangible turnaround of a virtual cycle of growth driven by the service sector.

Chapter IV is a SWOT analysis of the perceived strengths, weaknesses, opportunities and threats of the state inherently and as a result of operation of the present model.

Chapter V – attempts to give the study a statistical underpinning through analysis of respondents opinions using statistical techniques and tries to precipitate the priorities on which a new model can and should be premised.

The narrative and the conclusions of chapters IV and V, further reinforced by the practical experience of the researcher, form the basis for the chapters VI to IX which deal with the strategies and programme thrusts to achieve the goals of the new upgraded model. These recommendations broadly deal with total social justice, comprehensive economic development, full employment, fiscal health and good governance. Various socio economic segments have been clubbed under these chapters based on their relevance and contribution to each of the main goals of the new Kerala Model of Development.

Chapter X summarises the key results of the research and indicates the further scope for research based on this study.

CHAPTER - II

REVIEW OF LITERATURE

2.1 Introduction

Review of literature for an area like a new development model cuts across a wide spectrum of socio-economic problems and the attempt here is to make a survey of a few representative studies, which throw light on the basic issues involved. The studies are presented on the assumption that this will be followed by more exhaustive studies which will sharp-focus on fine-tuning a development model for adoption. It is also attempted to point out the existing gaps in the contemporary literature on the Kerala Model of Development (KMD).

The following few paragraphs outline key literature on the evolution and the strengths of the KMD.

2.2 On High Social Achievements

There are a number of experts in the field of international development who regard Kerala as a unique model of development as it has been able to achieve exceptional social development in such areas as health, education and demographic transition despite low growth economic development and low per capita income.

The scholarly interest in Kerala as a “model” appears to have been triggered by the publication in 1975 of a pioneering study on Kerala’s path to development led by Raj and conducted by the Centre for Development Studies (CDS), Thiruvananthapuram. The study pointed out that Kerala’s people had in fact, achieved a relatively high degree of human development and quality of life despite low per capita income and consumption expenditures. They also suggested that this was the result of a special pattern of development pursued in Kerala, especially the instrumental role played by education.

Kerala’s experience was thus held up as a ‘model’ for the developing world, and the so called ‘Kerala model’ eventually became part of the global development discourse. Opinions on the ‘Kerala model’, however, differed significantly – ranging from enthusiastic admiration to prophecies of gloom and doom (Chakraborty, 2004).

Franke and Chasin (1994) also stated that what have made Kerala unique are its exceptional achievements in social development and quality of life in spite of a relatively low level of economic development. Predictably, Kerala has low per capita income as measured by official statistics, but as regards four social development indicators viz adult literacy, life expectancy, infant mortality, and birth rates, it is not only far ahead of India and every other Indian state (including India's richest state, the Punjab), but it also stands out among low income countries of the world and is even on a par with some middle income European countries.

Patnaik (1995) has discussed the international context of the KMD. In his opinion, this model provides a contrast to the traditional view, which sees development as a sequel to growth and which postulates, in other words, that economies should give the highest priority to growth of per capita output; and if growth occurs then human development would follow. The Kerala model, by contrast, shows that the elimination, or at any rate the alleviation, of the miserable conditions of life which the bulk of the population in the third world faces, does not have to await that distant day when growth has taken place to a sufficient extent for its 'trickle down effect' to make an impact upon the people.

Sen, quoted by George Mathew in Hindu dated 9th January 2001, states "education in Kerala has created major enhancement of day- to-day human freedom, capacity for asserting other rights such as health care, demands for more public services and monitoring their delivery, a better climate for gender equity, and above all, much faster reduction in income poverty than in many other States".

William (1994) pointed out that extraordinary efficiencies in the use of the earth's resources characterise the life styles of the 29 million citizens of Kerala. Following the Kerala leadership we can see our way to prudent human behaviour maintaining high life quality through the twenty first century.

Dreze and Sen (1989) highlighted as 'striking' the very low incidence of severe malnutrition among children and adults in Kerala. Only 1.5 percent of Kerala's children between the ages of one and five suffered from severe under nutrition in 1982 while in India as a whole the percentage was 6.1.

Sen (1992) states that Kerala's fertility rates achieved without compulsion are now lower than those in China and countries in the upper middle income bracket. Sen (1994) stated

that the survival conditions of men and women in Kerala are better than those of Blacks in the United States, and female literacy rates in Kerala are higher than those in every province in China. Zachariah et.al (1994) pointed out that in the debate about third world development, Kerala's most striking achievement may be that it has surpassed the expectations of demographers and has reached the third stage of the demographic transition within two decades.

2.3 Growth Performance

Kerala's remarkable human development achievements were clearly not matched by economic growth. If one takes the period from the early sixties through the end of the eighties, in every sub-period the growth rate in Kerala's NSDP is found to be much below the all-India average. For example, between 1970-71 and 1980-81 Kerala's NSDP (at 1970-71 prices) grew at 2.27 per cent per annum. Between 1980-81 and 1987-88 the growth rate further came down to a mere 1.16 per cent even though India's NDP grew at 4.71 per cent in the same period (Kannan, 1990). Thus, for almost thirty years between the late fifties and 1987-88, Kerala's economic performance had been rather dismal. High labour cost, lower investment due to bad investment climate, lack of resources are found responsible for low growth in Kerala (Chakraborty, 2004 and Subramanian and Azeez, 2000).

In more recent years, however, one observes a turnaround in the narrative of lopsidedness, un-sustainability and crisis. Several studies have now come up with the observation that Kerala indeed has experienced fairly good growth since the end of the eighties (Subramanian and Azeez, 2000; Pushpangadan, 2003; Jeromi, 2003).

Here we give a broad analytical overview of the possible linkages between this new phase of growth and past human development.

2.4 Role of Socio-religious Movements

The literature related to the evolution of the KMD is vital to evaluate the issues that emanate from it. Parayil (1996) critically analyses the evolution of the KMD. He says that Kerala has achieved a remarkable growth in the field of human development with minimum infrastructural backing because of the foundation created by the strong socio-political movements which had taken place during and after the colonial period.

Houtart and Genevieve (1978) endorse the positive role played by the socio-religious movements in Kerala's socio-economic development in the post-colonial period. They

also describe the perceptions and role played by different sections of people during the entire course of the movements.

2.5 Political and Public Action

Tharamangalam and Ronald (1983) argued that when elections were held in Kerala in 1957, the newly established state received international attention by democratically electing the Communist Party to power. A liberation struggle, spearheaded by the Christian churches and the Nair service society, led to the dismissal of this government by the central government in Delhi in 1959. Political forces in Kerala fragmented in the post 1959 period, but a variety of parties broadly re-grouped into two alliances led by the CPI (M) and the Congress party, giving the appearance of a two party system. Although the logic of coalition politics leads to alternating shifts in the electoral fortunes of the two fronts, the communist parties, particularly the CPM, have continued to play a prominent role in public action in Kerala and have remained strong even in the global post communist era. Increasingly fragmented and unable to replenish itself with fresh recruits and energy, the CPM has seen its influence wane in recent times.

Nossiter (1988) observes that only a (very small) state within the (larger) nation state of India, Kerala reveals all the signs of a bureaucratic, socialist, welfare state system - one that is proving to be unsustainable in the new world order of the late twentieth century. He has unflatteringly described Kerala as a degenerated form of feudalism in which managerial barons, their retainers, and marauding contractors pillaged the public treasury. He perhaps overstates the case, but he is on the mark in drawing attention to the feudal character of the state and its predominant role as a distributor of dwindling state resources to various interest groups and to Kerala's political and bureaucratic managerial elite. His characterisation ignores Kerala's greatest achievement as a remarkably successful welfare state and a social democracy that has allowed the left and the right to compete and to come to power with very little violence.

Ramachandran (1994) concluded that Kerala's achievements were because traditional patterns of gender, caste and class dominance were transformed radically. In contemporary India, it is worth remembering that public action, and not policies of globalisation and liberalization, was the locomotive of Kerala's progress.

Tharamangalam (1981) pin points the indicators of Kerala's high quality of life, some easily measured, others more intangible. Examples of the latter are Kerala's high levels

of social mobilisation and democratic participation, an exceptionally high readership of newspapers and magazines, a writers' co-operative that may be the world's first and most successful and an equally pioneering and successful people's science movement. The most intangible indicator of all, perhaps, is the new sense of dignity and self-worth that the formerly oppressed and humiliated sections of its population possess.

Researchers have been appreciative of Kerala's record in poverty alleviation, women empowerment and other areas of social development. Programmes like Kudumbashree at village level have enhanced participation of women in decision-making process and poverty eradication. Pat (2005) surveys the performance of the Kudumbashree projects—a poverty eradication mission Kerala government initiated in 1999—and points out that Kudumbashree with its accent on the empowerment, participation and leadership of women could make a qualitative difference to the life of the people.

Nair (1994) highlighted the role of the family, the state and of NGOs in helping the process of successful ageing and proper management of the problem of ageing for adding life to years along with the addition of years to life.

2.6 Migration and Development

Migration of job seekers from Kerala to countries abroad has reached such phenomenal proportions that its impact is felt in every aspect of life in the state. Since the mid-seventies in particular Kerala economy started receiving significant amount of remittances from Keralites working abroad. Remittance-driven growth in consumer demand is behind the service sector growth. Studies show that apart from house construction, education and healthcare are two major items on which households spend their money received as remittances (Pushpangadan, 2003).

There has been a growing literature on emigration from Kerala and its impact on the economy of Kerala. Kerala Migration Study (KMS) (1998) concluded that "Migration has provided the single most dynamic factor, in the otherwise dismal scenario of Kerala in the last quarter of the twentieth century". One of the positive outcomes of the Kerala Model of Development, migration must have contributed more to poverty alleviation than any other factor including agrarian reforms, trade union activities and social welfare legislation" (Zachariah *et al.*, 2001).

Empirically estimating the total impact of migration is a notoriously difficult task. Nevertheless some commendable attempts have been made in this direction (Kannan and

Hari 2002, Krishnan 1994). Various estimates show that the total remittances form somewhere between 25 to 40 percent of Net State Domestic Product of the state. Including remittances, Kerala's per capita income in 2002-2003 was 60 percent higher than the national figure, and 34 percent higher excluding remittances (Chishti, 2007) The NRI deposit in Kerala was Rs.36,886 crore as at the end of March 2010. The share of NRI deposit to total deposit in the State during 2010 was 25.7 percent. (The Hindu, 2011). It can be argued that the rapid growth of the tertiary sector has been beneficial to the poor in Kerala. Studies find that higher farm yields, higher state development spending, higher non-farm output and lower inflation are all poverty reducing (Narayana, 2002).

However, Abraham (1994) viewed that government policy in guiding NRI investments into industries has not been very effective, in spite of incentives and concessions.

2.7 Land and Agrarian Relations

Understanding the land-labour relations in post-colonial Kerala is another way to comprehend the evolution of the KMD. Krishnaji (2007) in his article, “Kerala Milestones on the Parliamentary Road to Socialism”, examines the land labour relations in Kerala since the early 1950s. He also looks closely at the strategic response of the Left to the changing conditions in agriculture and rural industry.

Some studies critically examine the KMD and its substantial redistribution of land to the poor. Herring (1980) argues that the privilege of obtaining income (and security) from land ownership independent of labouring on the land has been transferred, and on a significant scale, but not abolished; the rents of renters have been abolished, but not the profits of capitalist landowners, who may or may not be functionally absentees. The major beneficiaries of the abolition of landlordism, he emphasises, have been rich peasants, not poor peasants or agricultural labourers.

The following few paras outline some of the key major weaknesses of the KMD discussed in key literature.

2.8 Agricultural Stagnation

Several investigators have highlighted agricultural stagnation, in spite of land reforms, as a critical point in the decline of the Kerala Model.

Kannan and Pushpangathan (1988) explain the agricultural stagnation that set in Kerala since the mid-seventies. The phenomenon is attributed to ill-conceived development of critical factors such as water management and land development, which has been exacerbated by increasing environmental degradation.

The same authors (1990) found that from the mid 1970s to the mid 1980s, rubber was the only crop that showed any increase in output. There was a decline in output for paddy, tapioca, banana, coconut, cashew and areca nut, and stagnation in the case of pepper and cardamom. In the case of two main food crops, paddy and tapioca, the decline was the result of a fall in the area planted, while for banana and cashew production a decline in yield was to blame.

Kurian (1994) points out that the decline in agriculture was accompanied by a fall in the absolute number of independent cultivators and this has resulted in a significant fall in employment in agriculture.

Kurian (1994) further opined that the substantial rise in food consumption during the 1980s and 1990s is completely unrelated to the state's own agricultural production. The fact is that agriculture is neither a subsistence activity nor a viable economic enterprise in Kerala except for a limited number of plantation crops, notably rubber. The phenomenal rise in land prices has little to do with the value of land for agricultural use; land is real estate, needed for residential homes and as an indicator of social status; it is also generally seen to be the safest and best investment given the still volatile nature of the stock market. The radical changes in Kerala's agrarian economy have also led to transformations in the nature of agricultural activities, employment, and lifestyles. The average cultivator in Kerala is now a gentleman farmer who is not engaged personally in most agricultural activities. So also a substantial number of agriculturists have non-agricultural sources of income, mainly remittances from abroad or employment in Kerala's highly bloated service sector. The coexistence of labour shortages with high unemployment is due in part to the perception that agricultural jobs are not economically worthwhile. More importantly, low-status and physically irksome jobs are no longer culturally desirable options in the state.

Jeromi (2003) highlights Kerala's agricultural problems like high cost of cultivation (especially due to labour shortage and high wages), low productivity, high land cost,

concentration on commercial crops, decrease in the size of farm holdings, fall in prices and competition from low priced imports.

Tharamangalam (1984) pointed out that Kerala's agrarian economy has undergone radical and far reaching changes in the previous four decades, especially from 1970 to 1973 and from 1989-to 1992, so that Kerala can no longer be classified as an agrarian society without important qualifications.

2.9 Industrial Stagnation

Industrial stagnation was a predominant factor in the evolving negative characteristics of the Kerala Model. Nanda Mohan and Thampy (1994) argue that the high levels of labour unrest and troubled industrial relations climate which persisted in Kerala's industrial sector during the seventies has created a phobia among entrepreneurs resulting in a considerable fall in industrial investment ultimately causing a deceleration in the manufacturing sector of the state. Though of lower intensity, the phobia still persists in the industrial sector of Kerala and influences the confidence to invest.

George (1996) pointed out that as India enters a new era of accelerated industrialisation in the 1990s it seems that Kerala is slipping further and further behind the nation as a whole and in particular behind such industrially dynamic neighbouring states as Karnataka and Tamil Nadu. In the scramble for attracting investments in the post liberalization period, Kerala is yoked with Bihar, a state that has become synonymous with persistent failures on the development front.

Subramanian (1990) found that Kerala's industrial performance measured by any parameter such as annual growth, share of manufacture in the state domestic product, value added in the factory sector or any like measure has been on a low side. By the 1980s, Kerala with 3.7 percent of the country's total population accounted for only 3.07 percent of the number of factories, 3.12 percent of employment, 2.61 percent of fixed capital, 2.56 percent of gross output and 2.90 percent of net value added in the factory sector of the country. He also stated in the same article that between 1980-81 and 1987-88 Kerala recorded only a pitiable 1.73 percent in value added in manufacturing as against the annual compound growth rate of 10.56 percent for all of India.

Most investigators have been critical of the state's handling of public sector enterprises. Pillai (1990) states that in 1989-90 there were eighty public enterprises, excluding the state electricity Board and Transport Corporation, accounting for 9.7 percent of the total

of 823 enterprises in all of India and with 6.7 percent of total investment. However, of the eighty, only thirty-two units made a profit, a total of Rs.370 million. The losses of the other forty-eight units amounted to Rs 990 million, resulting in a net loss of Rs 620 million to the state. Furthermore, sixty five units had carried forward losses of Rs 6530 million and 37 enterprises had negative worth. The most serious issue here is probably not the losses per se but the lack of accountability.

2.10 Dilution of Social Achievements

Analysts have highlighted the fact that the famed social achievements of the Kerala Model are also getting diluted in recent times.

Kerala does not receive its share for social development since it is seen as having reached the national targets despite the fact that the state is unable to make the recurring expenditure needed to sustain these achievements. George (1996) says the state has already lost its lead in education and health; Punjab has overtaken Kerala in per capita expenditures on education and both Punjab and Rajasthan in per capita expenditures on health. The well-known educational expenditure norm of 6 per cent of NSDP which Kerala generally enjoyed in the 60s and 70s declined to a little over 4 per cent during the 1980s and below that in 12 out of 17 years of the post-reform period. Poor quality of education and health care has been the net outcome of this (Oommen 2008). Pat (2005) gives a much more critical picture on the KMD and he argues that, though Kerala now enjoys a high rate of economic growth and remittances continue to boost consumption, going by a number of socio-economic indicators - such as farm production, unemployment, incidence of lifestyle diseases and suicides - the state is no 'god's own country'.

Saradamoni (1994) states that every forward or progressive step Kerala has taken has thrown up problems before the state and no serious attempt has been made to understand them in their totality. Education and educated unemployed, land reform legislation which did not include production, productivity or employment in its agenda, political awareness and individual or group rights without the essential sense of responsibility both at individual and collective level are just a few examples in this context. Saradamony (1982) earlier examined the changes brought about in the life and status of women by the changes in the agrarian structure. By taking the industrial sector of Palakkad district as a case study, she analyses women's enrolment in the industrial sector. In the industries that were started during 1951 to 1971 there were 664 men and 244 (24.77 percent) women as

regular employees. In the industries started since 1971, the respective numbers of men and women are 502 and 175 (20.45 percent). These facts indicate the hard task of bringing about greater gender opportunities and their equitable distribution. For that to happen women in large numbers belonging to different social and economic strata have to effectively participate in the total process of planned change and development. “This calls for a re-emphasis of the human being in the development model and an ideological frame, which does not emphasise on private gains to translate that model into reality,” she adds.

2.11 Neglect of ‘outlier’ sections of society

Backwardness and alienation of ‘outlier’ segments of the population have been highlighted by researchers as a serious deficiency of the Kerala Model. Kurien (1995) argues that the ‘central tendency’ of the KMD largely deprived the outlier population like fishing community where the indicators of the quality of life pose no paradox of the kind noticed when considering the state as a whole: instead, one is confronted with the ‘normal’ relationship of low incomes with the associated poor quality of life.

The progress and status of socio-economic minorities in Kerala seem to be far behind when compared with other social groups in society. Ādivāsi land alienation and their demand for self-rule are the most pressing and unresolved issues in contemporary Kerala. Raman (2002) says that successive governments have failed to implement several court directives that aimed to restore the alienated tribal lands in Kerala. Compared to southern Kerala, the proportion of landless tribal households in Wayanad and Malabar is high. The traditional slave groups, Paniya and Adiya, are the victims of land encroachment by the outsiders, mostly from the erstwhile Travancore state. The post-second world war ‘grow-more food’ campaign initiated by the government contributed considerably to this migration to the Malabar region. Extensive tracts of tribal land were surreptitiously acquired or usurped by cultivators who immigrated from the plains and the Ādivāsis were reduced to the position of landless serfs of these Hindu, Christian and Muslim exploiters. The greatest suffering has naturally been inflicted on the Paniya and Adiya communities. Role of Ādivāsi Gotra Maha Sabha (AGMS)—the home-grown tribal movement in Kerala—to restore the alienated tribal land has been profoundly discussed in this article.

Prakash (2002) in his work examines the role of the state government in Ādivāsi land alienation. He argues that the state has found out two ways to encroach the Ādivāsi land.

Primarily, to construct the dams in Ādivāsi habitats and the area falling under the project to be declared as wildlife sanctuaries. Secondly, the Ādivāsis who are evicted from the project area migrate to the other/ peripheral areas of the forest, and then the government declares the newly built Ādivāsis habitats as wildlife sanctuaries. Such a covert attempt of the state had eventually alienated Ādivāsis from the forests. Bijoy's (1999) article "Adivasi Betrayed: Adivasi Landrights in Kerala" gives a clear picture of the history of Ādivāsi land alienation in Kerala.

2.12 The fiscal crisis

The chronic fiscal crisis faced by the state has been a strong demystifying aspect of the Kerala Model.

George (1993) viewed that Kerala model of development has almost reached the end of its tether. The paradoxical phenomenon of rapid social development unaccompanied by corresponding gains in economic growth has been exhausting itself. In the same article, George opined that the government has been in fiscal crisis and that deficits are largely in the revenue account, which finances current consumption. The government has been attempting to finance these deficits by using capital receipts and public account and that has severely restricted the government's ability to make capital expenditures. The revenue expenditures are inherently liable to increase over the years not only because of inflation but also because of second generation requirements of social development. For example, health care expenditures and pension payments have been going up as life expectancy has risen dramatically. Kerala government's ability to expand its resources is severely constrained by a variety of factors including stagnation in the tax base and control of taxation policy by the national government. The state government has no control over the substantial remittances of the non-resident Keralites.

George (1996) once again clearly enunciates the systemic nature of fiscal problems of Kerala during the sixteen years from 1974 to 1990 and convincingly demonstrates the fiscal unsustainability of the Kerala model. Basically, Kerala's problem is that it does not and cannot generate enough revenue to finance and maintain its social development, with the result that the state faces progressively worsening deficits.

George also states that since most of the available funds for social development are spent on salaries, very little is left for current expenses or for modernizing facilities. Kerala's social security system faces severe strain due to the increasing numbers of the unemployed and the needs of pensioners whose concerns have not been addressed

properly. Erosion of the state's much admired public distribution system is likely to have serious consequences in Kerala in the future since Malayalees are now more dependent on food imports than at any time in the past.

Tharamangalam (1998) draws extensively on George's fiscal arguments and extends them further to establish that the particular model of state intervention and mobilised pressure from below, which have made exceptional levels of social development possible, are at the very roots of the 'crisis'.

Gulati and Narayana (1994) viewed that the state faces a sort of blind alley. It cannot cut down the social services; the public won't allow this to happen. But because the state has to incur ever increasing revenue account deficits, the size of its plan outlay goes on declining. The only way out of the sort of trap Kerala faces is (1) for the Finance and Planning Commissions to give due recognition to the achievements of the state in social services in the devolution of funds from the centre sufficient to enable the state to build up its economic infrastructure; and (2) for the central government to allocate to Kerala a share of central and centrally sponsored private investment reasonably larger than its population share so that the present gap in economic resources in the state is closed at the earliest. Of course the state has to make all efforts to keep its current revenue expenditure in check so that it can divert maximum resources to the improvement of its economic services.

2.13 Sustainability of the Present Model

A study by the International Congress on Kerala Studies (1994) and the Institute of Social Science in 1996 on Kerala's Development Experience highlighted that Kerala is in the throes of a major fiscal, economic, political and cultural crisis that threatens not only the future developments but the very sustainability of what has already been achieved. E.M.S. Namboothiripad in his presidential address in the 1994 conference said that Kerala is behind other states of India in respect of economic growth and a solution to this crisis brooks no delay. "We can ignore our backwardness in respect of employment and production only at our own peril and let not the praise that scholars shower on Kerala for its achievements divert attention from the intense economic crisis that we face". EMS added.

On the sustainability of the KMD, Rammohan (2000) argues that Kerala's deficient economic, industrial development are increasingly exposing the failings of the 'Kerala Model' of social development. Sadly, thus, the new social anthropology of Kerala's

development merely combines the colonial view with neoliberalism, and fails to fulfil its promise. In the same way, after analyzing the performance of major sectors of the state economy, such as agriculture, industry and the financial sector, Jeromi (2003) in his article titled “What Ails Kerala’s Economy: A Sectoral Exploration”, argues that the 'Kerala model' of development has been facing a serious crisis due to low growth, high cost, low productivity, low investment and low employment in the state economy. Chakraborty’s (2005), suggests that the state’s experience throws up issues that are expected to inform policy-makers elsewhere, in their endeavour to achieve human development goals within the constraints set by modest economic expansion. The positive tone of this narrative was somewhat subdued in the 1990s by the growing literature on the problem of 'sustainability', and the 'crisis' potential of the so-called Kerala model.

George (1994) concluded that the development experience of Kerala economy has been perceived as a model of development, i.e., the experience of Kerala demonstrates how a low-income country/region can attain a high minimum standard of living. However, the commodity producing sectors (agriculture and industry) are showing either a declining trend or stagnation. The increasing unemployment, particularly educated unemployment, and the existence of about one third of the population under poverty line cast serious doubts over the KMD. The question now is whether the regional economy can maintain, at least, the already achieved standard of living in the coming years.

Mathew highlighted Dr. Sen’s assessment of the important lacunae in Kerala society – “These are identified in what has been achieved compared to what could have happened. Dr. Sen calls it “lack of reach in enhancing empowerment”. What are they? (1) Tertiary educational potentials have not been developed adequately - Kerala's relative position has slid back in some respects. (2) Kerala could have done much more on the content and quality of education at different levels to suit the contemporary demands of a rapidly expanding information economy. (3) Overall performance in raising growth rates and increasing per capita income has not been addressed. Keralites go everywhere to make a living, but why is it that opportunities of income and wealth creation within Kerala are not being enhanced? Dr. Sen is of the view that for Kerala the best example is that of China, which first tackled the basic problems of the people and when globalisation arrived, made the best of it. Like China, Kerala has solved the basic problems of its people - unlike China, in a democratic way - and Keralites are prized everywhere in the

world. Kerala must make the best use of the opportunities created by globalisation and fight the inequalities”.

2.14 The Need for a New Model

Véron (2001) evaluates the model and says, the “old” Kerala model, preoccupied with redistributive policies failed however to induce economic development. A new policy is necessary for the reconciliation of social, productive and environmental objectives at the local level and it needs to develop synergies between civil societies, local government bodies and the state government.

Jeffrey (1994) stated that most important in understanding the Kerala Model, is that Kerala economy exists and functions as an integral part of the Indian economy and polity and of the underdeveloped periphery of a world economic system which at this stage needs the cheap un-skilled, semi-skilled and skilled labour of Malayalees.

Kannan (1995) highlights the dialectics of a patronizing state that implements reform and welfare and distributes the fruits of the collective pie to various demand groups on the one side, and, on the other side, the organized groups that engage in political mobilisation and struggles, continuously putting pressure on the state. It is widely acknowledged that Kerala’s gain could not have been achieved without extensive intervention by a well-developed and well-organised state and bureaucratic apparatus that has acted in response to mobilised pressure from below. There is little doubt that state intervention has been instrumental in significantly reducing poverty in Kerala since the mid 1970s. He estimated that by 1983—84 the income effect of Kerala’s poverty alleviation programs represented 26 percent of the income of rural labour households. However, this model of state intervention and politics too seems to have reached its limits and become disruptive of Kerala’s economic and social development. More important, ‘from the point of view of economic growth, it has been a no growth model of intervention, if not an anti growth one’.

Evans (1995) compares the redistributive state of Kerala with its mirror image, the developmental or growth states in East Asia. In both cases, a well developed and relatively effective state apparatus stands in a relationship of embedded autonomy extremely well suited to accomplishing a transformative project aimed at increased levels of welfare. He concluded that the Kerala case reinforces the idea that reconstruction just involves a more encompassing definition of embeddedness. Isaac and Tharakan (1995) in

their article “Kerala: Towards a New Agenda” points out that contemporary issues and possible solutions need to be highlighted rather than much acclaimed achievements in the past.

In the same paper they pointed out that to the extent caste and communal conflicts have persisted in Kerala, they have generally been fought within the framework of the democratic political game and with relatively little inter religious violence or strife. Recent reports, however, suggest a retrogressive trend in this respect. No doubt the resurgence of caste-ism and communalism in Kerala is due at least in part to the current developmental and social crisis in the state.

Kannan (2005) highlights several advantageous factors for future development, such as a demographic transition leading to a very low rate of population growth, an educated labour force, a structural transformation of the economy which has led to 2/3rd of the employment being generated outside agriculture and a labour migration which has familiarized people from Kerala with modern forms of organisation and management of work. According to him, the present turnaround in growth may be the beginning of a virtuous cycle of growth based on human development.

Franke and Chasin (1994) opined that Kerala’s new democratic initiatives could be the start of second generation Kerala Model. If these initiatives succeed in mobilizing and empowering people, they will present a genuine alternative to the inequality and exploitation of the emerging world order.

2.15 Research Gaps

As seen above there is prolific literature on (a) the evolution of the Kerala Model of Development, its achievements in education, health, population control and social welfare, (b) the social and political conditions in which this evolution took place (c) the model’s negative aspects of stagnation of the productive sectors of agriculture and industry and consequent chronic unemployment (d) the sustenance of the model so far through nonresident Keralite remittances and tertiary sector development (d) the fiscal crisis and resultant slowdown in infrastructure and other public investment as well as deterioration of the social sector itself (e) the apparent un-sustainability of the model and (f) the latest turnaround showing a virtual cycle of growth. There are also a large number of studies on the possibilities of development in various areas in which the state is uniquely endowed such as tourism, precious minerals and knowledge based technologies.

But none of the above studies has clearly pointed out the need or constructed an upgraded model for Kerala's development or spelt out the parameters of such a model. Though remedies are prescribed individually there is no specific study on how the KMD can be renewed and reconstructed for sustainable growth, especially in a globalised environment in the form of an upgraded new model of development and welfare. The researcher with his experience in formulation and implementation of public policy felt that there is scope for a study on designing such a new upgraded model for Kerala Development built on the achievements of the old, neutralizing the negatives and deficiencies and utilising the positive strengths of the state. This thesis is an attempt to fill this gap in the field of public policy for overall future development of the Kerala state.

Note: 1) Only some key mainline literature has been included in the review though a much wider spectrum of literature has been studied as may be seen in the text and the list of references.

2) A model is a simplified abstraction that retains primarily the relevant aspects of the system under study (Ford, 2009). A model therefore should be abstract, understandable, precise, predictive and affordable. Model such as Harrod-Domar Growth Model, Lewis Structural Change (dual-sector) model and the Rostow's Model of Economic Growth are approaches that economists deploy in order to make sense of the growth trajectories that national economies tend to follow. These can be observed in varying degrees among the world's developing economies today. Some of these models fail to play out if the institutional and political environment fails to create a stable atmosphere for savings and investment (see Hamberg, 1972). A detailed discussion of such models is therefore beyond the scope of this research and hence skipped. There are also national models of development as followed in other countries such as China, Europe, the US and the four 'Tigers of Asia' i.e. *Hong Kong, Singapore, South Korea* and *Taiwan*. These models are differentiated by different and distinct histories, geographies, cultures and social contexts, political and administrative systems and ideologies and ipsofacto do not relate realistically to India, let alone a state in India, like Kerala. They are thus only of limited theoretical interest. However, some comparisons with other nations have been included in some specific topics such as the HDI of some countries, the population control programme of China or the overseas employment drive of the Philippines because they have some specificity in the Kerala context. In the researcher's opinion to bring together the broad national models of development on the same platform with that of a particular state in a country engenders incompatibility and has also little practical utility. Kerala is a state in the Indian federal structure and the Kerala model as it has evolved can only be upgraded and not transplanted with other models. Its evaluation and upgradation can only be undertaken in the context of the unique socio political and economic conditions of the state. However with regard to certain aspects of the models which had actualized across Indian states, the thesis brings out a cross state comparison at appropriate places.

CHAPTER - III

KERALA MODEL – EVOLUTION

3.1 Introduction

Development and socio-economic justice are the central discourse in the contemporary nation state system. Enhancing basic capabilities emerges as the prerequisite to the grassroot development in most post-colonial states. But poor material conditions along with dysfunctional policies of governments largely failed to address the minimum needs of the people in developing countries. As against this, Kerala has achieved a high-level of social development with minimum economic infrastructural inputs—popularly known as the Kerala Model of Development (KMD). Kerala's success on the social front is commonly attributed to the effectiveness of public action and popular mobilisation which culminated in more responsible governance. But, social sections like dalits, *Ādivāsis* and fisherfolk have suffered relative exclusion from the model. Further, the peculiar geographical features and the settlement patterns of the region, and its possible implications for social development were ignored (Rammohan, 2000).

The operation of the KMD has inter-alia resulted in agricultural and industrial stagnation though growth has been maintained due to fast development of the tertiary sector reinforced by NRK remittances. The perennial fiscal crisis of government has resulted in dilution of the social services, environmental concerns have come to the forefront and perceived labour unrest has contributed to the image of an ‘investor unfriendly’ state. The very sustainability of the KMD has been called into question. The unique strengths of Kerala in terms of natural beauty and resources and educated manpower have to be utilised, the negatives neutralised and a renewed thrust launched in the state for full social justice, employment generation, economic development, fiscal management and good governance. Kerala is now at a crossroads and it is essential to analyse the evolution of the KMD to revamp it into a new and more desirable model.

3.2 Kerala-Etymology

Etymology of the name ‘Kerala’ is uncertain with several stories and myths related to its history. Kerala (*Kerlalam* in Malayalam) is linked to the history of Chera dynasty.ⁱ The name *Keralam* may be derived from the classical Tamil word *chera-alam*

ⁱ *Chera* dynasty is one of the most ancient dynasties in South India that ruled approximately from 900BC and 198 AD. The Cheras ruled over the area extending from Alleppey to Calicut, in the present day Kerala

(“declivity of a hill or a mountain slope”) or *chera aḷam* (“Land of the Cherās”). In Malayalam, meaning of ‘*Kera*’ means “coconut palm tree” and *aḷam* means “land” or “location” and ‘*Keralam*’ means the ‘land of coconut trees’. A 3rd-century-BC Asoka’s rock inscription mentioning a state or people called “*Keralaputra*” is the earliest surviving attestation to the name Kerala. In written records, Kerala was mentioned in the Sanskrit epic *Aitareya Aranyaka*. Additionally, Kātyayāna, Patanjali, Pliny the Elder, and the unknown author of the *Periplus of the Erythraean Sea*ⁱⁱ displayed familiarity with Kerala.

3.3 Geography

Blessed with rich natural diversity, Kerala is a strip of land between the Arabian Sea and the Western Ghats lying between 8°47' and 12°47' north latitudes and 74°51' and 72°22' east longitudes and is well within the humid equatorial tropics. Geographically, Kerala can be divided into three climatically distinct regions: the eastern highlands which slope down from the Western Ghats with rugged and cool mountainous terrain, the central midlands of rolling hills, and the western lowlands of coastal plains with river deltas, back waters and the sea shore of the Arabian Sea. Located at the extreme southern tip of the Indian subcontinent, Kerala lies near the centre of the Indian tectonic plate; as such, most of the state is subject to comparatively little seismic and volcanic activity. Pre-Cambrian and Pleistocene geological formations compose the bulk of Kerala’s terrain. It is a tropical land of some 38,850 square kilometres (about 15,000 square miles). Kerala’s coast line is 590 km, 10 percent of India’s total, while the state itself varies between 35 and 120 km (22–80 miles) in width. The South-west and North-east monsoons bring rain seven months a year with an annual average rainfall of 3,107 mm. Backwaters with lakes comprise a total area of 46,130 hectares (Prasad, 1994).

State with its capital at Vanchi, Karur or Kochi of modern times. For more details see, P. Shankunny Menon (1998), *History of Travancore from the Earliest Times*, New Delhi: Asian Educational Service.

ⁱⁱ *Periplus of the Erythraean Sea* is a Greco-Roman periplus (a sailing-around), written in Greek language between the 1st and 3rd centuries AD. It describes the navigation and trading opportunities from Roman Egyptian ports like Berenice along the coast of the Red Sea, and others along Northeast Africa and India.

KERALA



3.4 A Glimpse of History

According to legend, Kerala was an Asura-ruled kingdom under Mahābali, popularly known as Māveli in Kerala. Onam, the state-wide festival of Kerala, celebrates the visit of King Mahābali to the state of Kerala every year. Another legend is that Parasurāma, an avatar of lord Mahāvishnu, threw his battle axe into the sea; from those waters, Kerala arose.

It is not clear if the region was inhabited during Neolithic times. However, there is evidence of the emergence of prehistoric pottery and granite burial monuments in the form of megalithic tombs in the 10th century BC; resembling their counterparts in Western Europe and other parts of Asia (Peregrine and Ember, 2002). Kerala and Tamil Nadu once shared a common language, ethnicity and culture; this common area was known as *Tamilakam*.

The *Cherās*, whose mother tongue and court language was ancient Tamil, ruled Kerala from their capital at *Vānchi*. They were constantly at war with the neighbouring *Chola* and *Pāndya* kingdoms. A Keralite linguistic identity, distinct from the Tamils and associated with the second Chera empire emerged under the *Kulasekhara* dynasty (C.800-1102) (Pillai, 1952). By the beginning of the 14th century, Ravi Varma *Kulasekhara* of *Venād* established a short-lived supremacy over southern India. After his demise, Kerala became a conglomeration of warring chieftaincies, among which the most important were Calicut in the north and *Venād* in the south (Menon, 1967).

The *Cherā* king's dependence on trade meant that merchants from West Asia and southern Europe established coastal posts and settlements in Kerala. The West Asian-Semitic Jewish, Christian, and Muslim immigrants established *Nasrāni Māppila*, *Juda Māppila* and Muslim *Māppila* communities. The works of scholars and Eastern Christian writings state that Thomas the Apostle visited Muziris in Kerala in 52 AD to proselytize amongst Kerala's Jewish settlements. However, the first verifiable migration of Jewish-*Nasrāni* families to Kerala is of the arrival of *Knanāi* Thoma in 345 AD. Muslim merchants (Malik-ibn-Dinar) settled in Kerala by the 8th century A D and introduced Islam. After Vasco Da Gama's arrival in 1498, the Portuguese gained control of the lucrative pepper trade by subduing Keralite communities and commerce (Curtin, 1984).

Conflicts between Kozhikode and Kochi provided an opportunity for the Dutch to oust the Portuguese. In turn, the Dutch were ousted by Marthānda Varma of the Travancore

royal family who routed them at the Battle of Colachel in 1741. In 1766, Hyder Ali, the ruler of Mysore invaded northern Kerala and captured Kozhikode. In the late 18th century, Tipu Sultan, Ali's son and successor, launched campaigns against the expanding British East India Company; resulting in two of the four Anglo-Mysore Wars. He ultimately ceded Malabar District and South *Kanāra* to the Company in the 1790s. The Company then forged tributary alliances with Kochi (1791) and Travancore (1795). Malabar and South *Kanāra* become part of the Madras Presidency (Irschick, 1994).

Kerala has an ancient history of commercial and cultural contact with Arab, Greek, Roman and Chinese traders for spices (Curtin, 1984). Along with commerce and exploration came several world religions like Hinduism, Christianity, Islam, Buddhism, Jainism and Judaism. Kerala saw several rebellions against the British Raj, including the 1946 *Punnappra- Vayalār* agrarian revolt, and leaders like Velayudan Thampi Dalava, Kunjāli Marakkār, and Pazhassi Rāja earned their place in history and folklore. The 1921 Moplah Rebellion involved *Māppila* Muslims rioting against the British Raj (Menon, 1967). Many agitations spurred by such spiritual leaders as Vaikunda Swami, Sree Narayana Guru and Chattampi Swamikal, protested such conditions as untouchability; notable was the 1924 Vaikom Satyāgrahamⁱⁱⁱ. In 1936, Chithira Thirunal Bala Rama Varma of Travancore issued the Temple Entry Proclamation that opened Hindu temples to all castes; Cochin and Malabar soon did likewise (Jeffrey, 1976).

After India gained Independence in 1947, Travancore and Cochin were merged to form Travancore-Cochin on 1st July 1949. On 26th January 1950 (Republic Day), Travancore-Cochin was recognized as a state. The Madras Presidency went to the Madras state earlier in 1947. Finally, the government of India's 1st November 1956 state Reorganization Act inaugurated the state of Kerala, incorporating Malabar district, Travancore-Cochin (excluding four southern tāluks, which were merged with Tamil Nadu) and the tāluk of Kasaragod, South *Kānara*. A new legislative assembly was also created, for which elections were first held in 1957. These resulted in a communist-led government through ballot - the world's first of its kind—headed by E.M.S. Namboodiripad.

ⁱⁱⁱ Vaikom *Satyāgraham* (1924-25), was a movement against untouchability among the Hindu society. The movement was centered at the Shiva temple, Vaikom, currently in Kottayam district of Kerala. The primary objective of the Satyagraha was to secure freedom of movement for all sections of society through the public roads leading to the Sri Mahadevar Temple at Vaikom. See for details, Jeffrey, Robin (1976), "Temple-Entry Movement in Travancore, 1860-1940", *Social Scientist*, 4(8):3-27.

One of the twenty-eight states of the Indian Union, Kerala occupies 1.2 percent of the land area of the country and with a population of 3,33,87,677 has 2.76 percent of the total population (Census of India 2011). With a population density of 859 persons per square kilometre, Kerala is one of the most densely populated regions in the world. The current population distribution of Kerala according to religion is: 56.2 percent Hindu, 24.7 percent Muslim, 19 percent Christian, (Census, 2011).^{iv}

Table 3.1

Population, Decadal Growth Rate, Sex-Ratio and Population Density, Kerala -2011

Population 2011			Percentage decadal growth rate of population		Sex- Ratio* (Number of Females per 1000 Males)		Population density per sq. km.	
Persons	Males	Females	1991-01	2001-11	2001	2011	2001	2011
3,33,87,677	1,60,21,290	1,73,66,387	+9.43	+4.86	1058	1084	819	859

Source: Census of India 2011

3.5 Human Development in Kerala: Historical Dimensions

The historical underpinnings of Kerala’s achievements in human development and the processes that shaped it differently for the three erstwhile regions are well documented (Tharakan, 1998; Jeffrey, 1992; Kabir and Krishnan, 1996; Ramachandran, 1997).^v The government had initiated several welfare measures immediately after the formation of the state, which were primarily focussed on health and education supporting both private and public initiatives. These initiatives finally became the cornerstone of the KMD.

3.5.1 Education

The state is endowed with a good education system that was led and initiated by the government, supported by aided and private institutions. The linguistic homogeneity of the state is a great facilitator of the spread of school education as 98 percent of Keralites are native speakers of Malayalam making the spread of literacy easier and communication smoother.

^{iv} For details see, Census of India 2011: Provisional Population Totals, *Paper 1 of 2011*, Kerala Series 33, available at. http://censusindia.gov.in/2011-prov-results/data_files/kerala/Final_Kerala_Paper_1_Pdf.pdf

^v Socio-economic milieu of British Malabar was different from Travancore and Kochi. The immobility of the caste structure, the traditional occupational distribution of the elite, the absence of systematic government in the pre-British period, the pattern of land tenures, the structure of family property laws and the population growth during the nineteenth and twentieth centuries made the social system more dysfunctional and led the region into agricultural backwardness. For more details, See, Prakash. B.A (1988), “Agricultural Backwardness of Malabar during the Colonial Period: An Analysis of Economic Causes”, *Social Scientist* 16(6/7): 51-76.

The activities of the Christian missionaries decisively influenced the expansion and development of health and educational facilities in Kerala—especially in central Travancore—by opening up their doors to the underprivileged and the untouchables. The operations of the Christian missionaries were of a much lesser magnitude in Malabar. Unlike in Travancore and Cochin, the caste rules did not have legal protection in Malabar and the schools and hospitals there were, at least in law, accessible to all castes. By 1900-01, Travancore had over a thousand schools under the education department roughly half run by the state and the rest by private management. The schools together enrolled 96,700 pupils (Jeffrey, 2005).

By 1902, Malabar had 1094 recognised schools catering to 71,677 pupils under the control of the education department. In addition, there were 613 indigenous schools with 22,410 pupils. Considering all the schools (government, aided and unaided), the population to school ratio in Malabar was 1,641 vis-à-vis 801 in Travancore (Nair, 1976).

Even prior to 1875 the three administrative divisions into which present day Kerala was divided, had higher male as well as female literacy rate than all India. In *Thiruvithamkoor* and Kochi there was steady increase in female literacy; with particular growth during 1911 to 1951. In 1890 the male-female literacy ratio for all India stood at 17 to 1, while in Kerala it was only about 5 to 1. By 1951 male literacy rate was only 1.6 times higher than female literacy. In other words, the difference between male and female rate of literacy was narrower in Kerala than in the rest of the country (Ibid).

There were several measures taken to promote female literacy such as waiver of school fees for girls in primary schools in *Thiruvithamkoor* in 1896, and in Kochi in 1901 (Ibid). There were policy measures promoting education of castes considered low in the existing social hierarchy undertaken around the beginning of the twentieth century. In 1896, *Thiruvithamkoor* government offered incentives for schools established for the “backward castes” (Gladstone, 1989). In 1906 primary education was made free for students from such castes in *Thiruvithamkoor* which was followed in Kochi in 1909. In Kochi, the proportion of such students increased from 7 percent in 1911 to 12 percent in 1920 and to 25 percent in 1926. In *Thiruvithamkoor*, the number of “backward caste” students increased to 16000 in 1906 and by 1910 they represented 10 percent of enrolment (Ibid). While the backward groups still suffered in relation to literacy and

education, the provision of free primary education facilitated greater participation from even really economically backward groups (Nair, 1981).

It was in 1817 that a Royal descript, much acclaimed in the educational history of Kerala, was issued by the then Rani of *Thiruvithamkoor* accepting the responsibility of the government in assisting village schools (Tharakan, 1984, 1986). Sir T. Madhava Rao, who was described by a member of the House of Commons as the “Turgot of India” who left *Thiruvithamkoor* “A model state”, was inducted as the Dewan and he presided over a memorable period of reforms, particularly in the field of education and administration (Aiyah, 1906). The participation of non-governmental agencies was facilitated by early introduction of grants-in-aid. Protestant Missionaries who were the first to introduce ‘modern’ education benefited from governmental grants in starting schools as also indigenous Christian agencies subsequently (Mathew, 1987).

In the wake of the Educational Rules in Grant-in-Aid Code of 1894-95 the government of *Thiruvithamkoor* established 15 schools for educationally and socially backward castes and communities like Muslims, Ezhavas, Pulayas, Marakkans and Kanis. It was followed in a year by another 15 such schools being opened. Several other incentives were provided for preparing teachers for these schools, in addition to fee exemption and special assistances for starting them. The Christian missionaries once again made the most of such opportunities (Mathew, 1987).

In Kochi, the government established 33 vernacular schools in 1818 (Menon, 1995). Education Code introduced in 1911 abolished fees at primary level and introduced scholarship to poor students (Menon, (ed),1932). In 1921, a Code Revision Committee recommended exemption of fees to the children of depressed classes and half fee concession to Muslims, *Ezhavas* and other backward classes in English schools, and recasting of scholarship rules by enlarging its scope to include girls, Muslims and other “backward and depressed classes” (Ibid).

The above historic evolution in education had achieved substantial gender equity in enrolment in the state. Nearly half of the students in lower primary classes today are girls. There is not much gender disparity in the pre-primary school enrolment either. The proportion of girls is higher in higher classes in schools. This proportion is much higher in arts and science colleges both at the graduate and post graduate levels. The representation of girls in professional courses is however comparatively low. Among the teachers in schools, the presence of female teachers is around 70 percent in Kerala as

against 50 percent in the country. In arts and science colleges, female teachers constitute around 50 percent of the total number (Economic Review, 2009). The teacher pupil ratio during 2008-09 worked out to be around 1:26.

The annual average growth rate (from 1998-99 to 2009-10) of expenditure on education was 11.56 percent. The public spending on education both as a share in the total budgeted expenditure and as a percentage of NSDP has been among the highest in the country. More than 80 percent of this expenditure goes for school education. Kerala's pattern of allocation of public expenditure on education is very similar to that of the East Asian countries, particularly South Korea. What largely accounts for East Asia's extraordinary economic performance is the quantity of *basic* education provided and the consistently high share of public expenditure allocated for basic education.

3.5.2 Health

The uniqueness of the achievements of Kerala in the field of health stands out not from the rest of India but also in the world. Kerala's health care system consists of institutions of government, co-operatives, and the private sector with systems of treatment in allopathy, ayurveda, homeopathy, Sidha, Unani and naturopathy. About 26 percent of the total health care institutions in India are located in Kerala (Census, 1991).

The region had given substantial importance to health sector even during the colonial period. By 1901, Travancore had 35 hospital beds per 100,000 persons and Malabar 15. By 1909, Cochin had 33 hospital beds per 100,000 persons and 7 allopathic medical institutions, or one medical institution per 108 square miles (HDR, Government of Kerala, 2005). In Kerala, the public institutions played a dominant role in training personnel. They also sensitized people to the need for timely health interventions and thus helped to create demand.

3.5.3 Social Welfare

Kerala has the most developed social welfare system in India, including the most extensive network of fair-price shops (public food distribution) and rates of social expenditure that continue to be significantly higher than the national average. The initial momentum in social development that Travancore generated during the second half of the 19th century became stronger during the first half of the 20th century. Both caste and religion-based social reform movements created a positive environment for the state to carry forward the agrarian and social reforms legally. The reformist movements raised

access of the masses, including the socially excluded, to health care and education. However, in Malabar, progress had to wait till the beginning of the nationalist movement followed by radical political and social movements.

Under colonial paramountcy, a 'modern' bureaucracy and organized sector of the economy had evolved and jobs in this sector were granted on the basis of educational qualifications. Thus, modern education became a major asset. This was realized at first by the non-Catholic Syrian Christians along with perhaps the Tamil and Maratha Brahmin communities in *Thiruvithamkoor* and Kochi (Tharakan, 1984).

An independent social welfare department was formed in 1975 for the implementation of social welfare programmes and services in the state. Later, the department also became the frontal agency of the state to initiate and implement welfare programmes for women and other weaker sections of society. Aiming to reduce the social disparities, the department has transferred many of its functions to the three-tier Panchayati Raj system. Kerala State Women's Policy, 2009, an updated version of the "Women's Policy of 1996" and "State Policy for the Elderly" (2003), could be considered as milestones in the evolution of the state's welfare system.

3.6 Socio-religious Reform Movements, Public Action and Socio-economic Change

Socio-religious reform movements which took birth in the beginning of the 20th century played a major role in shaping the socio-economic landscape of Kerala in the later periods. Though the movements functioned on the basis of caste-solidarity, they abolished the symbols of social distance. In practice they benefited above all those who found themselves in a position to rise in society, and for whom therefore this symbolic obstacle of caste had a determining character (Houtart and Lemercinier, 1978). Studies have identified the emergence of socio-religious reform movements (SRRMs) from almost every caste and community which mediated demand for public services and utilities at higher levels of decision making (Tharakan, 1992) as one of the favourable factors in Kerala's development.

The role of missionaries and reform movements among the lower and outcastes during the 19th and early 20th centuries ensured to them some of the essential civic rights. Public services, including schools and hospitals established by the government, however, remained inaccessible to the low castes and outcastes. Some low castes, especially the Ezhavas, seized the opportunities offered by economic changes from the latter half of the 19th century to improve their economic position. The Sree Nārāyana Dharma Paripālana

Yogam (SNDP), established in 1903 to propagate the teachings of Sri Narayana Guru, (1854-1928) was the torchbearer of the emerging consciousness. (Issac, and Tharakan, 1986) Message of the Guru was 'to gain enlightenment through education and strength through organization'. Initially centred on gaining access to schools and other public institutions, and for appointment to government jobs, the movement gradually grappled questions of freedom, like political representation and entry into temples. The SNDP became a vanguard organisation attracting several Ezhava-based groups, not only in *Thiruvithamkoor* but also in Kochi and in Malabar (Rao, 1981; Sanoo, 1976).

Parallely, in 1907, Ayyankāli (1863-1941), the leader of the Pulayās, a lower caste of Kerala, established the *Sādhu Jana Paripālana Sangham* (SJPS) to fight for the depressed castes (Chentharassery, 1979). Around 1914 the agricultural labourers belonging to the Pulayā caste boycotted work in paddy fields under the leadership of Ayyankāli, with the demand that their children be admitted to public schools (George. 1990). It was under pressure from the SJPS that the government allowed admission of children of lower castes into government schools.

Meanwhile, the *Prathyaksha Rekshā Deiva Sabha* (PRDS) which was formed in 1910 under the initiative of Poykayil Yohanānn who later on came to be known as Kumara Guru Devan played a major role in the socio-economic upliftment of the 'slave castes' (Chentharassery, 1983). He demanded that three acres of land along with agricultural credit should be distributed to every household of the former 'slave castes'.

The period also witnessed a collective identity assertion of the Nair community in Kerala. The Nairs of south Travancore came under the organisational framework of the Nair Service Society (NSS) established in 1914 by Mannath Padmanabhan (1878-1970). It was aimed at an internal correction of the community, reforms in marriage and property laws, promoting education and for strengthening their position in government services (Padmanabhan, 1998). Mannam dedicated his life in 1915 for the upliftment of the Nair Community and served as its Secretary for 31 years and as President for three years. The NSS, which he conceived, nursed and nurtured, epitomized the hopes and aspirations of the community. Captivated by Mahatma Gandhi and his principles of Satyagraha, Mannam also led a Satyagraha march called "*Savarnajatha*" in 1924 for the sake of the untouchables. The dynamic roles he played in the "*Vaikom Satyagraham*" and in the independence struggle and his subsequent imprisonment as well as his initiatives aimed at communal harmony, peace and social change made him a legend in his life time.

The Muslim community in Kerala had its own movement of social reform, led by Vakkom Abdul Khader Moulavi (1873-2032) (Tharakan, 1992) and Sanauulla Makthi Tangal (1847-1921) (Fasal, 2005). The leadership of Moulavi through *Kerala Muslim Aikya Sangham* (KMAS) was accepted by other organisations like *Chirayinkil Taluk Muslim Sammelanam*, *Lejnthul Muhammadiya Sangham*, *Alleppey and Muslim Aikya Sangham*, Kodungallur (Kabir, 1994). Yet their collective efforts did not have substantial effect upon Muslim education until after Independence. Moulavi in 1918 started a journal called *Al-Islam* in Arabic-Malayalam script; along with another journal called the *Deepika*. Moulavi influenced the education department to teach Arabic in schools. The organizational efforts associated with the Moulavi were marked by several influential publications; which were the carriers of reform ideas among the community. Among them was the historic *Swadeshbhimani* started in 1905, under the editorship of Ramakrishna Pillai (Vakkom Moulavi Foundation and Trust (VFMT), 1988).

A common characteristic of all these movements was their emphasis on education. Social scientists have pointed out 'public action' as a primary force behind the Kerala Model. Ramachandran (1996) refers to it as "mass political movements" and Sen (1992) as "the mechanism by which accountability got built into the system, included political agitation and organisation on a large scale to increase participation and access". Mass literacy, acknowledged as one of the crucial factors promoting the particular development pattern in Kerala (Dreze and Sen, 1995), was already visible in the southern part of united Kerala, as early as the late nineteenth century (Tharakan, 1984). At the same time the newly emerged economic structures like the plantation economy and the beginning of Public Work Department (PWD) unfolded employment opportunities for the lower and untouchable castes.

The impact of social movements was reflected in the policies of the newly elected democratic government after independence. The granting of homestead rights was fairly well implemented. While in 1964-65, 33 percent of rural labour households were absolutely landless, by 1983-84 their percentage share had shrunk to less than seven. Homestead rights increased the labourers' collective bargaining capacity which resulted in a better real agricultural wage rate too (Raj and Tharakan, 1983). The gain in land and additional income also worked in favour of acquiring educational capabilities.

The fishermen^{vi} community in Kerala was left out from this developmental discourse and history. Their requirements of coastal land for habitat as well as fishing operations were unaddressed while the land reforms were formulated. This is one of the major reasons for the still pending backwardness of the fishermen community in Kerala.

3.7 The Upsurge of Emancipation and Redistributive Development Strategy

The spread of school education, monetisation and commercialization and nascent industrialisation weakened the older order and the freedom struggle saw the emergence of a radical group in the state Congress which emerged into the Communist Party. ‘The combination of nationalism and socialism, enriched by education and a popular literary movement that strengthened working class solidarity, gave rise to a high awareness of human rights with inescapable implications for development’. (HDR, Government of Kerala, 2005)

Radical land reforms in the 1960s were a landmark in the development history of Kerala bestowing a measure of economic freedom upon the large mass of agricultural labour through land redistribution, conferment of ownership rights to poor and creation of colonies for members of the Scheduled Castes (SC) and Scheduled Tribes (ST). Equally radical was the Kerala Agricultural Workers Act (1974), enacted under a Congress government, and hailed as the Magna Carta of agricultural labourers in the state. It prescribed hours of work, security of employment, higher minimum wages and welfare provisions.

An expanding network of social security and welfare measures, such as pension schemes (for agricultural workers, widows, destitutes, the aged and the physically handicapped) and welfare funds (for informal sector workers), taken up over time under populism and organized public demand also ensured enhancing of economic freedom.

Kerala attained high status in health in respect of all standard indicators of maternal, infant and child health as well as of the general health of the people, on par with those of many developed nations, due to the large health care infrastructure facilitating access to institutional care. The network of primary and community health centres extended their services to the remotest of rural areas in the state.

^{vi} The fishing community in Kerala belongs to the social categories of *Mukkuva & Anjootty* (Latin Catholic), *Dheevara* (Hindu) and *Pooislan* (Muslim).

The social development achievements generated the positive outcome of a fast demographic transition, resulting in the release of further demographic pressure. Alongside, the accumulated human capability expressed itself in the ‘Gulf Boom’^{vii}, raising per capita consumption expenditure in the state much ahead of the per capita state domestic income. With this expanded economic capability, public demand for further social development such as education and health care also rose to new heights and the political economy of populism responded positively (Prakash, 1998). The co-operative network successfully extended credit to rural areas that undermined the hold of usury capital and helped to reorganise the traditional industries by removing the middlemen. All these steps were backed by affirmative and enabling legislative measures.

3.8 Overall Growth History

Broadly it may be said that Kerala passed through three economic growth phases: (1) a period of slow growth in the sixties, (2) a period of stagnation from the early seventies until the late 1980s, and (3) a period of high growth thereafter. Kerala-specific studies by some scholars (Subrahmanian and Azeez, 2000; Subrahmanian, 2003) have shown that growth of NSDP of the state since the nineties has been remarkably high.

Economic development in Kerala prior to independence was catalysed by the inflow of private foreign capital into plantations, especially coffee and tea and also into agro-processing industries, primarily coir-mat weaving. The plantation sector accounted for 56 percent of the total invested capital in 1944 - 45. The industrial structure after 1940s was dominated by export-oriented plantations and processing industries. Coconut and its products, and the plantation crops of coffee, tea and rubber together with other hill produce, accounted for more than 80 percent of the state’s exports from 1870 to 1945. In 1940-41, plantations and agro-processing units accounted for over 84 percent of the total workforce in organised industry.

At its formation in 1 November 1956, Kerala had low levels of per-capita income, consumption, savings, investment and growth. In 1957-58, the per capita income of

^{vii} Oil price hike in seventies and the consequent earnings of large revenue had accelerated a process of industrialization in the West Asian countries and raised the demands of foreign labour. This has resulted in a mass migration of a large number of people from Kerala to the Gulf Countries from 1972 to 1983. This initial wave of migration is usually referred to as the ‘Kerala Gulf Boom’, For details, See, Prakash. B.A (1998), “Gulf Migration and its Economic Impacts: The Kerala Experience”, *Economic&Political Weekly*, 33(50): 3209-3213.

Kerala was estimated at 20 percent below the national average. The per-capita industrial income was only one fourth of the national average and educated unemployment was high. The decline in mortality generated fast rate of population growth in a state with the highest population density. At the same time, the level of socio-political activity and organisational density was very high by national standards. All these coupled with the political instability of the state earned it the dubious epithet of a “Problem State”.

Kerala had failed to experience the economic buoyancy that characterised the first three Five Year Plan periods in India. The share of Second Five Year Plan outlay of Kerala was only 2 percent of the - total plan outlay of the states while the state’s share of population was above 3 percent. There was no central public sector investment in the state during the first five year plan and its share of such investment in the second five year plan was only 0.1 percent. The loss of sizeable tax revenues of customs and income tax of the princely states of Travancore and Cochin had not been adequately compensated.

From the early 1960s, however, the state’s economic growth rate was higher than the national average. The NSDP at constant prices grew at about 5.13 percent per annum as against 4 percent for India between 1966-67 and 1972-73. In this period, the rates of growth of agriculture, manufacturing and services in Kerala stood higher than the corresponding national averages. The annual rates of growth of NSDP of the state dipped again from 1973-74 and upto 1986-87, the rate was only 1.63 percent, far below India’s 5.9 percent. But the statistics from 2008 show a marked increase in the per-capita income growth.

Table 3.2
State Domestic Product and Per capita Income of Kerala-2011

Sl No	Item	Income (in crore)			Growth Rate (Percent)	
		2008-2009	2009-10 (P)	2010-11 (Q)	2009-10 (P)	2010-11 (Q)
1	Gross state domestic product					
	a) at constant (2004-05) prices	162659.20	177209.32	193383.39	8.95	9.13
	b)Current prices	202782.79	232381.05	276996.70	14.60	19.20
2	Net state domestic product (state income)					
	a) at constant (2004-05) prices	144093.92	157078.22	171897.32	9.01	9.43
	b) at current prices	180134.36	206200.31	246212.72	14.47	19.40
3	Per capita income (Rs)					
	a) at constant (2004-05)prices	47900	51791	56107	8.12	8.33
	b) at current prices	59716	67916	80366	13.73	18.33

P: provisional, Q: quick estimate

Source: Kerala Economic Review, 2011.

The SDP growth trend of Kerala during the last three decades of the 20th century can be divided into significant phases of (a) 1971-72 to 1986-87 and (b) 1987-88 to 2000-01. The first phase witnessed growth stagnancy and the second a turn around and steady movement on a high growth trajectory. The growth rate of NSDP at constant prices rose to 6.2 percent during the period 1987-88 to 2000-01 as against 1.7 percent during the period 1971-72 to 1986-87 (Subrahmaniam, 2004).

Table 3.3
Sectoral Contribution to Growth (2000-2008)

Period	Primary		Secondary		Tertiary	
	Kerala	India	Kerala	India	Kerala	India
2000-01 to 2004-05	5.4	9.1	24.4	25.9	65.2	65.0
2005-06 to 2007 -08	-5.2	10.3	27.5	25.5	77.7	64.2
2000-01 to 2007-08	1.2	10.4	29.0	25.9	69.8	63.7

Source: CSO National Account Statistics, 2008 &2009 and CSO, state domestic product (state series), 2010.

Courtesy: Chapter.3, “Trends In Kerala Economy And State Finances” Public Relations Department, Government of Kerala, available at: http://www.prd.kerala.gov.in/prc2010/p25_67.pdf

The above table gives the average growth rates of each sub-sector of GSDP of Kerala during the period 2000-01 to 2008-09. The growth performance of agriculture and allied services was quite dismal. The only sub sector in the primary sector which showed above average growth rate was mining and quarrying. The performance of manufacturing sector particularly of registered manufacturing was quite poor. The unregistered manufacturing sector however shows above average performance. The performance of construction sector was quite impressive. Electricity, gas and water supply show just average growth rate. In the services sector, high performance was in communication (24.6 percent) followed by real estate, ownership of buildings and business services (10.7 percent) and banking and insurance (10.5 percent).

3.8.1 Growth performance of Kerala: A Comparison with All-India

The indices of GSDP (2000-01 to 2010-11) for Kerala show the growth rate of 11.57 percent in 2010-11 at constant (2005-05) prices followed by secondary sector (6.1 percent) and primary sector (0.64%). At the current prices, the tertiary sector recorded a growth rate of 20.50 percent, primary sector 19.97 and secondary sector 14.91 percent (Economic Review, 2011). The statistics show Kerala as moving along with all-India from the stagnant growth path in the seventies. The growth revival was followed by Kerala in the late eighties. In the nineties, growth acceleration in Kerala and all-India was more or less at the same pace.

3.8.2 Growth from 1980s

It is widely acknowledged that the early investment in human development facilitated the spurt in growth in the subsequent phase of Kerala's development. Reforms in the 1990s, including the depreciation of the rupee, removal of constraints on investment and import of technology/raw materials, provided a better investment climate. The growth process was supported by Kerala's demographic transition, educational advance, and notably the Gulf remittances, which gave impetus to consumption and investment.

3.8.3 The New Phase of Economic Growth

The decades after late 1980s are characterised by persistence of the acceleration in economic growth and per capita income in the state today is significantly higher than the national average (Jeromi 2003). In 2009-10 the growth rate of state income at current prices was 14.64 percent, the per capita GSDP in was Rs. 67312 (Economic Review, 2010).

Table 3.4
Real Growth Rates of selected Indian states - GSDP % at Constant Prices and other Parameters (as on 25-10-2011)

State	Real Growth Rate-GSDP at Constant Prices (Average 2004-05 to 2010-11)	Fiscal Deficit as % of GSDP		Own Tax Revenue as % of GSDP		Outstanding Liabilities (Public Debt) as % of GSDP		Total Liabilities (Public Debt) as % of Revenue Receipts	
		2009-10 (Pre Actual)	2010-11 (BE)	2009-10 (Pre Actual)	2010-11 (BE)	2009-10 (Pre Actual)	2010-11 (BE)	2009-10 (Pre Actual)	2010-11 (BE)
Kerala	8.95	-3.76	-4.01	7.65	8.39	33.89	30.00	298.98	267.78
Chattisgarh	9.45	-1.63	-2.18	6.49	6.42	14.77	14.42	89.37	83.31
Bihar	10.91	-3.40	-2.16	4.62	5.00	34.02	27.06	167.83	122.08
West Bengal	7.02	-6.41	-4.94	4.24	4.43	43.05	42.59	465.15	404.65
Tamil Nadu	10.40	-3.11	-2.72	7.70	8.73	26.13	20.55	221.60	162.43
Karnataka	8.73	-3.64	-2.72	8.87	9.08	29.06	23.28	203.76	173.11
Andhra Pradesh	8.71	-3.41	-2.29	7.40	8.28	26.59	21.64	195.40	135.50

The figures mentioned in bold are that of the best performing states from among the list. For more information on the performance of the other states see <http://planningcommission.nic.in/data/datatable/index.php?data=datatab> (last accessed on 11th August 2012)

3.8.4 Sectoral Growth

The following table details the sectoral distribution of Kerala's GSDP.

Table 3.5
Sectoral Growth Rate of Net State Domestic Product (GSDP)
at Factor Cost 2008-09 to 2010-11 at Current Rate

Rs. in Crore

Sector	2008-09		At Current Price 2009-10 (P)		2010-11 (Q)	
	GSDP	Percent	GSDP	Percent	GSDP	Percent
Primary	32425	15.99	34491.31	14.84	41378.81	14.94
Secondary	43022.23	21.22	50819.26	21.87	58395.27	21.08
Tertiary	127335.48	62.79	147070.48	63.29	177222.62	63.98
Total (GSDP)	202782.79	100.00	232381.05	100.00	276996.70	100.00

P = provisional, Q = quick

Source: Kerala Economic Review, 2011, p.31.

3.9 Structural Changes of the Economy

The sectoral shares of the NSDP shows that the share of the tertiary sector increased dramatically while that of the primary sector decreased. Reform oriented policies adopted by the state in tourism and higher education could have contributed to the higher growth of the tertiary sector. The tertiary sector's share increased by 37.5 percent in income and 43 percent in employment during 1983 to 1999-2000, whereas the primary sector's share decreased by 26 percent and 36 percent, respectively, during the period. In the secondary sector, while employment share increased by 27 percent, income share fell by 24 percent.^{viii} Thus Kerala bypassed the conventional growth transformation from agricultural economy through an unconventional path.

The strong human capital base also presaged the development of tertiary sector. The government initiated special recruitment drive for representation of the backward and reserved category candidates in the bureaucracy which improved the socio-economic status of these communities. The tertiary sector led growth trajectory depicting "consumerism", became a determining factor of the economy.

3.9.1 Consumption Boom

The consumption pattern in Kerala has undergone significant changes due to the flow of remittances as well as the nature of the demographic transition. The average per capita consumer expenditure of Kerala was below the national average till 1977-78. Since then, this has far exceeded that of India, progressively reaching 41 percent above the national

^{viii} The time points taken coincide with the National Sample Survey Organization (NSSO) data on Employment/Unemployment.

average in 1999-2000 (Kannan and Hari, 2002). The three surveys by National Sample Survey Organisation (NSSO; 35th round, 1983; 52nd round, 1993-94; 55th round, 1999-2000) indicate that the main source of consumer demand was for non-food items in the 1990s. While total demand for food increased by 56 percent in the second period, the demand for consumer durables more than doubled. The contribution of remittances to consumer durables-led growth in the 1990s was 17 times more than that in the earlier period.

Kerala's poor labour relations and a mal-functioning economic infrastructure resulted in stagnation of investment. It pushed away industries from indigenous labour-intensive sectors such as coir and cashew processing and tile manufacturing. The power of organised labour aborted the much needed transition to a technologically advanced, high productivity industrial sector. Technological change including mechanisation was also opposed in agriculture. The inability of the productive sectors to attract investment resulted in the tertiary sector growing to meet the growing consumer demand.

The increased income induced a boom not only in consumption but also in savings as reflected in the high growth rates of bank deposits (at 19 percent per annum during the period 1992-2002). Thus, Kerala's high potential for higher economic growth, expanding market and potential for investment was unfortunately sacrificed – a missed opportunity in the state's development.

3.10 Economic Reforms in Kerala

The state initiated tangible economic reforms only in 2001 when faced with a bad fiscal position running late by a decade compared to the centre and most of the other states. A number of reform measures, however, were announced including a loan from the Asian Development Bank (ADB), reforms in government finances, power sector and governance areas, and holding a Global Investor Meet (GIM) in early 2003, heralding a change of attitude towards private investment. Kerala has since been striving to project investor-friendliness and seeking private investment particularly in sectors like industry, IT, tourism, healthcare and higher education.

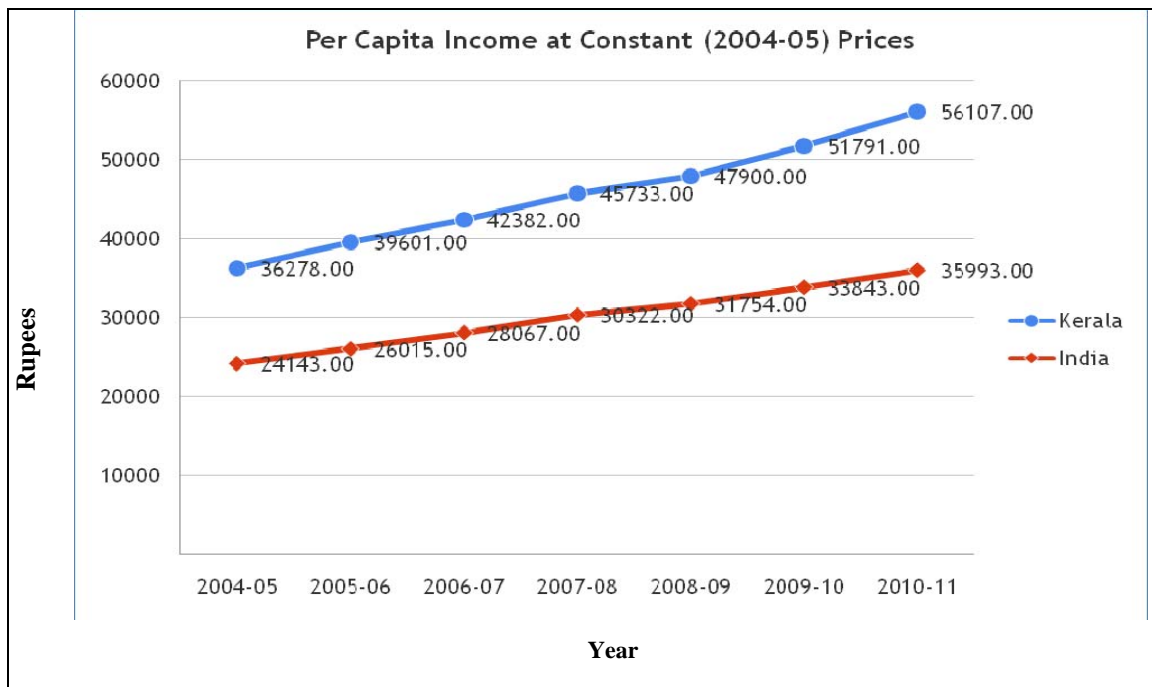
3.10.1 State Income

Data indicate that the reform period witnessed a higher growth of state income due to faster growth of tertiary sector (9.3 percent).^{ix} As per the quick estimates in 2010-11, the

^{ix} For details see, Figure No.1:1: Sectoral Contribution of Kerala Economy, Chapter 1, p.2

per-capita gross state domestic product at constant (2004-05) prices was Rs.56107 against the provisional estimate of Rs.51791 in 2009-10, a growth of 8.33 percent in 2010-11. At current prices, the per-capita GSDP in 2010-11 was Rs. 80366 registering a growth of 18.33 percent over the estimate of Rs.67916 in 2009-10. The graph (Fig:3.1) below shows that during the period 2004-05 to 2009-10, per capita state income is higher than the per capita national income.

Figure 3.1



Source: Kerala Economic Review, 2011. p. 30.

The contribution for primary, secondary and tertiary sectors to the GSDP in 2010-11 at constant prices (2004-05) was 11.06%, 20.13% and 68.80%, respectively. At current prices, the same was 14.94 %, 21.08 % and 63.98% respectively. While analysing the sectoral distribution of state income it is seen that the contribution from primary sector has been decreasing while that of the tertiary sector has been increasing (Kerala Economic Review, 2011).

3.10.2 Agriculture Sector

Unfortunately there has been a dearth of major reform measures in Kerala to revive and modernise the agricultural sector to face the challenges of globalisation. Though the state announced a Biotechnology (BT) Policy in 2003, it failed to offer adequate incentives to the newly arrived biotech companies. Two biotechnology parks and Agri Export Zone (AEZ), covering nine districts, for the export of vegetables, bananas and pineapple as well as three more AEZs were proposed. Progressive farmers of the state however pioneered diversified agriculture by cultivating new high value crops like vanilla, safed

musli and medicinal plants. A welcome development was the introduction of lease land farming by the self-help groups formed by the '*Kudumbasree*'.

The extent of crisis faced by the agriculture sector reflecting the failure of government's steps was evidenced by the fall of agricultural income by 31.2 percent between 1996-97 and 2004-05. The share of agriculture in the state income declined sharply from 33.5 percent in 1990-91 to 11.5 percent in 2004-05. The share of the sector in GSDP showed a continuous decline from 2004-05 onwards. The state failed to evolve scientific methods for harnessing available rain water and also to increase the area under irrigation. The stagnancy of agricultural income reduced investment in agriculture, credit off-take, exports and overall economic activity.

3.10.3 Industrial Sector

The state industrial policy, 2001 aimed at creating a congenial investment climate with emphasis on software, hardware and telecommunications. The IT Industry Policy, 2001, aimed at establishing Kerala as a leading IT destination in the country and attaining a minimum growth of 10 percent every year. It proposed the establishment of IT Parks in the government and private sector and promoted IT Enabled Services (ITES), business process outsourcing (BPO), customer interaction centres, multimedia content creation and e-services. Further, the government constituted an Enterprise Reforms Committee (ERC) in 2002 to look into the reforms needed in the functioning of state level public enterprises (SLPEs).

But in spite of these attempts the growth of NSDP from manufacturing at constant prices showed a negative growth of 3.9 percent during the reform period, compared to 4.8 percent growth during the pre-reform (1990-91 to 2000-01) period. Income from manufacturing fell by 18.9 during 1999-2000 to 2004-2005. The share of manufacturing in state income declined drastically to just 7 percent during 2004-05 from 15 percent in 1990-91 when the all India figures rose from 12.6 percent to 17.3 percent during the period. In IT industry, software exports from the state increased by only 35.3 percent during the reform period. The value of software exports from the state, at Rs 285 crore during 2003-04, was a pitiable 0.5 percent of the total software export from the country.

3.10.4 Investment

The average annual rate of growth in capital investment (at current prices) declined from 12.1 percent during the pre-reform period to 2.5 percent during the reform period till

2002-03. At constant prices, the growth was only 0.3 percent post-reforms as against 12.1 percent pre-reforms. Only six industrial entrepreneur memorandums (IEM) were actually implemented during the reform period (till December 2004) with a paltry investment of Rs 36.0 crore. In amount of investment, Kerala's share in India was only 0.1 percent. The amount of FDI approved was Rs 345 crore, just 0.4 percent of the all-India amount. Only 10 projects were established under the category of 100 percent export-oriented units (EOUs) with an investment of just Rs 52 crores.

The average annual growth of industrial credit stagnated at about 11 percent and share of industry in total credit of commercial banks declined from 31 percent in March 1996 to 20.2 percent in March 2004. Investment credit provided by All Financial Institutions (AFIs) in the state recorded a 9.3 percent decline during the reform period. All these declare the deceleration in private investment in industry in spite of attempted reforms. The impact of economic reforms was minimal because of the lack of consensus, poor implementation and a generally unfavourable political environment. It is an eye opener that as against industry a considerable amount of investment took place in sectors like higher education, tourism, healthcare and retail trade especially in gold and jewellery.

3.11 Sustainability of the Model

A development model is sustainable to the extent that it:

- a) Improves or at least maintains the material quality of life of the population.
- b) Expands or at least maintains access to any entitlements necessary for economic security and personal dignity, particularly of vulnerable groups.
- c) Expands or at least maintains the number of people obtaining access to production resources adequate for a decent life or employment at reasonable wages.
- d) Reduces the level of social and economic inequalities, or at least does not exacerbate them.
- e) Expands or at least maintains basic political and individual rights. Improves or at least maintains productive resources including land, water, flora and fauna (Frankie and Chasin, 1993).

For many years the Kerala model had met most of these criteria. But now Kerala's well documented economic stagnation has resulted in an increasing scarcity of financial resources to pay for costly welfare schemes as pensions, unemployment relief and the public distribution system of food (George, 1993). The fiscal crisis together with the

underdevelopment of productive sectors and the high reliance on Gulf remittance have threatened the sustainability of the old Kerala model with its redistributive policies and radical reforms.

A general rule in economic development is that the share of agricultural sector in the national product declines with economic growth. In Kerala, the share of agriculture in the NSDP declined from 41 percent in 1975-76 to 13 percent in 2003-04 at current prices (Kerala Development Report, 2008). The latest trends of the agricultural production in Kerala indicate a sharp decline in the area under cultivation.^x This was the result of an absolute decline in agricultural income accompanied by the fall in the share of workforce employed in agriculture. In other words, the agrarian crisis of today, which is directly related to the policies of trade liberalisation at the national level, represents a serious drag on the general economy of the state. At the same time, there was a decline in employment in the organised sector and the employment elasticity of even the service sector seems to have fallen. The real picture of the chronic unemployment rates in Kerala is shown in the following table (Table 3.5).

Table 3.6
Unemployment Rates in Kerala (1999-2008)

Various Rounds	Rural				Urban			
	Male		Female		Male		Female	
	Kerala	India	Kerala	India	Kerala	India	Kerala	India
1999-2000 (55 th)	7.6	2.1	19.7	1.5	6.9	4.8	26.4	7.1
2004-2005 (61 th)	5.1	1.6	20.1	1.8	6.2	3.8	33.4	6.9
2007-2008 (64 th)	5.7	2.3	18.2	1.9	5.9	4.0	26.9	6.6

Source: *Various Rounds of NSSO Surveys*

At the same time the 2011 national sample survey findings shows that the unemployment in Kerala has come down during the last five years. In rural areas the present rate of unemployment is 8.8 percent, as against 15.8 percent in 2004-05. Gender wise these rates are 3.7 percent and 20.7 percent among men and women respectively. These rates were respectively 8.3 percent and 30.9 percent five years earlier. In urban areas these rates are 8.3 percent and 19.9 percent respectively for the present and five years earlier. The gender-wise split up for the present is 3.4 percent (men) and 19.8 percent (women) and these figures five years earlier were respectively 9 percent and 42.9 percent. At the

^x For details see, Table 4:9: Trends on Agricultural Production in Kerala. Page No.84

national level the unemployment rate is 2.5 percent (men 2.2 percent and women 3.3 percent)^{xi}. Kerala's economic growth shows drastic positive change from 1987 and the rate is faster than the national average. During the last five years this trend has shown further improvement and Kerala is now placed at the fourth place among all the states.

The new 'knowledge' and technology based service activities could have been the driver of overall economic growth raising the output of the service sector as well as the overall productivity of the general economy. But the service sector is dominated by low skilled activities, biased towards consumer — oriented services with limited interlinkages with the other productive sectors. These factors make the current phase of growth of questionable sustainability.

The sustainability of the Kerala Model has been questioned from the environmental perspective also (George and Chattopadhyaya, 2001). Higher consumption leads to larger generation of waste and also larger utilization of non-renewable natural resources like forests, clay, river sand, water etc.

Environmental problems have become more apparent and have begun to affect environmental sustainability. The most important environmental problems are caused by deforestation of previous decades, ongoing paddy conversions and disruption of the backwater ecosystem. Of growing concern also is the 'chemicalisation' of agriculture, pollution of water and soils, urbanization and air pollution. A range of other more localized events, such as industrial pollution in particular areas, excessive sand mining and pollution of some rivers, and destruction of natural flora and fauna (The Hindu: Survey of Environment, 1991).

Sustainability has also to be viewed in the context of the emerging world situation. Structural adjustments tend to negate past achievements, promoting policies favouring affluent consumers. Fewer restrictions on investment can lead to the increasing outflow of investment from the state. Abolition of subsidy protections to domestic agriculture could undermine Kerala's spice, cashew and other cash-crop exchange earnings. Small firms might lose government protections leading to further un-employment in cottage industries. Market hegemony of health, education and social welfare could price out the poor, evidence of which is already being seen. Oommen (1994) has characterized these trends as 'euthanasia' for the Kerala model.

^{xi} For more details, See, Ministry of Statistics and Programme Implementation, URL: http://mospi.nic.in/Mospi_New/site/India_Statistics.aspx?status=1&menu_id=14.

3.12 The Model at the Crossroads

The 'crisis' of the Kerala model has been highlighted by many scholars. 'The Kerala model of development has almost reached the end of its tether. The paradoxical phenomenon of rapid social development unaccompanied by corresponding gains in economic growth has been exhausting itself' (George, 1999). The national schemes for unemployment reduction largely did not suit the peculiarity of Kerala's situation. In addition, the growing fiscal crisis faced by the region from mid-1980s, added to the state's problems (George, 1993). The Kerala model is plagued by many negative trends viz: stagnation in industrial and agricultural production (Subrahmanian and Pillai, 1986; Subrahmanian, 1990; Kannan and Pushpangadan, 1990), out-migration of industries (Oommen, 1979), exceptionally high unemployment rates (Mathew, 1995), acute power shortages (Prakash, 2004), persistence of poverty (Kurien, 1995), unresolved tribal land question (Raman, 2002; Kurup, 1971) and all-round reduction in the quality of services and the debilitating fiscal crisis of the state (George, 1993). The long drawn out nature of the crisis has also led observers to question the very sustainability of the underlying model of development (George, 1993; Tharamangalam, 1998).

There is a serious problem of quality of education at all levels and most of the unemployment problem is that of the educated especially those without any skill or specialised knowledge.

Kerala's image as an 'investor-unfriendly state' has persisted even after six decades of the formation of the state. Although political parties and trade unions are taking halting steps to change this image, the change of perception of especially prospective investors, seems to take time. A sustained campaign highlighting Kerala's favourable factors backed by the provision of high quality infrastructure facilities and a vibrant industrial and investment promotion mechanism is imperative to alter this negative image.

The fiscal crisis faced by the state is leading to a declining share of capital expenditure in total public expenditure. This has exacerbated the state's capacity to enhance the quality and quantity of public and collective goods especially in infrastructure. From every possible parameter of measurement Kerala has the worst record of unemployment in the country even though lately there is some improvement. With 3.4 percent of India's population it had accounted for nearly 16 percent of the country's unemployed youth (Oommen, 1993). In terms of relative intensity of unemployment, Kerala's figure of 4.63

was way above that of any other state (Tharamangalam, 1998). As must be expected a large number of Kerala's unemployed are graduates and post-graduates.

Given Kerala's dependence on employment outside the state and the country, one would have expected the educational system to cater to the needs of these job seekers. However, Kerala's facilities for providing the needed training are meagre and underdeveloped forcing a large number of Malayalees to go outside the state for the required training. For instance, at least since the 1950s Kerala's nurses have sought and found employment in many parts of India and abroad including Germany, Canada, USA and the Gulf. Yet, the majority of these young women had to seek the needed training in other Indian states and not Kerala, facing acute difficulties and privations in the process.

Public sector enterprises do not work in conformity with economic rationality nor educational institutions with norms of academic standards and priorities. In sum, Kerala has left behind the phase of rapid human development improvement and low economic growth but it faces many a hurdle in translating its existing high human development status and relatively high growth into meaningful developmental outcomes.

Thus, human development and overall achievements of Kerala are now under serious threat from: an almost stagnant economy, widening gap between the aspirations of the people and actual achievements, the fiscal crisis, threat of falling gulf remittances and increasing return of the immigrants, increasing anarchy in administration and in society, growing apathy to manual work, growing consumerism, general lack of appreciation and creative response to these threats by the people and their leaders.

Industrial growth is stunted because of:

- An almost indifferent if not hostile administration and uncoordinated, lax decision making,
- Shortage of electricity and poor infrastructure like roads and communications,
- Fragile environment, high cost of land,
- Spectre of labour indiscipline,
- Paucity of local entrepreneurship
- A poor industrial promotion mechanism.

Though Kerala does not face a severe ecological crisis, so far, environmental problems have become more visible and started to affect environmental sustainability. Increasing consumerism and rising imports from other states, boosted by the influx of Gulf

remittances, suggest that Kerala is increasingly externalizing environmentally unsound industrial production (Veron, 2001).

Limitations of the old Kerala model in terms of economic and other failings also include persistent poverty, especially among tribal populations, the fisher folk, labour migrants, elderly women and widows, high and still rising suicide rate among young people (Prakash, 1994; Iyer 1996). The economic stagnation has been compounded by buckling to populist demands and political stalemates, inconsistent policies of successive state governments, poor central allocation of public sector investment, power shortage; inappropriate curriculum of higher education, use of Gulf remittances to catch up with consumption rather than to invest in production and excessive party-politicization down to the local level (Oommen, 1993; Prakash, 1994 and George 1997).

The fiscal crisis together with the underdevelopment of productive sectors and the high reliance on Gulf money have threatened the sustainability of the old Kerala Model with its redistributive policies and radical reforms. Large arrears in tax collection and loan recoveries (loans provided by the state) have aggravated the fiscal problem.

3.13 Recent Turn Around

Lately, evidence is forthcoming that Kerala has got out of the low-growth syndrome. This had its positive implications for reduction of poverty as well. One close observer of the Kerala scene (Kannan, 2005) has suggested that the turnaround in growth may be the beginning of a virtuous cycle of growth based on human development. Recent empirical evidence shows greater “economic growth seemingly helped by early achievements on the human development front” (Chakraborty, 2005). Irrespective of some important problems like persisting female disadvantage in social and economic roles, and the issue of social security including reprioritisation of health care facilities for the increasing population of the aged, a new development 'narrative' is suggested for Kerala (Ibid). Several advantageous factors for future development, such as a demographic transition leading to very low rate of population growth, an educated labour force, a structural transformation of the economy which has led to two thirds employment being generated outside agriculture and a labour migration which has familiarised people from Kerala with modern forms of organisation and management of work, are brought to attention (Kannan, 2005).

The predicted collapse that Kerala might not be able to sustain its attainments in human development has been belied. On the contrary, the state has been able to sustain and improve upon human development. The so called 'limits' to the Kerala model of development appear to have somewhat receded. The crucial factors contributing to this are the remittances from overseas migrants, the growth of the service sector, the earlier attainments in health care and in education. Things are looking up on the economic front too with the evidence of a new class of entrepreneurs emerging. Diverse initiatives in the service sector and to some extent in manufacturing and agriculture related activities have come out (Kumar and Parayil, 2002).

3.14 Conclusion

The Kerala Model Development had its logical roots within the socio-political history of the pre and post colonial period, which drastically altered the state's land relations, social milieu and largely contributed to the high human development. Notwithstanding the signal achievements in the social sector, the state still lags behind in agriculture, industry and creation of employment. The social-inclusiveness of the KMD has eluded deprived sections like *Ādivāsis* and fishermen in the state. Moreover, its heavy dependence on the tertiary sector and emigrant remittances as well as the fiscal crisis and lack of political will are obstacles to the comprehensive development of the state. Though fears of the KMD's unsustainability is receding with the recent virtual cycle of growth, a comprehensive policy and programme package in the form of a new upgraded KMD has to be fashioned to take the state to higher levels of socio-economic development.

CHAPTER IV

A SWOT ANALYSIS OF

KERALA'S SOCIO ECONOMIC DEVELOPMENT

4.1 Introduction

From a very low profile, Kerala achieved remarkable progress in the field of human development, reaching the level of advanced economies elsewhere in the world. Kerala's high human development experience is devoid of a sharp rural-urban divide or obvious gender disparity. It has respectable food and nutritional security and a social security system covering most organised and unorganised sectors. The state's female-male ratio has been consistently well above that of the all India average and even above that of Japan. A remarkable fertility decline achieved as a matter of choice, exceptional cultural attainments like greater learning time and wider reading habit with a library in all the villages are the hallmarks of this social development. The state has achieved virtual emancipation of the 'lower' caste/strata of the social order, abolition of feudal relations in the agrarian sector and has evolved into a multi-religious, multi-cultural population flourishing in a symbiotic relationship. These are significant achievements.

4.2 Strengths

Generally, the KMD illustrated the capability of a society with relatively low income to achieve high physical quality of life indicators like high literacy, high life expectancy and low infant mortality. Areas of perceived strength of the state are discussed below.

4.2.1 High Human Development Index (HDI)

Kerala continues to rank at the top among Indian States in the human development index (as per 1981, 1991 2001 and 2011 estimates of the Census of India), with steady improvement reaching 0.625^{vii} in 2010-2011. The state is also ranked at the top in the Gender-related Development Index (GDI) among major states in India reaching 0.746 in 2001. Kerala has life expectancy at birth of around 72 for males and 75 for females (64 and 65 respectively for all India), IMR of 12 (50 for India), and a TFR of 1.7 (2.6 for India) (Rajan and James, 2011).

^{vii} For details See, Suryanarayana. M.H. (et.al.) (2011), "Inequality-adjusted Human Development Index for India's State:2011", New Delhi:UNDP,
URL:http://www.undp.org.in/sites/default/files/reports_publication/IHDI_India.pdf

Rankings obtained by the south Indian states in disparities within the segments of population was reported in *India: Social Development Report 2008*. Kerala ranks first with regard to rural areas, scheduled castes (SCs) and scheduled tribes (STs) and non-SCs/STs and second for urban areas for the whole of India.

Table 4.1

Disparities – States and Social Categories (Kerala and India)*

	Composite Index		Ranking Kerala
	India	Kerala	
Rural areas 2005	33.97	72.57	1
Urban areas 2005	44.84	67.49	2
Scheduled castes 2001	24.89	61.55	1
Schedule tribes 2001	19.56	50.24	1
Non-SCs/STs 2001	34.38	68.02	1

* Sourced from H M Mathur (ed). (2008). Composite Index is worked out based on six component indices – demography, healthcare, basic amenities, education, economic deprivation and social deprivation –and the Aggregate index as obtained by range equalisation method for 20 large states.

Also T.K. Oommen (2008), “Development Policy and the Nature of Society: Understanding the Kerala Model”, *Economic & Political Weekly*, 48(13):25-31.

4.2.2 High Gender Equality

There were significant beneficial changes in the position of women in Kerala from 1880s to 1950s. Changing patterns of division of labour and wider economic processes constantly redefined the role of women in society. These also signified varying implications for women in terms of support structures and choices (Ganesh and Risseuw, 1994). Kerala ranks first among the Indian states not only in HDI but also Gender Equality Index (GEI), Gender Empowerment Measure (GEM) and Inequality-adjusted Human Development Index (IHDI).

Statistics (from different human development reports) indicate that women have contributed more than men in the development of education and health programmes of the state. 50 percent reservation in local self- government institutions has substantially complemented women’s political empowerment in the state. ‘Kudumbashree’ has introduced several programmes for the economic and social upliftment of poor women at the grass roots.

India – States with Human Development Indices for the year 2001

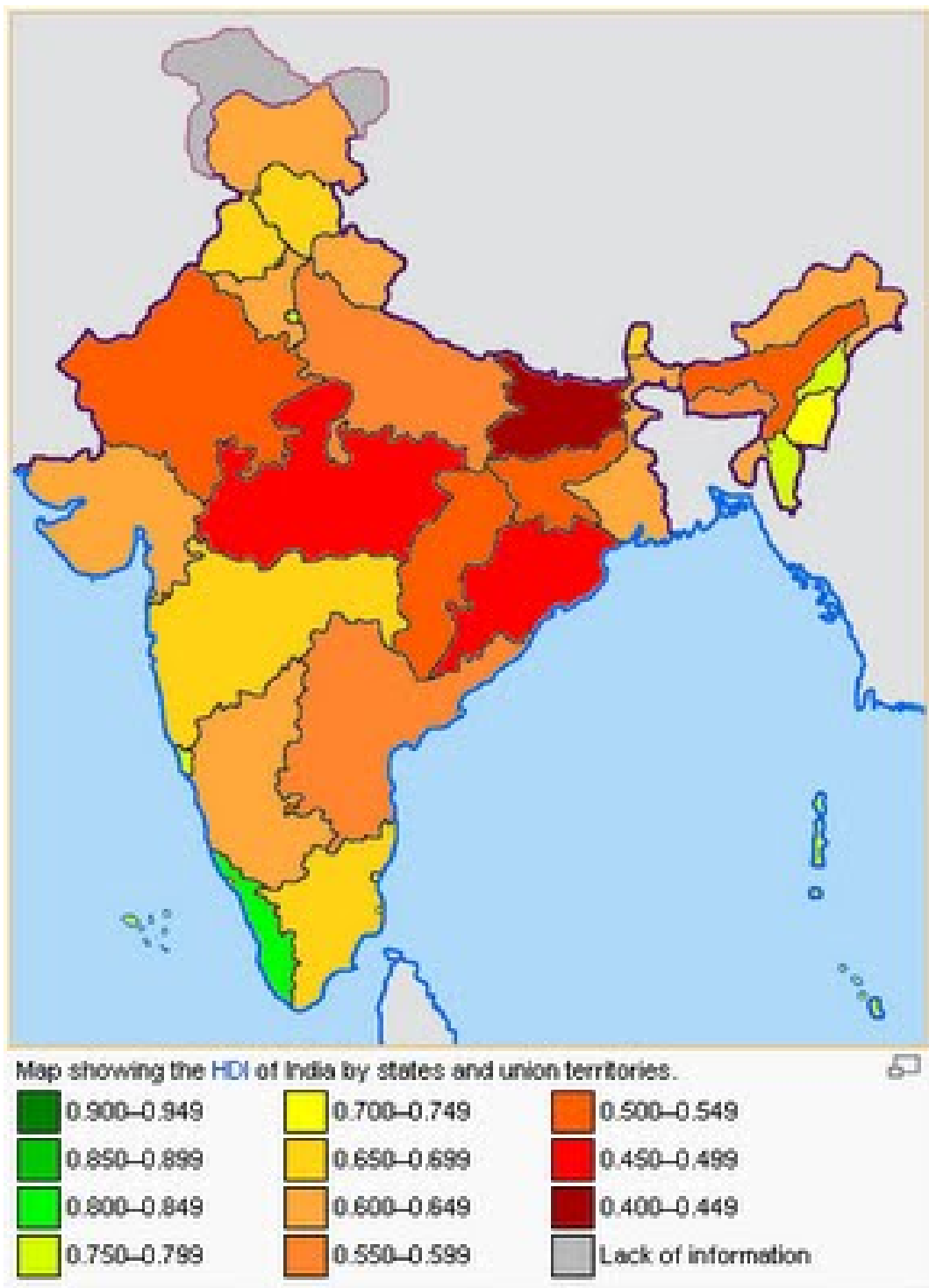


Table 4.2
HDI and IHDI Estimates of Indian States

State	HDI	IHDI	Ratio	Rank HDI	Rank IHDI	Difference
Andhra Pradesh	0.485	0.332	0.685	11	12	-1
Assam	0.474	0.341	0.718	12	11	1
Bihar	0.447	0.303	0.679	18	16	2
Chhattisgarh	0.449	0.291	0.649	17	18	-1
Gujarat	0.514	0.363	0.705	8	7	1
Haryana	0.545	0.375	0.688	5	6	-1
Himachal Pradesh	0.558	0.403	0.722	3	3	0
Jharkhand	0.464	0.308	0.663	15	14	1
Karnataka	0.508	0.353	0.696	10	9	1
Kerala	0.625	0.520	0.832	1	1	0
Madhya Pradesh	0.451	0.290	0.643	14	19	-3
Maharashtra	0.549	0.397	0.722	6	4	0
Orissa	0.442	0.296	0.669	19	17	2
Punjab	0.569	0.410	0.720	2	2	0
Rajasthan	0.468	0.308	0.660	14	13	1
Tamil Nadu	0.544	0.396	0.727	6	5	1
Uttar Pradesh	0.468	0.307	0.655	13	15	-2
Uttarakhand	0.515	0.345	0.670	7	10	-3
West Bengal	0.509	0.360	0.707	9	8	1
India	0.504	0.343	0.680			

Source: Suryanarayana.M.H (et.al.), (2011), “Inequality Adjusted Human Development Index for India’s States:2011”, URL:http://www.undp.org.in/sites/default/files/reports_publication/IHDI_India.pdf.

4.2.3 Literacy

With literacy rate above 90 percent, being considered as complete literacy as per the norms of National Literacy Mission (NLM) and the UNESCO, Kerala became a ‘fully literate state’, on April 18th, 1991 with a literacy rate of 91 (against India’s 66). The literacy rate of the state is comparable to the most advanced regions of the world. According to 2011 Census, Kerala, with 93.91 percent, continues to occupy the top position among the Indian states in literacy. The female literacy rate of 91.98 percent (2011)^{viii} has directly and indirectly enabled Kerala’s several other achievements, most notably the rapid decline in Infant Mortality Rate (IMR) and fertility, as also improvements in general health, nutrition and well-being.

Table 4.3
State Wise Literacy Rates

States	1951	1961	1971	1981	1991	2001	2011
ALL INDIA	18.33	28.30	34.45	43.57	52.21	64.84	74.04
Kerala (Best Performer)	47.18	55.08	69.75	78.85	89.81	90.86	93.91
Bihar (Worst Performer)	13.49	21.95	23.17	32.32	37.49	47.00	63.82

^{viii} It is important to note that—as per the 2011 Census—literacy rate in rural areas in the state are higher than the urban areas. For more details, See, “Kerala at a Glance”, available from, <http://www.kerala.gov.in>.

Maharashtra	27.91	35.08	45.77	57.24	64.87	76.88	82.91
Rajasthan	8.50	18.12	22.57	30.11	38.55	60.41	67.06
Tamil Nadu	-	36.39	45.40	54.39	62.66	73.45	80.33
Karnataka	-	29.80	36.83	46.21	56.04	66.64	75.60
Andhra Pradesh	-	21.19	24.57	35.66	44.08	60.47	67.66

The table mentions the best and the worst performing states. A few other states have been included to get an idea of the performance of Kerala vis-à-vis the other states and the national average. For the data on all the states see the report published by the Planning Commission of India on their website <http://planningcommission.nic.in/data/datatable/index.php?data=datatab> (last accessed on 11th August 2012).

4.2.3.1 Reading Habit

Kerala has the highest newspaper consumption per capita among all the Indian states. The ubiquitous presence of the printed word and the press, lately reinforced by the electronic medium in Kerala is almost unparalleled in the history of India. For instance, *Malayala Manorama* newspaper and its magazines have the highest circulation among the Indian language publications although Malayalam is only the ninth major language of India. The role played by theatre, *Harikatha*, literature and cinema dealing with social issues needs to be highlighted as the harbinger of social transformation in Kerala.

Village libraries reinforced the reading habit and conscientisation of the Kerala masses in social and political issues. They were one of the means by which radical political and the Gandhian social movements sought to communicate effectively with the masses. These libraries came into existence from the 1930s, throughout the length and breadth of Kerala, through the initiatives of these social activists with strong local level support and youth involvement. After the formation of the state of Kerala in 1957, the libraries were recognised for their contribution to nonformal education and were given grants in aid for maintenance. Reckoned to be in excess of fifteen thousand or an average of 15 in every Panchayat they receive some assistance from local self governments. These village libraries work as centres for adult literacy and post literacy classes, and as women and child care centres. The libraries are now an established part of village life in Kerala (Parayil, 2000).

4.2.4 Education

Kerala has successfully achieved`- ‘Universal Elementary Education’ without a gender gap or social disparity. The school dropout rate is very low compared to other Indian states, 0.80 percent in 2007-08. The drop-out ratio in Lower Primary, Upper Primary and High School were 0.60 percent, 0.52 percent and 1.41 percent respectively. ^{ix}As per

^{ix} Dilip, T.R., (2010), School Educational Attainment in Kerala: Trends and Differentials, Working Paper No.429, CDS: Thiruvanthapuram.

the government statistics in 2011, there are 14479 schools in Kerala which include 5250 government, 7947 private aided and 1282 aided with a total enrolment of 45.39 lakh.^x There are no fees at any level in school. The scale of school education provided for school-age children in Kerala has been consistently much higher than in any other state in India. 99.93 percent of government schools in Kerala are functioning in *pucca* buildings. Among these, 98.49 percent have access to drinking water and 99.13 percent have urinals/latrines facilities (Economic Review, 2010).

4.2.5 Health Services and Infrastructure

The uniqueness of the achievements of Kerala in the field of health stands out not only from the rest of India but also in the world. It has achieved at a cost of less than \$15 per capita a health status as measured by Infant Mortality Rate, Life Expectancy, Birth and Death rates which is almost comparable with that of the wealthiest country of the world expending about \$4000 per capita (Anitha, 1999).

Table 4.4
Demographic Indicators related to Health from selected states

Sr. No.	States	TFR(Total Fertility Rate) (2010)	Mean Age at Marriage (Females) (2008)	Under 5 Mortality Rate (2009)	Maternal Maternity Rate(MMR) (2007-09)	Mean Age at Effective Marriage (Females) (2009)	Current Use of Contraceptive (%) (2007-2008)	Couple Protection Rate (%) (2008)
	All India	2.5	20.6	64	212	20.7	47.1	46.5
1.	Kerala	1.8	22.8	14.0	81	22.7	53.1	34.9
2.	Tamil Nadu	1.7	21.9	33.0	97	22.4	57.8	46.6
3.	Punjab	1.8	22.2	46.0	172	22.1	62.9	53.5
4.	Assam	2.5	20.7	87.0	390	21.1	31.2	9.6
5.	Bihar	3.7	19.5	70.0	261	20.1	28.4	13.9

The selection of states has been done to provide merely a view of the statistical range and to have a working idea of the position of Kerala vis-à-vis the other states and the All India average. For the complete table with data for all the states see “Census 2011 related Demographic & Amenities Tables” on the website of the Planning Commission of India (<http://planningcommission.nic.in/data/datatable/index.php?data=datatab> last accessed 11th August 2012)

Kerala’s health care system consists of institutions in Government, co-operatives, and private sector with systems of treatment in allopathic, ayurveda, homeopathy, *sidha*, *unani* and naturopathy. About 26 percent of all the health care institutions in India are located in Kerala, the highest healthcare institutions for any state as per the 1991 census, as also one of the largest private health care sectors in India.

^x Data obtained from, General Education Department: Government of Kerala, education.kerala.gov.in/

Table 4.5
Medical Institutions in Kerala, 2012

System	Institutions (No.)
Allopathic	1551
Ayurveda	857
Homeopathy	561
Total	2969

Source: The official portal of Health Information System: A Kerala Government Initiative: Available at: <http://drsms.kerala.gov.in/status/userindex.php> and *Statistics for Planning*, State Planning Board, Government of Kerala, 2012.

According to National Family Health Survey (NFHS) 3 (IIPS and Macro International, 2007) about 90 percent of deliveries in Kerala take place in health institutions and 97 percent of women receive antenatal care. Breastfeeding is universal in Kerala (98 percent) and 89 percent of young children are immunized against six preventable childhood diseases.

4.2.5.1 Life Expectancy

Kerala tops the country's life expectancy index since the late eighties. The expectation of life in Kerala has increased to over 75 years for women and over 70 years for men. The life expectancy for a North American male is only 72 years. In countries with comparable income and also in the other states of India, life expectancy is 58 years.

The success achieved in controlling infant mortality is one of the factors responsible for the swift increase in the expectation of life at birth in the state (Lalitendu, *et al.*, 2010). The steady decrease of birth, death, fertility and infant mortality in the state from 1971 to 2008 is shown below.

Table 4.6
Estimates of Fertility and Mortality Rates in Kerala, 1971-2011

Year	CBR ⁱ	CDR ⁱⁱ	IMR ⁱⁱⁱ	TFR ^{iv}
1971	31.1	9.0	58	4.1
1981	25.6	6.6	37	2.8
1991	18.3	6.0	16	1.8
2001	17.3	6.6	11	1.8
2008	14.6	6.6	12	1.7
2009	--	6.8	12	--
2011	--	--	--	1.7

i-Crude Birth Rate, ii-Crude Death Rate, iii,- Infant Mortality Rate, iv-Total Fertility Rate
Source: SRS Estimates, 1971-2008, Available at: <http://www.jsk.gov.in/srs/Kerala.pdf>. and http://www.kerala.gov.in/index.php?option=com_content&view=article&id=2818&Itemid=2263 http://censusindia.gov.in/vital_statistics/SRS_Bulletins

4.2.6 High Standard of Sanitation

Keralites have a reputation for personal cleanliness with one of the highest coverage of individual households with latrines in India. The situation among the poor households is improving with the decentralization of sanitation to the jurisdiction of the local governments. About 300 grama panchayats in Kerala assigned prime priority to sanitation and 50 of them achieved more than 95 percent coverage of household sanitary latrines during the Ninth Plan. Achievements include toilet facilities to weaker sections, proper insect control measures, litter free zones and construction of comfort stations in cities. The state government had initiated a comprehensive programme, Total Sanitation Campaign (TSC) 1999, to ensure sanitation facilities in rural areas with the broader goal of eradicating the practice of defecating in the open.

However despite the statistical achievements of 95-100%, coverage, which obviously is one of the highest in the country, the sector is characterized by second generation problems like significant number of leach pit latrines polluting water sources, issues of solid and liquid waste disposal, necessitating a fundamental re-examination of the strategy followed.

4.2.7 Housing Coverage

George Orwell wrote “people never had a housing problem until they were told about it.” At an aggregate level, it would seem that the housing problem in Kerala has almost entirely been solved. Low cost housing finance is available for constructing or purchasing modern houses with built in facilities. Census 2001 indicated that the proportion of homeless population in the state has declined to less than 1 percent in 2001. The proportion of the homeless population even in industrialised nations like America is higher than the corresponding proportion in state.

Kerala’s initiatives in providing housing security deserve special mention. Special schemes for socially and economically deprived communities are being implemented. For landless and homeless Scheduled Caste families, Rs. 50,000 is given as grant to purchase 2 or 3 cents of land and to construct a house. The Scheduled Tribes Development Department undertakes the construction of houses with tiled or concrete roofs, at a cost of Rs. 9,000 and Rs. 12,000, respectively. There are provisions for construction of bathrooms and smokeless kitchen and for electrification.

Kerala in the seventies evolved a novel scheme called ‘One Lakh Housing Scheme’. The scheme was implemented in the early 1970s in all the Panchayats of the state simultaneously.^{xi} Along with a site for the house, the programme provided for a fully

^{xi} As the District Collector of Eranakulam, during the seventies, the researcher had actively participated in the one lakh housing scheme, the district being the first to implement the programme. The first thousand houses were inaugurated in the District by the then Prime Minister of India.

constructed dwelling consisting of kitchen, a bedroom and a larger multipurpose room. This programme gave a new dimension to the welfare orientation of the state especially in housing needs and enhanced the well being of the poorer sections^{xii}.

About 80 percent of the support provided by the state to various housing programs has gone to EWS (Economically Weaker Sections). The subsidy provided to EWS houses increased from Rs.9000 in 1992 to Rs.35000 per house in 1998 and to Rs.75000 in 2003 for a few specified categories (Nair and Gopalakrishnan, 2006).

4.2.8 Women Empowerment

“Women’s empowerment and their full participation on the basis of equality in all spheres of society including participation in the decision making process and access to power are fundamental for the achievement of equality, development and peace”

(Beijing Declaration, Para 13^{xiii})

It has been hypothesised by many, notably by Jeffrey (1992) and Dreze and Sen (1995) that woman’s agency and autonomy have been one of the major factors that contributed to the success of Kerala’s development model.

In fact, Kerala has often been referred as the “land of women.” with a sex ratio of 1058 in 2001. The state has never had a female-male ratio below unity for a century. In terms of literacy, life expectancy, and mean age at marriage, women in Kerala score higher than any other state in the country. In 1950 when India became a democratic republic, the female literacy rate at the national level was merely 7.9 percent while in Kerala it was 47.1 percent. The state has achieved remarkable progress in female literacy rate as seen in data from 1951 to 2011.

Table 4.7
Literacy Rate by Sex in Kerala: 1951-2011

Year	Persons	Male	Female
1951	47.18	58.35	36.43
1961	55.08	64.89	45.56
1971	69.75	77.13	62.53
1981	78.85	84.56	73.36
1991	89.81	93.62	86.17
2001	90.86	94.24	87.72
2011	93.91	96.02	91.98

Source: Census of India, 2011, Provisional Population Totals, Paper 1 of 2011, Kerala Series. p.30.

^{xii} Centre for Development Studies: Poverty, Unemployment, and Development Policy: A Case Study of Selected Issues with Reference to Kerala (mimeo) Appendix-D.

^{xiii} Beijing Declaration was aimed at achieving greater quality and opportunities for women. The declaration was issued during the Fourth World Conferences on Women in September, 1995 in Beijing, China under the auspicious of UN.

In case of China, a country known for its fierce strategies regarding birth control, there were 113 boys for every 100 girls under the age of 1 in 1990. Kerala's therefore is a remarkable achievement.

4.2.9 Family Planning

Kerala has recorded an impressive achievement in family welfare in terms of major indicators viz. birth rate, death rate, maternal mortality rate, infant mortality rate and couple protection rate. State has achieved couple protection level of 47.22 percent in 2008 and 48.28 percent in 2009 (Economic Review, 2009). The proportion of couples effectively protected by family planning methods is one of the highest in India.

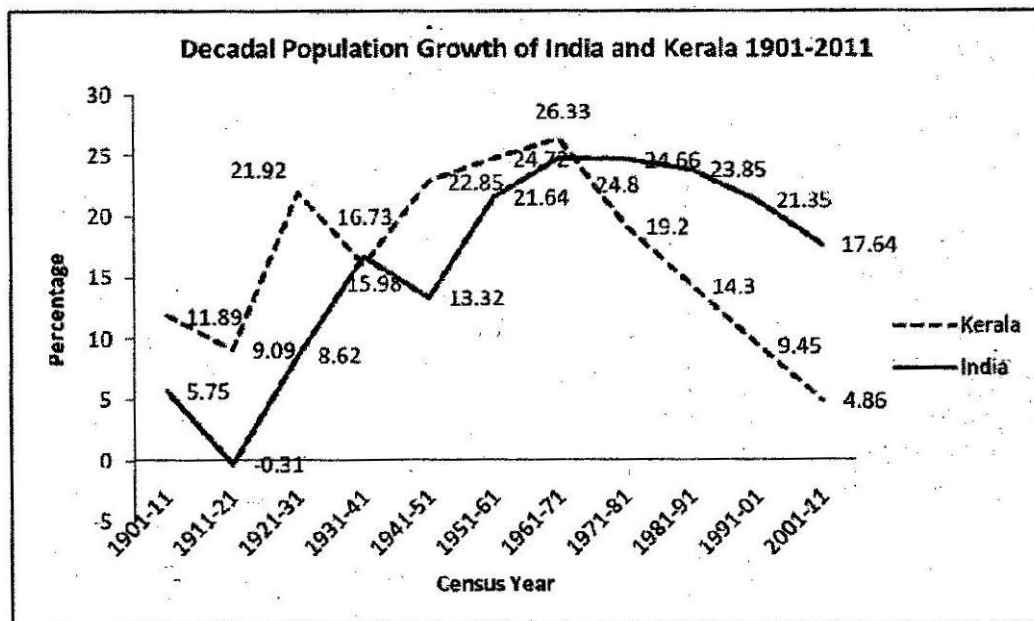
The dominant method of family planning is female sterilization (Pachauri, 2004). 80 percent of couples use family planning methods according to the 1991 statistics (all India 43 percent). Kerala has recorded the lowest rates in India in case of general fertility, Gross reproduction and total fertility. In Kerala majority of births occur with an interval of 36 months and above, which places it at the 2nd rank in India following Assam. The birth rate is 40 percent below that of the national average and almost 60 percent below the rate for poor countries in general. The World Bank Fertility Survey, 1992 found that the female birth rate in the State had fallen to replacement level. Kerala's birth rate, hovers near 18 per thousand, compared with 16 per thousand in the United States and is falling faster.

Studies have shown that higher female literacy which started around 1960s in Kerala was a dominant factor in fertility decline.

The official family planning programme was not merely a means for providing contraceptive services; it has also been an independent causal factor in changing family size norms, and in creating and strengthening demand for family planning.^{xiv} In Kerala, it went a step further. As a result of economic incentives offered to officials and acceptors, the programmes were able to create demand even where it did not exist previously.

^{xiv} The researcher, as District Collector of Ernakulam, was the chief organiser of the massive vasectomy campaigns from 1970 to 1972, which set up a world record in voluntary sterilisations and attracted national and international attention. The campaign implemented an operational model for the National Family Programme with popular participation and mass motivation with great success. The motivational campaign decisively changed the attitudes in the State in favour of Family Planning and contributed to the dip in the graph of decadal population growth which was ascending upto 1971 and then descended from 1971 irreversibly moving towards a zero population growth rate. (See Fig:4.1).

Fig. 4.1



Source: The Kerala State Economic Review 2011, pg. 37

The role of the Universal Immunization Programme in creating demand for antenatal care and child immunization was even larger than that of family planning. The programme through its very effective communication strategy played a major role in creating demand for higher nutritional level among pregnant women and their children and a host of other health related practices.

The accelerated fertility decline resulted in fewer unwanted births, and births at older ages, thus reducing infant mortality. The rapid demographic transition in Kerala in the last quarter of the 20th century owes a good deal to the official policies in education, family planning and health, not only in providing the required services, but also in creating additional demand for related services.

4.2.10 Population Stabilisation

The decadal population growth of Kerala presented a conducive scenario for development. Around sixty years ago, in 1951, Kerala was in the early stage of its demographic transition. The total population of the state was 13.5 million, growing at a robust rate over 2 percent year. The birth rate was about 45 and the crude death rate was 20 per 10000 population. The TFR was over 6 and the expectation of life at birth was about 40 years. These were parameters of an underdeveloped economy.

About sixty years later i.e., in 2012, the population had increased to 31.8 million. The birth rate had declined to about 17 births per 1000 population. TFR had declined to 1.8 children per woman. In the year 1988 itself, Kerala had achieved the replacement level TFR of 2.1 (Registrar General of India, 2006). The crude death rate has declined to 6 deaths per 1000 persons; infant mortality to 22. Only 10 to 11 out of 1000 children born in a year died during the first year of their life.

Table 4.8
Demographic Indicators, Kerala: 2001-2025

Indicator	2001-05	2006-10	2011-15	2016-20	2021-25
Population growth rate	0.9	0.8	0.6	0.5	0.4
Crude Birth Rate (CBR)	16.3	15.4	14.2	13.1	12.3
Crude Death Rate (CDR)	6.8	7.0	7.1	7.4	7.8
Infant Mortality Rate (IMR)	12.1	11.1	10.0	9.2	8.4
Under-5 mortality rate (q5)	14.1	13.0	11.8	11.0	10.1
Total Fertility Rate (TFR)	1.8	1.8	1.8	1.8	1.8
Life expectancy of males	70.8	72.0	73.2	74.2	75.2
Life expectancy of females	76.0	76.8	77.6	78.1	78.6

Source: Census of India 2001 “Population Projections for India and States 2001-2026”, Report of the Technical Group on Population Projections Constituted by the National Commission on Population May 2006.

4.2.11 Migration and its benefits

Kerala remains in the vanguard of the migration of workers to West Asia. During early 1980s, which may be considered as the peak phase of migration and the initiation of globalisation policies the remittances by the expatriates accounted for about 19 to 21 percent of the state domestic product. The unprecedented windfall rises in savings and income of people have drastically affected the consumption pattern and standard of living in a tradition bound society.

Remittances and transfer of goods from abroad has enabled large numbers of households to improve their housing, to consume nutritious food, to acquire modern consumer items, to educate their children and to utilize services of doctors and hospital facilities for health care. In these and several other ways migration has played a significant role in the demographic transition in Kerala since 1980’s. It also resulted in the exposure of close to 2.73 million Keralites to interacting with people from different countries and cultures, working with modern technologies, organisations and management.

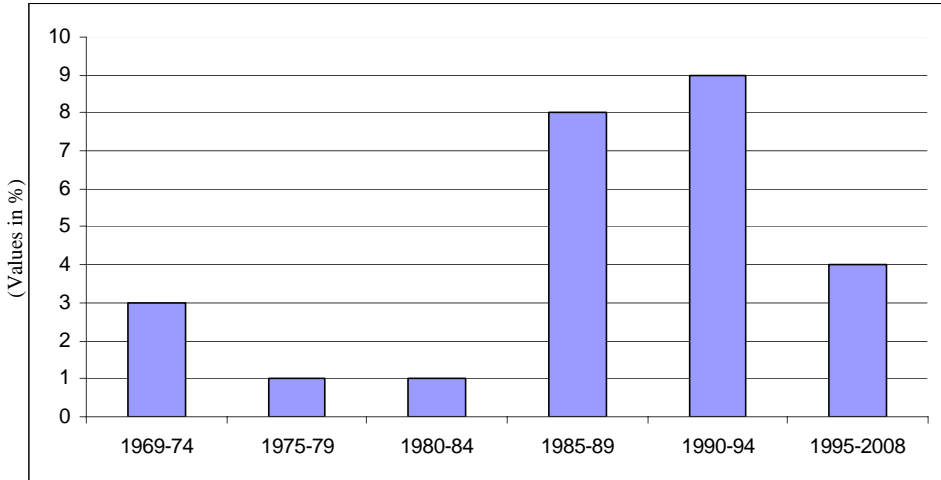
The new knowledge and skills acquired by the emigrants are now being put into practice in Kerala, both by themselves and others who have been associated with them as a ‘demonstration effect’. These are visible in small and medium industries, construction, trade, hotels and restaurants, banking and entertainment industry. This explains partly the relatively high intensity of the use of technologies like mobile phones and computers in Kerala.

4.2.12 Social Justice, Welfare and Security

Kerala has the most developed social welfare system in India, including the most extensive network of fair-price shops (public food distribution) and rates of social expenditure that continue to be significantly higher than the national average. Kerala witnesses a high degree of public action in widening the dimensions of social security. Not only the state government but also public organizations, and NGOs supplement the efforts of the state.

Apart from institutionalising the public distribution system, with a near universal coverage, Kerala provided free basic education and health care and free mid-day meal scheme up to class VII. Extending the coverage of the social security net to cover vulnerable workers in the unorganised sector was one of the major priorities of successive governments. As many as 35 social security schemes were introduced and over 3 percent of the state budget is spent on social security measures. The following Figure describes the growth of welfare funds in different periods.

Figure 4.2
Growth of Welfare Funds in Different Periods, 1969-2008



Source: The official website of the Ministry of Social Welfare, Government of Kerala.

The provision of old-age pension has come to occupy an important place in the social security scheme in Kerala. The four most prominent schemes for old-age pension for the poor are for (1) Destitutes and Widows, (2) Handicapped, (3) old-aged agricultural labourers, and (4) old-aged fish workers. The number of pension schemes now operating in Kerala is around 17.

Table 4.9
Social Security Pensioners (Major Schemes) in Kerala, 1995-2008

Year	Special Pension for Persons with Disabilities	Widow/Destitute Pensions Scheme	Old Age Pension (later includes NOAP)	Unmarried Women Pension (above 50years)	Kerala Freedom Fighters Pension	Agriculture Workers Pension
1995	117848	180306	101813	20500	12754	1302510
1996	118511	181320	102386	21012	10874	1309840
1997	118811	181779	102645	21452	10452	1313154
1998	119924	183483	103607	22125	10123	1325460
1999	122909	188049	106186	22315	9987	1358450
2000	123916	189590	107056	22415	9475	1369580
2001	128944	197283	111400	22540	8956	1425156
2002	131872	201762	113929	22600	8807	1457512
2003	142035	217313	122710	22875	7685	1569845
2004	150947	230947	130409	22914	7507	1668339
2005	165235	241525	130850	26451	7507	1746425
2006	169417	259438	131912	29839	7510	1895369
2007	186166	286867	141956	35564	7511	1931770
2008	193823	325611	156871	38015	7190	1984650

Source: Government Treasury and Pension Bhavan, 2009.

More than 60 percent of the aged poor in rural Kerala are covered by the pensions for destitute and agricultural labourers. The old-age pension scheme was introduced in 1960 and the widowed/destitute pension was added in 1964. The agricultural workers pension was introduced in 1980. Some other pension/welfare schemes being implemented are the special pension scheme to the physically and mentally handicapped, the tree climbers' welfare scheme, (which provides assistance in case of accidents causing death or permanent disability), pension for sportsmen, World War II veterans, freedom fighters and journalists.

4.2.14 Public Distribution System (PDS)

Kerala's PDS was internationally acclaimed as being a model system worth emulating by the other states in the country. According to a study of 1989^{xv}, the quantity of food grains per person per year distributed through the PDS was the highest in Kerala (at 69.6 kg). The annual purchase of grain from the PDS in Kerala provided about half of the

^{xv} Cyriac, Sam & Jacob (2008), The PDS System in Kerala: A Review, CSS Working Paper Number, 204, Summer Research Training Programme, 2008, Centre for Civil Society, Available from, <http://ccs.in/ccsindia/downloads/intern-papers-08/PDS-in-Kerala-204.pdf>.

cereal requirements of a person. The monthly entitlement of food grain per adult was 13.8 kg (or 460 grams per day), satisfying the minimum requirement of 370 grams of cereals per person per day recommended by the Indian Council of Medical Research.

There are 76.29 lakhs ration card holders in the state (as on August 2011). Of them, more than 20 lakh cardholders get rice at Rs.1 while nearly 43 lakh cardholders are being given rice at Rs.2 a kg. The objective was that a family should be able to buy food grains for a month with a day's wages of one member obtained under the rural employment guarantee scheme (The Hindu, 2011 and Economic Review, 2011). It took almost a quarter of a century to establish a public distribution system in India as part of the public policy on food security (Mooiji, 1999). In Kerala, the system was expanded during 1965 when the state was undergoing an acute food shortage. Even at the best of times, Kerala could not produce more than 50 percent of its food grain requirements. The central government agreed to supply food grains (mainly rice and wheat) to meet the requirements of the PDS covering nearly all households in Kerala.

In addition to the PDS, the state government intervenes in the market through procurement and distribution of essential commodities to control prices. This is done through the Kerala State Civil Supplies Corporation (KSCSC)^{xvi}, which has a network of 847 'Maaveli' stores, 327 Supplyco supermarkets and 8 mobile 'Maaveli' stores, 90 medical stores, 13 petrol bunkers, 3 LPG outlets, 1672 ARD Sabari stores, 12 people's bazaars, 1 *apna bazaar* and super market (Economic Review, 2009). The prices in these shops are considerably lower than the prices of the open market. In addition, by their strong market intervention to sell essential items during festival seasons, such as Onam, Christmas and Ramzan, the State is able to provide a measure of stability to the prices of essential commodities. Although there is a considerable scope for improving the organisational efficiency of the Corporation (e.g., over-staffing), intervention in the food market has helped check prices in the private trading sector to some extent.

4.2.15 High Food and Nutrition Security

The provision of free mid-day meals to primary school children, introduction of supplementary nutrition programmes for pregnant mothers and pre-school children from poor households, the granting of old age pension to rural workers and implementation of national poverty alleviation programmes such as Integrated Rural Development Programme (IRDP), Development of Women and Children in Rural Areas (DWCRA)

^{xvi} Note: The researcher was the Director of Civil Supplies, Kerala and the first Managing Director of the KSCSC in 1975 to 1977. The KSCSC was the first such Corporation in India.

and Training of Rural Youth for Self-employment (TRYSEM) etc. were major landmarks in the State. The combined benefit of all these programmes worked out at around 21percent of the annual expenditure of rural labour households in 1980's.

4.2.15.1 Free Noon Meal Scheme for School Children

The notable feature of this scheme is that food is distributed free to the targeted groups. From 1964-65 to 1970-71, the scheme covered 72-73 percent of the lower primary school children (CDS-UN, 1975).

Table 4.10
Mid – day Meal Programme – 2004-05 to 2008-09

Year	Schools (Nos.)	Children benefited (Lakhs)	Supply of Food Grains (Quintal)	
			Rice	Pulses
2004-05	11480	26.97	205582	96507
2005-06	11480	27.45	219683	105503
2006-07	11480	26.83	227994	110285
2007-08	11480	26.83	235546	117108
2008-09	12457	30.88	272394	135927

Source: Kerala Civil Supplies Corporation, 2010

The beneficiaries of the scheme correspond roughly to children in the age group 6 to 12 years. The above study stated that “the school feeding programme has two redistributive aspects, one in favour of lower-income groups and the other in favour of those lower age groups which are said to be particularly vulnerable to the effects of malnutrition.”

4.2.15.2 Supplementary Nutrition for Pre-school Children and Nursing Mothers

The third and equally important component of food security is the provision of supplementary free nutrition to pre-school children and expectant or nursing mothers. By the late 1970s, the programme covered more than a million pre-school children, i.e., close to 40 percent of the total number of children up to five years of age. This programme was in fact a combination of a number of schemes, including the well-known Integrated Child Development Scheme (ICDS).The scheme launched in 1975 intended to provide 300 calories and 8-10 grams of protein per day per child up to 6 years. For pregnant and nursing mothers, the provision is 500 calories and 20-25 grams of protein per day per person. These rates are roughly equivalent to one-fourth of the requirements of the beneficiary groups. This has to be provided for 300 days in a year. In Kerala, approximately 85 percent of the beneficiaries are children and the rest expectant/nursing

mothers. About 10.9 lakh beneficiaries are now covered by the scheme. Eighty percent of the scheme is supported by financial assistance from the central government.

The supplementary nutrition programmes are implemented with the help of a large number of women's welfare organisations called Mahila Samajams and other organisations in the state. *Anganwadis* and *Balawadis* have been set up with the help of these organisations.

4.2.16 Progress in the Field of Poverty Alleviation

By all counts, Kerala has had the best record among all Indian states in reducing poverty; whether we use the head count index or the human poverty index (Ravallion and Datt, 1996; Chelliah and Sudarshan, 1999; Gopalan, 1995; Kannan, 1995; Drèze and Sen 2002). Only 1.5 percent of Kerala's children between the ages of one and five suffered from severe under-nutrition in 1982 while corresponding percentage for India was 6.1 (Drèze and Sen 1989). As per the Planning Commission Report on poverty alleviation in rural India (Govt. of India, 2000) "Kerala experienced a sharp reduction in poverty levels" (a drop of more than 12 percentage points between 1993-94 and 1999-2000). The state has had the best record of raising average household consumption attributable to the impact of remittances and general increase in wages. As Issac and Tharakan (1995) point out, Kerala has the highest elasticity with regard to poverty reduction, meaning that even a small gain in growth translates into a large gain in poverty reduction.

The dramatic decline of poverty in the state is broadly attributed to the land reforms, wage rate structure of workers, growth of the economy and the large number of anti-poverty programmes undertaken by both the central and state governments. It was the noted success of the community development schemes in Alappuzha and Malappuram districts which prompted the Kerala government to launch the state-wide poverty eradication programme known as *Kudumbashree* (Family Prosperity), based on Neighbourhood Groups (NHGs) at the grassroots.

Kudumbashree is a multifaceted, women-based participatory poverty eradication programme with assistance from the central government and NABARD covering all urban local governments and village Panchayats. From the NHGs, women form smaller 'self-help' groups for undertaking some economic activity through which they earn income, build assets and generate employment. *Kudumbashree* has diversified into innovative activities and has grown up extensively in number of NHGs and SHGs with

savings mobilised through micro-finance and micro-credit. *Kudumbashree* has organised Community Based Organisation (CBOs) of the poor in all the 52 municipalities and five corporations in the state. There are 13982 Neighbourhood Groups (NHGs), 1494 Area Development Societies (ADS) and 62 Community Development Societies (CDSs). The CBOs in the urban areas act also as Thrift and Credit Societies and facilitate savings and credit to the poor (Economic Review, 2009).

A sub-component of this programme is *Ashraya*, meant for the very poor and the destitute. Under this scheme the neighbourhood group of the *Kudumbashree* identifies destitute families and train volunteers to interact with the families to prepare family-based micro plans. The scheme involves continuous support and monitoring the progress of the family till it comes out of destitution. The *Kudumbashree* mission follows a simple model of micro finance to facilitate easier availability and better utilization of loans for poor people. Other major poverty alleviation programmes in rural areas are Swaranajayanthi Gram Swarozgar Yojana (SGSY), Indira Awaaz Yojana (IAY) and Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS).

4.2.17 The Strong Plantation Economy

Kerala has a predominant position in cash crops production and exports in the country. The cropping pattern in the state is unique with only 9.9 percent of the gross cropped area devoted to food grains as against a national average of 63.8 percent. Kerala has a substantial share in the four plantation crops of rubber, tea, coffee and cardamom. These four crops together occupy 6.8 lakh hectares, accounting for 32.2 percent of the net cropped area in the state and 43 percent of the area under these crops in the country.

The commercialization of agriculture in the state commenced in the closing years of 19th century and the early part of the 20th century with the entry of European capital into the plantation sector. In later decades the shortage of farm labour and the rapid increase in their wages have induced farmers to convert their lands from the cultivation of highly labour intensive food crops to commercial crops. Also, the comparatively lower prices of land under food crops led to its widespread conversion for non-agricultural uses. The plantation economy remains a dominant component of the state economy and its strongest component is rubber with its buoyant international price reflected in the domestic market. The average price of RSS4 (ribbed smoked sheets) in the domestic market at Kottayam was Rupees 114.98 per kg. in 2009-10. The price of RSS 4 in

Kottayam reached 137.82 during August 2008 and then declined to 64.88 in October 2008 and further increased to 108.98 in October 2009 and 149.48 in March 2010.

4.2.18 Land Reforms

Kerala has enacted and implemented some of the most progressive land reforms legislations far outpacing the rest of the states in India. Land reforms have significantly altered the structure of ownership and operation of land holdings. The entire class of rent receivers and intermediaries have been liquidated from the agrarian society of Kerala through land reforms and the tenants have been turned into owners of the land they worked on.

Distribution of surplus land was a major activity under Land Reforms.^{xvii} An extent of 28082.57 acres of land has been distributed to 158349 families as on November 2009. The beneficiaries of land reforms include 59,168 SC, 7,529 ST and 91,652 numbers of OBCs (Economic Review, 2009)^{xviii} Raj and Tharakan (1983) observe that “agrarian reform in Kerala over the last quarter of a century is generally believed to have been more far-reaching and effective than elsewhere in India, though carried out within the same administrative and political frame-work as in the rest of the country”.

4.2.19 Comparatively Developed Infrastructure

Unlike other parts of the country Kerala’s urbanization is not limited to its cities and towns. Except some Panchayats in the hilly or isolated pockets, the entire state has no urban-rural difference. By both CMIE (Centre for Monitoring Indian Economy) and AKU* estimates (2000), Kerala had a high infrastructure index, next only to Delhi, Chandigarh, Puducheri, Punjab and Goa.

Table 4.11
Social and Economic Infrastructures Index of States in India, 2000

State	AKU Index*	CMIE** Index	State	AKU Index	CMIE Index
Andhra Pradesh	103.3(11)	104.0(15)	Nagaland	76.14(19)	89.89(23)
Arunachal Pradesh	69.71(25)	71.89(32)	Orissa	81(16)	101.45(18)
Assam	77.72(17)	104.39(14)	Punjab	187.57(2)	171.92(4)

^{xvii} As the District Collector of Ernakulam, the researcher had organised a novel campaign of mutual consent between landowners and hutment dwellers and ‘Title Deed Distribution Festivals’ throughout the district. For example: at a “Shiva Rathri’ festival organised in 1970 on the banks of the Periyar river, 25000 *Kudikidapukars* (hutment dwellers) were bestowed their titles to land.

^{xviii} The Kerala State Planning Board report on ‘Poverty and special Programmes for the weaker sections’, available at: http://spb.kerala.gov.in/old/html/eco_2009/2009_ch_14.pdf.

Bihar	81.33(15)	91.31(22)	Rajasthan	75.86(20)	87.27(24)
Delhi		730.62(1)	Sikkim	108.99(9)	83.01(28)
Goa	200.57(1)	171.57(5)	Tamilnadu	149.1(4)	145.62(7)
Gujarat	124.31(6)	105.33(13)	Tripura	74.87(23)	92.85(20)
Haryana	137.54(5)	133.12(8)	Uttar Pradesh	101.23(12)	112.04(10)
Himachal Pradesh	95.03(13)	113.88(9)	West Bengal	111.25(8)	102.09(17)
Jammu & Kashmir	71.46(24)	92.03(21)	Andaman & Nicobar		78(30)
Karnataka	104.88(10)	106.12(12)	Chandigarh		625.73(2)
Kerala	178.68(3)	162.42(6)	Dadar & Nagar Havel		96.2(19)
Madhya Pradesh	76.79(18)	86.66(25)	Daman & Diu		103.69(16)
Maharashtra	112.8(7)	106.77(11)	Lakshadweep		82.69(29)
Manipur	75.39(22)	83.5(27)	Pondicherry		252.29(3)
Meghalaya	75.49(21)	77.6(31)	India		100
Mizoram	82.13(14)	84.49(26)			

* AKU Index - TCA Anant, KL Krishna and Uma Datta Roy Choudhry (1999) Measuring Inter-State Differentials in Infrastructure.

** CMIE Index: Centre for Monitoring Indian Economy

Note: Figures in brackets are the corresponding ranks.

Source: Vijayamohan Pillai, N (2005), Infrastructure growth and Human Development in Kerala, Thiruvananthapuram: CDS, Available from, http://mpr.aub.uni-muenchen.de/7017/1/Kerala_Infrastructure_Growth_and_HD_MPR.A.pdf.

4.2.20 Unique Mineral Resources

Though Kerala has no deposits of coal, oil, gas or heavy metals, it has rich deposits of heavy mineral sand, china clay, iron ore, graphite, bauxite, silica sand, lignite and lime shell. But mining activities are mainly of five minerals i.e., heavy mineral sand, china clay, silica sand, limestone and graphite. The golden sands of Quilon are rich in the heavier variety of minerals such as Monozite, Ilmenite, Rutile, Zircon and Silimanite. Large areas are covered by China clay which forms an important raw material for the manufacture of porcelain items, cookery utensils and glazed tiles. Silica and quartz are also found abundantly and are used in the manufacture of glass and lenses. The remaining mineral wealth of the state is a composition of 79 million tonnes of iron ore, 25 million tonnes of limestone, 11 million tonnes of bauxite, 35 million tonnes of limenite, 3 million tonnes of rutile, 1 million tonnes of monozite and 0.7 million tonnes of borophite. All this mineral wealth adds revenue to the state, are sizeable assets of the state's economy and a great potential for value addition and creation of employment.

4.2.21 Success of Decentralisation

Kerala was a state that seriously took up the implementation of the constitutional mandate for decentralisation. Following the adoption of the 73rd and 74th constitutional amendments at the national level in 1992, the Kerala Panchayat Act, 1994 and the Kerala

Municipalities Act, 1994 were enacted by the Congress led UDF government in 1995 providing for the devolution of a majority of the functions specified in the amendments to the local bodies. The first election to the 3-tier panchayati raj system was also held and the Panchayati Raj Institutions (PRIs) came into existence by the last quarter of 1995.

A comprehensive general government order issued in September 1995 placed a large number of government institutions, officials and personnel, both professional and ministerial, under the control of the local governments. A committee on decentralisation of powers (known as the Sen Committee) was appointed and based on its recommendations, comprehensive amendments were enacted in 1999 to the Kerala Panchayati Raj Act of 1994 and Kerala Municipality Act of 1994. The new communist-led Left Front which came to power in 1996 launched a 'People's Plan Campaign' with a 'big bang' approach. It aimed at facilitation of local development by mobilising both people and resources to strengthen the productive base, especially in the primary sector by creating and maintaining public and collective goods such as in land and water management and agricultural extension.

Legislative framework of decentralization in the state is quite strong. The Kerala Panchayati Raj and Municipality Acts clearly define the large space which local governments occupy in development and governance. Some of the unique features of these laws are:

- Clear identification of functions and responsibilities
- Adequate staff support and control over staff
- Importance of elected bodies which are the executive authorities
- Strong own fiscal domain for local governments in the form of property tax, profession tax, entertainment tax, advertisement tax and service tax (a kind of Benefit Tax)
- Powerful accountability systems like Ombudsman, Appellate Tribunals
- Features of social accountability like disclosures and citizen's charters

A landmark government decision, at the beginning of the Ninth Five Year Plan, earmarked 35 percent of the outlay of the Plan towards projects and programmes to be drawn up by Local Self-Government (LSGs). A detailed grama panchayat (GP) wise data collection exercise was undertaken piecing together the history, present status, problems and development prospects of each sector and written up into a Panchayat Development

Report (PDR) which served as a critical 'tool' for sectoral planning/project formulations by the 'task forces' set up by the GPs. Also, a massive training and capacity building exercise was undertaken at each phase of the plan process, covering elected representatives, officials and volunteers. There was training for trainers at the state as well as district levels. A conscious attempt was made by the policy makers to address the issue of gender, at each stage of the planning process; women's needs were also specifically targeted through the Women Component Plan (WCP).

Though the campaign invited considerable criticism about 'politicisation' reflected in the selection of experts and nature of mass organisations inducted into the campaign, the results were mixed-there arose newer problems as well as it had its own successes. The performance was impressive in the areas of agriculture related activities, self-employment generation, and in providing minimum needs infrastructure like housing, water supply, sanitation and connectivity. The local bodies are also credited with reasonably good performance in natural resource management, particularly in utilisation of water resources for productive purposes and in skill development of large numbers of educated unemployed. The outreach of health services as well as remedial coaching for laggard students has definitely improved and the infrastructure for health and education has been upgraded. The Congress government of 2001 replaced the 'campaign' mode with a 'project' mode, re-christening the 'People's Plan campaign' as 'Kerala Development Programme', aiming to take decentralisation to a phase of institutionalisation to make it sustainable.

The robust methodology for participatory planning developed by the state has been adapted by the expert group on planning at the grass-roots level (March 2006) set up by Government of India. Further improvement has been piloted in Kollam district to add technical strength to the methodology without compromising on the participatory and democratic character.

Some further major initiatives have already been launched i) a local self-government action plan, ii) a Modernising Government Programme (MGP), iii) a decentralisation support programme and iv) a project for capacity development for decentralisation. The most important of these is, of course, the programme for modernising governance. 33 out of the 100 initiatives of the MGP relate to local governments with a package of initiatives, meant to strengthen the local governments so as to sustain the gains of decentralisation. In sum, Kerala's Panchayat Raj administration has functioned relatively with great success and is poised to be further strengthened and streamlined.

4.2.22 Democratic Public Action

The platform provided earlier by socio-political movements paved the way for elevated political consciousness among the people of Kerala. Fung and Wright (2003) argue that the social developments can be ascribed to high levels of public action marked both by state intervention and civic activism. The evolution of a vibrant and effective democracy in Kerala must be located in its political history of conflict and social mobilisation, the interplay of these dynamics with the process of state building and the resulting transformation of social structure (Heller, 1999). The structural transformation of the society through the implementation of land reforms positively re-designed the material and social power of landless classes. This has provided a new civic consciousness among the people that constantly kept the governments more accountable in terms of governance.

4.2.23 Cultural Harmony

With a conglomeration of faiths and beliefs, Kerala represents a large multi-religious society. It has a reputation of being communally the least sensitive state in India. Hinduism, Christianity and Islam are the predominant religions in the state. Kerala was the first region in India, which allowed Hindus of any caste to enter and worship in temples through the Temple Entry Proclamation.^{xix} The social reform movement initiated by Sri Narayana Guru had resulted in the eradication of caste based discrimination that finally helped to establish Kerala as one of the most socially progressive states in India.

4.3 Weaknesses

The weaknesses of the Kerala Model Development have prompted a series of interdisciplinary academic discussions in Kerala's public sphere particularly in the last two decades. Kerala is in fact considered a very soft state, highly vulnerable to pressures from a large number of interest groups, not all of whose demands are conducive to the development of the state. The political climate has also tended 'to encourage economic policies that are extremely hostile to the market mechanism, even in areas where this hostility and the excessive reliance on government regulation that goes with it- is quite counter productive' (Dreze and Sen, 1995). The predominant disabilities perceived in Kerala's socio-economic scenario are discussed below.

^{xix} The Temple Entry Proclamation issued by Maharaja Shri Chithira Tirunal Balarama Varma in 1936 abolished the ban on low-caste people or *avarnas* from entering Hindu temples in the State of Travancore (now part of Kerala).

4.3.1 Chronic Unemployment

In spite of high quality of life and welfare indicators, Kerala lags behind in industrialisation and faces acute and massive unemployment. Unemployment is all pervasive both for males and females in rural as well as in urban areas. About 45.2 lakhs job seekers were registered in employment exchanges of the state of which 25 lakhs are females as on 30.06.2009. The unemployment rate in the state is more than double that of all India for male and female both in urban and rural areas as can be seen in the following table.

Table 4.12
Unemployment Rate (per 1000) for all persons
according to current daily status approach for each state/UT
(Based on 2009-10 survey)

State/UT	Rural			Urban			Rural + Urban		
	Male	Female	Male+ Female	Male	Female	Male+ Female	Male	Female	Male+ Female
Kerala	129	274	173	121	213	148	127	259	167
All-India	64	80	68	51	91	58	61	82	66

Source: Key indicators of employment and unemployment in India 2009-10, published by NSSO in July 2011

The unemployment problem in Kerala is not only about-educated unemployment but also simple unemployment of semi skilled and unskilled workers (Economic Review, 2009).

For a state with a population of 33 million to have 4½ million persons as unemployed (in other words, to have 13 percent of the population and 30 percent of the labour force as unemployed) is a situation politically volatile and economically untenable.

The unemployed in the state represent nearly 11 percent of the total number of unemployed in the country, even though the state accounted for only 3.4 percent of the total population. Of the total unemployed, 86.5 percent are 'educated', possessing educational qualification of matriculation level or above.

In terms of chronic unemployment, measured by usual principal status, Kerala's male unemployment at 7.4 percent is more than two-and-half times the all India rate. In the case of women, it is nine times that of all India. Unemployment rates for the educated in Kerala are the highest for both rural and urban areas among the major states. The rate of unemployment among the educated in rural areas of Kerala was 29.6 percent against the all India rate of 8.5 percent. The corresponding figures for urban Kerala and India were 29.6 percent and 8.2 percent. The unemployment rate among educated women in the rural areas was 53.3percent against the all India average of 23.1 percent. The problem was

more in the urban areas of Kerala (55.5percent) than in the urban areas in India (19.9 percent). Unemployment among the educated females in rural areas of Kerala was the second highest among major states (after Orissa) and that in urban Kerala was the highest among the Indian states (George 2011).

The acceleration in the decline in agricultural employment especially among women was the result of fast pace of substitution of rice by low-labour absorbing perennial and more profitable crops (Kannan, 1999). In fact, agricultural sector showed a negative rate of employment since 1987-88, affecting women more adversely than men. The rapid rate of growth in employment in the construction sector followed by transport and other services, which registered impressive growth in employment, was more favourable to men than to women. Migration, especially international migration, helped to ease the unemployment problem. But this has also worked more in favour of men than women, since more than 80 percent of the migrants are men.

The breakup of the unemployed in terms of educational level is shown in table below.

Table 4.13
Distribution of work seekers in Kerala by educational level (No of persons)
(As on August 2011)

Below SSLC	SSLC	HSC	Degree	Post graduate	SSLC & above	% to total work seekers	Total work seekers
585829	2729937	718196	260831	47474	3756438	86.5%	4342267

Source: Directorate of Employment, Govt. of Kerala 2011

The number of job seekers below SSLC increased from 6.24 lakhs in 2008 to 6.37 lakhs in June 2009 but decreased to 5.85 lakhs in August 2011. The total number of work seekers who possess SSLC and above increased from 34.96 lakhs in 2008 to 37.56 lakhs in August 2011. The percentage of work seekers below SSLC to the total work seekers has shown a receding trend and the percentage of work seekers who possess SSLC and above is increasing.

There is not only a mismatch between qualification and the kind of jobs but also a problem of matching qualifications with available job opportunities. Most unemployed are also unemployable in the sense they have only 10 or 12 years of general education and possess no particular skill or specialised knowledge. Fewer and fewer unemployed youth offer themselves for manual work involving drudgery and a perceived low social status. This has led to a seemingly paradoxical situation of high unemployment with scarcity of local labour for unskilled manual work. In fact, there has been a steady flow of

migrant workers into Kerala from other parts of the country to do the available manual work. From the demand side, there is need for technological change that creates demand for more skilled work. But there is also need to supply a qualitatively better labour force. Therefore, advancing educational capabilities with a focus on quality is crucial to Kerala's further development. Experts optimistic about Kerala's turn around in economic growth continue to be pessimistic about its unemployment, which still remains the highest in the country despite a modest decline during the last two decades.

The organised sector both public and private, hardly contributed to the growth in employment due to poor public and private investment. Men's employment is relatively spread across sectors with construction, trade and commerce, and community and social services accounting for 14-15 percent each followed by non-household manufacturing (10 percent), education (9 percent) and transport (8 percent). In contrast, 75 percent of the women were concentrated in four sectors, with education showing the highest concentration at 39 percent followed by health, community and social/personal services, and trade and commerce (11-12 percent each). The employment elasticity of growth in Kerala between 1993-94 and 1999-2000 was 0.013 which was the lowest among 15 major states in India (George and Tharakan 2005).

4.3.1.1 Unemployment Among the Educated

The rising rates of unemployment among the educated in Kerala is a strong negative attribute of the Model. Oversupply of arts and science graduates, heavy subsidization of education, preference for white-collar work, preference for public sector jobs etc. are regarded as the most important factors for the increasing unemployment among the educated (Mathew, 1995). The intensity of unemployment among the educated was once again exposed in May 2010 when the Kerala Public Service Commission received 12,31,499 applications in response to its advertisement for the vacancies in the last grade (peon). Many of the applicants were graduates, professional degree holders, postgraduates, M Phil holders and doctoral candidates. The minimum qualification for the job was only a pass in Class 7 (The Hindu, 1/6/2010). The relative intra-sectoral prioritisation within education in Kerala in favour of liberal education both at the school and higher levels as against vocational and technical education has systematically detached the educated from the natural work environment.

The worsening unemployment situation is obviously related to the inability of the state to generate any sizeable employment during the last few decades. The situation in Kerala

appears to be particularly distressing because most of the labour intensive/labour absorbing traditional industries depending on exports are facing a survival crisis in the liberalised trade environment. Mathew (1995) opines that opening of too many arts and science colleges and private technical training institutions, and a preference for salaried (especially government) employment over self-employment is the main cause of unemployment among the educated.

4.3.2 Deficiencies in the field of Education

A marked deficiency is clearly visible in the state regarding the fund allocation to the subjects in social sciences. Plan assistance to higher and technical education has been very low. The major chunk of the expenditure (more than 90 percent) is accounted by non-plan expenditure, i.e. for maintenance of the system. As a result, development programmes are given very little attention. Understandably, as the private aided colleges are large in number, they account for a large part-nearly two thirds-of the higher education budget. Expenditure on government colleges has relatively declined.

4.3.2.1 Deteriorating Quality

Lack of a serious monitoring mechanism at the school and college levels, especially in teaching, deteriorates the quality of education. The U.R. Rao Committee observes: “one of the serious consequences of virtually unregulated growth of technical institutions is the extreme shortage of quality teachers at various levels’ (Ramachandran, 2004). It is well known that many of the newly-started colleges are making do with a few retired teachers and some fresh graduates. There is an acute shortage of experienced middle level faculty, the backbone of any teaching institution. It has been estimated that a newly-started engineering college offering instruction in four engineering disciplines will require an initial investment of about Rs 15 crore (excluding the cost land). The early engineering colleges and polytechnics (both government as well as aided) have possibly much more than this amount already invested in buildings and equipment. The new colleges lag way behind in infrastructural facilities.

4.3.2.2 Mediocrity in Higher Education

The higher education sector in Kerala lags behind in quantum, quality and performance. Even though the sanctioned intake of students and number of institutions are increasing, the degree of availability of higher education institutions has always been less than the national average in Kerala. It is ironical if not deplorable that Kerala’s higher education

system has not expanded as much as one would expect from a state where elementary education is nearly universal and secondary education has expanded reasonably well. Kerala graduates also manage only a small share of seats in specialized institutions in Kerala and outside, for which national competition is necessary.

In recent years the number of engineering institutions has increased with more intake of students than before, covered by governmental and self supporting private initiatives. The government exercised control over the process of student intake and fee structure, but there has been no policy formulations with regard to infrastructure or quality. In the existing educational scenario there is a clear mismatch between demand and supply, in terms of quality of human assets, which is a strong criterion of employability.

4.3.3 Increasing Morbidity and Deteriorating Public Health Services

In spite of high health status indicators, it is a paradox that Kerala has been identified as the state with highest prevalence of morbidity in India (Shariff, 1995). 181 out of every thousand people in Kerala are morbid due to illness and urban Kerala records the highest male morbidity prevalence rate of 185 per thousand population in India. However, some experts in the field of social and community medicines opine that high awareness among the people of Kerala was responsible for the hike in morbidity and it is also argued that high morbidity rates are due to decline in mortality rates (Rajan and James, 1993).

Though the state is blessed with an extensive health care infrastructure, public and private, the state of the public health services is increasingly unsatisfactory with deteriorating quality of services. This has been the cumulative results of limitation of budgeted funds, poor maintenance of equipments and inefficient governmental management systems.

4.3.4 Irrigation Mismanagement

Though Kerala has enough water resources for its domestic and household use, the state has not been able to harness these resources systematically. Irrigation is perhaps the most poorly conceived, planned and implemented sector of the state's economy. The irrigation potential of the state is estimated at 16 lakhs ha. (net) or 25 lakhs ha. (gross). Till the end of March 1989 an area of 3.72 lakh ha.(net) or 6.11 lakh ha.(gross) i.e. 24 percent of the potential was brought under irrigation through major, medium and minor irrigation schemes. The index of the cumulative growth of irrigation in the state over 1960-61 dropped to just one-third of that of all India, whereas in 1963-64 it was about 4.5 times that of all India estimates.

The poor performance of the state in creating irrigation potential when compared to other major states may be seen in the following table relating to 2005-09

Table 4.14
State wise status of Irrigation Potential created during 2005-09

(in thousand hectare)

Sl. No.	Name of State	Irrigation Potential created during 2004-05
1.	Andhra Pradesh	799.266
2.	Arunachal Pradesh	19.051
3.	Bihar	526.751
4.	Gujarat	505.456
5.	Himachal Pradesh	19.555
6.	Karnataka	311.390
7.	Kerala	34.514
8.	Maharashtra	637.200
9.	Manipur	12.000
10.	Tamil Nadu	225.124
11.	Uttar Pradesh	1888.216
	Total	6711.428

Kerala's irrigation schemes had mainly focused on large scale canal irrigation and were technically oriented towards rice cultivation. In the context of rapid shift of land use from rice cultivation to other crops and use of water sources other than canal irrigation, there was a gaping mismatch between irrigation projects and cropping pattern in the state. The government run/sponsored irrigation projects were not implemented efficiently or did not run effectively and were poorly maintained. There has been a long delay in the completion of irrigation projects (average time taken for the completion of the projects was 19 years). The availability of canal water during summer is not assured putting severe constraints on farmers.

Due to the poorly managed irrigation system, the Green Revolution approach was not as successful in Kerala as it was in Punjab or Gujarat where the grain production responded better to irrigation. Moreover, the major portion of state investment in the agricultural sector went for the construction of large-and medium-sized irrigation dams with cost overruns of 1000 to 2500 percent and time overruns of decades. In many blocks of rice fields, field bodies are absent and field-to-field irrigation is finalised in the absence of field irrigation channels (Centre for Water Resources Development and Management (CWRDM), 1981).^{xx}

^{xx} For more details, see, <http://www.cwrmd.org/reports.htm>.

Aimless planning had caused major debacles in the irrigation sector since the very beginning. The high cost of irrigation projects and low responses to irrigation are attributed to the topographical features peculiar to Kerala and to non-adoption of scientific water management practices (CWRDM, 1981). Unfortunately, the institutional reforms which are essential for realising the best out of the irrigation projects are still neglected in the state.

Though the cumulative investment made in the irrigation sector of the State under the five year plans amounted to Rs. 2735 crores by 2000, the net physical coverage of 3.57 lakh hectares was not at all commensurate with it (Government of Kerala 2000: 78). The irrigation infrastructure in Kerala appears to have failed in bringing new areas under cultivation or increasing the cropping intensity. Even in the case of paddy, the major beneficiary of this infrastructure, the marginal yield on account of irrigation support is found to be insignificant (*ibid*).

Not a single irrigation project could be implemented without substantial time and cost overruns. Kallada, started in 1961, is a classical case of an ‘ongoing project’ with a 55 times cost escalation; Kanhirapuzha (1961) and Pazhassi (1962) with more than 30 times cost increases follow suit (Government of Kerala 2002: 110).

The irrigation engineers who planned various projects in the major river basins showed a technological prejudice as they rarely sought alternative methods and scales of irrigation in each basin. This prejudice is of serious concern in a high rainfall area like Kerala, where the dam and canal based system is ‘naturally’ costly and where there is a possibility of meeting the relatively small requirement of additional water through cheaper means. The objective of achieving self-sufficiency in rice and policy of having major irrigation projects in all the basins seems to be based on the neglect of the specific agro-climatological features of humid-tropic Kerala (Santhakumar, *et.al*, 1995).

4.3.5 Agricultural Stagnation

The stagnation in the primary sector has been an overarching trend in the last two decades in the state.

Table 4.15
State-wise growth rate of the agriculture sector in India

A comparison of the best and the worst performing states. The average has been taken for the period 2004-2005.

States	Growth Rate of the Agriculture Sector (2004-2005)
All India	6.82
Kerala	0.11
Bihar	8.14

For the same period, the smaller states of Delhi and Goa recorded a negative Growth Rate of -1.42 and -1.96 respectively. After these two states where the Growth Rates were in the negative, Kerala recorded the lowest growth rate in its agriculture sector during this period.

For a detailed tabulation of the data see the statistics published by the Planning Commission of India.

(<http://planningcommission.nic.in/data/datatable/index.php?data=datatab> last accessed 11th August 2012)

Land falling under non-agricultural uses has increased from 9.1 percent in 1999-00 to 11.6 percent in 2008-09. The crops, which have failed to sustain the production level in 2008-09, are pepper, ginger, banana and cashew. In the case of coconut, area was at its peak during 2000-01 and gradually declined by 38312 ha. by 2007-08. Area under cashew has been declining steadily from 1.25 lakh ha. in 1988-89 to 0.53 lakh ha. in 2008-09 and the production declined from 1.08 lakh MT to 0.42 lakh MT during the period.

Coconut trees occupy about 42 percent of the gross cropped areas in Kerala. The average productivity of most of the crops in Kerala is very low compared to that in other regions of the country or the world. The main reasons for the low productivity in the garden lands are low soil fertility and low soil moisture storage for the summer season in Kerala. Wherever irrigation is properly practiced, the productivity is as high as in other states.

Kerala's farm sector can be redeemed only by the development of the state's main crops such as paddy, coconut, rubber, pepper, cashew, coffee and spices. Apart from WTO influenced low sales prices, the cost of production in Kerala is higher than that in other states making farming relatively unprofitable. The following table describes the trends of agricultural production in Kerala between 1990-91 and 2009-10.

Table 4.16
Trends in Agriculture Production in Kerala, 1990-1991 and 2009-2010

Crop	Area under cultivation (Production/productivity)						Increase/Decrease in 2009-10 Over 1990-91 (percent/hectare)		
	Area (in hectare)		Production (in 1000 tonnes)		Productivity (Kg per hectare)		Area	Production	Productivity
	1990-1991	2009-2010	1990-1991	2009-2010	1990-1991	2009-2010			
Paddy	559500	234013	1086.578	598.339	1942	2557	-58.17	-44.93	+27.04
Tapioca	146500	74856	2803.00	2525.38	19133	33735	-47.00	-9.90	+76.33

Pepper	168500	171489	46802	37899	278	221	+1.77	-19.02	-20.50
Ginger	14100	5408	45685	28605	3240	5289	-71.36	-37.39	+63.24
Turmeric	2669	2438	5123	6065	1919	2488	-8.65	+18.39	+29.65
Banana/ Plantation	65600	99075	491935	789514	7499	7969	+51.03	+28.00	+6.27
Rubber	411600	525408	307521	745510	747	1419	+27.65	+100	+108.00
Tea	34600	36840	60638	57809	1753	1569	+6.47	-4.67	-10.50
Coffee	84000	84796	20910	59250	278	699	+0.95	+78.17	+79.00
Cashew nut	115600	48972	102771	36450	889	744	-64.53	-64.53	-16.31
Coconut	870000	778619	4232	5667	4864	7278	-10.50	+33.91	+49.63
Cardamom	43824	41593	3450	7800	79	188	-5.09	+126.09	+137.97
Areca nut	64800	99219	13074	127893	202	1289	+53.12	+46.94	+538

Source: Prepared from the “*Time Series Analysis of the Trend in Agriculture Production in Kerala: A Report*”, Evaluation Series No. 90, Evaluation Division, Kerala State Planning Board, Government of Kerala, Thiruvananthapuram, 2011.

4.3.5.1 Fall in Rice Cultivation

The data on paddy indicate a dramatic decline, from 884,969 hectares in 1975-76 to 349,774 hectares in 1999-00. Mirroring this, overall land devoted to food crops has fallen from 1,909,205 hectares to 1,295,298 hectares (1976-76 to 1998-99) (Kerala Economic Review, 2009).

Food has become costlier and the average retail price for rice (ratta) ranged from 1999-2005 was Rs. 13.42 per Kg in 1999 - 2005 to 20.43/Kg in 2009 and Rs.22.83 per Kg in January 2010. The price rise during (2007-2009) was 44 percent (ibid). Reduction of rice production is not a global or national phenomenon but specific to Kerala.

Table 4.17
Area of Rice Cultivation, Production and Productive Capacity, 1960 and 2008

Year	Area (In lakh hectares)			Production (In lakh tons)			Productivity (Tons per hectare)		
	World	India	Kerala	World	India	Kerala	World	India	Kerala
1960	1201.38	341.28	7.79	2206.12	520.11	10.51	1.84	1.52	1.37
2008	1557.11	440.00	2.29	6618.11	1483.65	5.28	4.25	3.37	2.31

Source: IRRI World Rice statistics, economic and statistics directorate, Government of Kerala, Thiruvananthapuram

Courtesy: Dr. T. Vanaja, “*Thirichu Pidikkanam Nelkrishiye*” Mathrubhumi Daily, 27 November 2011.

Major causes of the decline in area of rice cultivation are:

- Historically, the agricultural sector regressed while the service sector expanded in the state due to migration, movement of agricultural labour to other sectors and aversion to manual work and aspiration of youth for white-collar jobs.

- b) Lack of modernisation and failure to introduce mechanisation and technology
- d) High wages of agricultural labour.
- e) Neglect and poor management of irrigation
- f) Recent phenomenon of agriculture labour migrating to NREGS
- g) Drastic increase in production cost. Presently the national rice production cost per quintal is. Rs. 268, but in Kerala it is Rs. 522
- h) Population growth, pressure on land and granting of homestead land to ‘Kudikidappukars’ (hutment dwellers) led to excessive fragmentation of agricultural land.
- i) The real estate and construction boom accelerated the conversion of large areas of agricultural lands to commercial plots.

4.3.6 Power Deficiencies^{xxi}

Kerala’s record is below the all-India average in the crucial sector of power. In fact the power sector in Kerala is a symbol of accumulated inefficiency on all the functional fronts, from perspective planning through technical operation and revenue collection.

The major problem facing power projects in Kerala has been delays and cost overruns. The state of Kerala has been a leader in using hydro power for generating electricity.

Table 4.18
Energy Sources in Kerala as on 31-03-2011

Sl. No.	Source of Energy	Installed Capacity (MW)
1	Hydel-KSEB	1997.80
2	Thermal:KSEB	234.60
3	Wind:KSEB	2.03
4	NTPC	359.58
5	Thermal:IPP	188.93
6	Hydel:Captive	33.00
7	Hydel:IPP	10.00
8	Wind:IPP	31.65
9	Total	2857.59

Source: KSEB official Website.

The Kerala State Electricity Board (KSEB) has failed to achieve the installed capacity against the targeted level in the 10th and 11th plan periods though the state has utilised

^{xxi} The issues in the Power Sector have been elaborated in section 7:3:6, pages 194-198.

nearly 69 percent of its hydel potential as against the all-India figure of 30 percent. Studies show that the major area of weakness in the hydel power use in the state is ineffective transmission systems.

The system now manages to function thanks to large-scale energy import; for example, in 2011-2012, the total energy used in the KSEB system was 18,927 million units (MU) of which KSEB internal generation was only 8302 MUS and power purchases including import was 10624 MUS. Constituting 56.4 percent of the total expenditure of Rs. 7978 crores (source: KSEB). The capacity shortage and the higher transmission and distribution losses have resulted in high degree of unquality (that is, unreliability) through blackouts and brownouts across Kerala.

The Central Electricity Act brought by the central government (2003) is trying to divide Electricity Boards into different companies. But the state government has opposed this move.

4.3.7 Public Sector Inefficiency

The development of public sector, industrial licensing and import control were the commanding elements of the industrial policy in the state. This had led to the expansion of public sector and increased opportunities for employment. An evaluation of the performance of state sector undertakings in modern manufacturing industries for the period 1962-63 to 1984-85 revealed that poor financial management and obsolete technology were two important problems these enterprises faced (Pillai, 1990) Most suffered heavy indebtedness, as reflected in high debt equity ratios (as high as 8:1 in some cases). Eighteen such debt-trapped companies accounted for 71 percent of the total accumulated losses of all state enterprises. Technological backwardness contributed to low productivity and losses. The inventory level was found to be higher than that of private companies in the same industry. Most firms lacked the key elements of marketing, centralised testing, after sales service facilities, and adequate sales promotion measures. And the existing bureaucratic organisational structure was insensitive to the imperatives of efficient management, and restrained dynamism.

These problems stemmed largely from the state's decision to plunge into several modern sectors, ignoring the linkages that could have arisen from common interests if investments had not been thus diffused. Such a strategy could have fused the product mix and production processes to create 'nuclei of economic expansion' (Pillai, 1990). Instead of consolidating its industrial base, the state spread its investments thin,

especially in areas like engineering where the multiplier effect could have been very substantial.

Successive state governments have experimented with different types of structural reform of state enterprises, in order to instil greater accountability without compromising autonomy. The Kerala State Industrial Enterprises (KSIE) was established in 1971 with a mandate to protect and revive sick manufacturing units. However, this experiment proved unsuccessful due to its feature to mobilise resources, poor technology up gradation, time and cost overruns, and increasing government intervention, sabotaging autonomy.

The Kerala State Electronic Development Corporation (KELTRON) was established by the government in 1972, expressly for promoting an integrated and self-reliant electronics industry in the state. Professional electronics and components have dominated the product structure of Kerala's electronic industry. The liberal policy towards import of components and equipment in the 1980s therefore had an adverse effect on Kerala. Unlike other states, the electronic industry in Kerala was dominated by the public sector and private enterprises played only a marginal role.

Prior to 2001, the government had decided to close down nine state Level Public Enterprises (SLPEs). However, the process of their shutting down is still under way. During the reform period on the recommendations of the Enterprise Reform Committee, (ERC), the government had taken a decision to close down six units and divest another six to the private investors (Government of Kerala, 2005). More than 4,609 employees of these units have been paid retirement compensation under the Social Safety Net Programme (SSNP) of the government. However, there was no progress in closure and sale of these units and the government decided to disband the ERC and in its place a sub-committee of the state cabinet was constituted for studying the problems and prepare a new approach paper restructuring SLPEs (Ibid).

4.3.8 Industrial Stagnation

Kerala at its formation had a reasonable industrial base mainly arising from Travancore, which had fostered industrialization ahead of most other princely states. But in later industrial development as reflected in per capita value, Kerala has from the sixties till date remained below the national average.

The present scenario is a heavy concentration in the groups of agro and natural resources based industries accounting for 60 percent of employment as against 30 percent for all India. The peculiarities of the industrial sector in Kerala are:

- Inadequate development of modern engineering and high-tech industries.
- The predominance of traditional industries like coir, cashew, *beedi* etc causing low energy intensity in Kerala compared to all India.
- These traditional Industries of Kerala are plagued by a variety of problems such as cheaper and better substitute products, changes in tastes and performances of Keralites which have taken place with increase in income and social status, perennial labour unrest, small size of the producing units, poor technologies, and capabilities etc.

Kerala is facing a major crisis because of the inadequate economic infrastructure, especially shortage and irregularity of power supply. Lack of entrepreneurs and investment, weak infrastructure facilities, reluctance to increase the production potential of existing industries have all severely inhibited industrial development in the state.

The studies initiated by the Centre for Development Studies^{xxii} looked at the area of coir (coconut fiber), cashew processing and cigarette industries and concluded that as labour unions succeeded in raising wages and improving working conditions, they were also driving factories off to other states. Paucity of resources and heavy commitment of government expenditure for the social sector restricted the industrial investment in the state. Failure to promote industrial clusters, weak inter-industrial linkages and a lopsided industrial structure and more importantly the nature of labour and entrepreneurship and lack of adequate investment contributed to the industrial stagnation.

Most of the converted agricultural land has ended up as housing sites but not for industrial use since Kerala failed to attract large scale industrial investments in the last fifteen years; less than one percent of major industrial investments in India have come to Kerala. Kerala's industrialisation failed to progress into an industrial structure

^{xxii} For details see, Kannan, (1998), "Political Economy of Labour and Development in Kerala: Some reflections of a socially transforming labour force in a slow growing economy, *Working Paper*, Kannan, (1983), *Cashew Development in India: Potentialities and Constraints*, New Delhi: Agricole Publishing Academy. Furthermore, Deepa, (1994), *Industrial Crisis and Women Workers: A Study of Cashew Processing Industry in Kerala*, Thiruvananthapuram: Centre for Development Studies (M Phil Thesis submitted to the Jawaharlal Nehru University, New Delhi and Isaac, Thomas and Raghavan (1990), *A Policy Framework for Revitalization of Coir Industry in Kerala, Working Paper.240*, Thiruvanthapuram: CDS.

characterised by technology intensive and skill based industries. Data from India's Annual Survey of Industries (ASI) shows that two industries – chemicals and rubber-based industries – dominate the value added in the factory sector of Kerala. At the same time, factory employment in Kerala is dominated by two other industries – cashew processing and *beedi* making (Thomas, 2003).

The central government's direct investment in industry in Kerala in all the five-year plan periods has been less than proportionate to Kerala's share in India's population; it was particularly low during the first two five-year plan periods and in all plan periods from the sixth onwards (1980-85). In the total direct investment in industry by the central government, Kerala received shares of only 0.00 percent, 0.11 percent, 1.53 percent and 1.53 percent respectively in the five-year plan periods of 1951-56, 1956-61, 1961-66 and 1969-74.

Power rationing and power cuts have severely affected the performance of large-scale industry in Kerala. Another factor that limited the growth of chemicals-producing industries in Kerala is the pollution these industrial units have caused. The large concentration of heavy chemicals industries in the Alwaye-Kochi region has put enormous pressure on the effluent carrying capacity of Kerala's west-flowing rivers and other water bodies. Environmental movements in Kerala have been successful in creating public awareness against the problems of industrial pollution. As a consequence of all these factors, chemical-based industrial sector in Kerala has remained small and less diversified.

The fiscal transfers from the central government to the state as a proportion of India's Gross Domestic Product (GDP) fell from 5.07 percent in 1993-94 to 4.02 percent in 2002-03 (TFC, 2004). Given the worsening fiscal situation, Kerala has been compelled to reduce its capital expenditures and the degree of freedom available to the state for government intervention in industrial development has been very limited.

Kerala has had a less than impressive record in attracting foreign direct investment (FDI). In the total FDI approvals in India between August 1901 and December 2004, Kerala's share was only 0.7 percent.

4.3.9 Poor Investment Climate and Low Investment

A study in 2004 of the "investment climate" (Veeramani and Goldar, 2004) in ten Indian states by the Confederation of Indian Industry and the World Bank used a four-fold

classification of best, good, medium and poor investment climate. Kerala fell in the bottom category of states. Kerala's ranks in investment and employment were 13 and 8 respectively in 2003. Perception of course is of paramount importance. Some observers have labelled the post-independence state in Kerala as a no-growth state (Tharamangalam, 1998) while others have characterised the relationship between capital and the post-independence state in Kerala as adversarial (George, 1998; Kannan, 1998).

Several factors stand in the way of private investment in the state. They include:

- Perception of labour militancy;
- Inadequate economic infrastructure, particularly power and road;
- Weak productive sectors;
- Suboptimal investment promotion mechanism
- Excessive politicization of private investment projects.

The image of the state as not being investor-friendly has remained unchanged (Tharamangalam, 1998). Although this popular notion does not find undisputed empirical support, there is no denying the fact that the state's industrialization and economic development have been hampered by restrictive labour practices, the disruptive attitude of competing unions, over-politicization and fragmentation of unions and efforts by unions to prevent modernization and technological innovation.

National Productivity Council's (NPC) study on state competitiveness (2004) shows industrial disputes, loss of working hours, poor industrial labour productivity and poor capital intensity as the major weaknesses of the state.

In the above study, Kerala was at the bottom of the list (twelfth rank among 15 larger states) in terms of business efficiency, which takes into account their management practices and entrepreneurial resources and the extent to which enterprises are performing in an innovative, profitable and responsible manner. This is despite the fact that Kerala has a vast pool of skilled human resources.

Attempts to introduce technological changes were resisted by organized labour fearing loss of employment. As a result, the industry moved to neighboring states like Tamil Nadu where an integrated coir processing and manufacturing industry emerged by way of adopting advanced technologies and large-scale manufacturing. All these factors have pushed the state into a state of perennial industrial backwardness.

4.3.10 Head Load Workers

A phenomenon, which has been unique to Kerala, is the category of casual worker, who is referred as a 'headload' worker, almost exclusively male. The Kerala Headload Workers' Act, 1978 (Act 20 of 1980) defined a headload worker as "a person engaged directly or through a contractor in or for an establishment whether for wages or not for loading or carrying on head or person or in a trolley any article or articles for wages". As per the 'Kerala Head Load Workers Welfare Fund Board', in 2009, about 3 lakhs workers were engaged in this field. A strong trade union movement emerged among them, which was used to extract exorbitant rates for loading/unloading and the 'attached' workers became powerful enough to procure a wage even without performing any work. Their demands, even for domestic purposes (shifting houses), could sometimes be outrageous and it became common for individuals to shift at night to avoid a confrontation. While this behaviour was condemned, their vulnerability was also recognised and hence public policy attempted on the one hand to regulate such malpractices (through the Headload Workers' Act, 1978) and on the other, provide some form of social protection and make work more regular (through the Kerala Headload Workers' Welfare Fund, 1984).

A new Act, The Kerala Loading and Unloading (Regulation of Wages and Restriction of Unlawful Practices) Act, was passed by the Kerala Assembly in 2002. It emphasises the right to employ workers of one's own choice, specifying establishments such as industrial parks, export processing zones, tourism protected area, markets, etc. Wages would also be regulated in the manner notified.

Some of the excesses of these workers did strengthen the poor image of Kerala as an investor unfriendly state, especially among the smaller entrepreneurs. Even though such unlawful practices may have come down, particularly in respect of domestic purposes, industry/commercial circles continue to report this as a sizeable deterrent to investment.

4.3.11 Hartals & Bandhs

Hartals and *bandhs*, which are forced work stoppages, have become a mode of protest for all political parties in the state. In 1997, The Kerala High Court declared *bandhs* 'illegal and unconstitutional'. In 2000, the Kerala High Court again ruled that enforcement of a '*hartal*' call by a party or association or organisation by "force, intimidation — physical or mental — and coercion" was "unconstitutional". But Kerala continues to log out of life as regularly as it did before the two court orders (Indian Express, October 2, 2007). Today '*bandhs*' pass off as forceful '*hartals*'. Every hartal continues to paralyse

everything, roads, offices, schools and shops. All these obstructions militate against the growth and development of the state.

4.3.12 Environmental Deterioration

Though it will be an exaggeration to say that Kerala has already reached a crisis point with respect to environment, there are clear indications of deterioration in the quality of the environment. A glance at the industry category list of Kerala reveals that nearly 43 percent belongs to the highly polluting type. Unauthorized and unorganized clay mining for brick making, and sand mining for construction activities etc. have serious environmental implications.

The large scale soil erosion witnessed in Kerala also has considerable environmental implications. Primary forests dropped substantially between 1940 and 1970-average loss of publicly managed forests being 5000 ha per year. Post 1980 studies based on satellite imagery clearly show that the areas under primary forests of Kerala have declined. For example, Prasad *et al.* (1998) estimated that the annual decline in natural forest cover of Kerala for the period from 1961 to 1988 was 0.90 percent. Likewise, Jha *et al.* (2000) showed that forest cover in the southern part of the Western Ghats (4,000,000 ha) declined by 25.6 percent over 22 years from 1973 to 1995.

Based on satellite images and topographic sheets of the Survey of India, Chattopadhyay (1985) has concluded that Kerala's forest area declined from 28 percent of the total geographical area in 1965 to 17 percent in 1973, and 7 to 10 percent in 1983, involving massive loss of biodiversity and genetic resources. Since then, deforestation seems to have been controlled somewhat through effective law enforcement and increased public awareness. However, the deforested highland continues to affect the environment as well as people's livelihoods: it has enhanced soil erosion and laterization, causing frequent and serious landslides and floods.

Kerala's coastal ecosystems are threatened. The almost complete destruction of mangroves in coastal areas as well as the reclamation and pollution of backwaters have not only hampered a unique ecosystem but have also affected the livelihood of the fisherfolk. The rise in communicable diseases is partly attributed to deteriorating environmental conditions – environmental degradation driven by urbanisation and interference with biodiversity, as well as harmful agricultural practices, and the mismanagement of solid, liquid, and medical waste (Amerasinghe and Indrajith 1994; Oommen 2008).

4.3.13 Poor Waste Management

The peculiar characteristics of the state such as high water table in coastal areas, where most of the urban local bodies are situated and the long monsoon season spread over six months in an year, makes the solid and liquid waste management a challenging job. The very high density of dug wells, 400 dug wells per square kilometre, makes the job of waste management at household level also a difficult task. Small land holdings having a well for drawing drinking water and household latrines with on-site excreta disposal system is a common scene in rural Kerala. In these circumstances finding a suitable site for household processing of solid waste using technologies like pit composting, ring composting, or biogas plant is difficult.

4.3.14 Excessive Partisan Politics

Every aspect of life in Kerala is politicized. Newspaper reading and political discussions are a principal pastime of the average Keralite. Protest marches, general strikes, *bandhs*, hunger strikes and other public demonstrations have been almost a daily routine. For some people, participation in processions and protest meetings has become a full time vocation. Kerala is a typical example of a state where divisive politics has undermined its economy, its work culture and governance. In spite of its human resources, Kerala missed three great revolutions i.e. the agricultural revolution, industrial revolution and electronics and IT revolution which were successfully implemented in neighbouring states of Tamil Nadu and Karnataka.

Political parties had fragmented into several groups, which eventually regrouped and stabilized in two almost equally powerful alliances. Each of these alliances most often take positions diametrically opposite to those taken by the rival alliance. Here manoeuvrability for bipartisan policy making and implementation get considerably reduced. In other words, it is a deadlocked polity that sets the general framework for development of Kerala (Gurukkal, 2001).

4.3.15 Obstruction of Technological Advancement

Given Kerala's higher 'social wage', the lack of competitiveness in labour-intensive agriculture (e.g. rice cultivation) and many agro-processing industries is the result of the inability to raise labour productivity. Neighbouring states, with much lower level of wages, are able to attract industries where labour productivity levels are not much different. Hence, Kerala requires technological change and other forms of innovation that

will enhance the value of its products. But Kerala's political society turned its back on technological change for decades on the myopic consideration of temporary job losses.

Opposing technological change has not resulted in job protection because industries and activities have moved away from the state eg. coir and cashew processing. In agriculture, the result has been to move towards low labour absorbing crops. Thus, opposing technological change has neither served the immediate purpose of job protection nor the long-term objective of development. Given the fact that the younger generation in general, and the unemployed, in particular, are educated, they desire to work with technology than without it. And also not all technological changes are labour displacing. In fact many such as hydrological (water control), biological (e.g. new and better seeds) and chemical (e.g. fertilisers and pesticides) are labour-augmenting.

The social terrain in Kerala is such that no meaningful and gainful employment will be created for the vast army of educated labour force without a system-wide breakthrough in technological change. It is with this strategic understanding that this thesis has discussed, the potentialities of segments like ayurveda, tourism and IT and Bio-technology.

4.3.16 Poor Central Allocation of Funds

The quantum of central funds allocated to Kerala has been an issue of permanent political contention. Central transfers in both Kerala's revenue and revenue expenditure were not only much smaller than the average for all states but also there has been a steady decline over the years. In the share of grants from the centre too, there was a sharp decrease in the last decade. The Table 4.12 brings out the decreasing role of central transfers in financing state's revenue expenditure. In respect of the share of aggregate central transfers in both the revenue and expenditure, Kerala lagged behind all states.

Table 4.19
Share of Revenue transferred from the Centre in States'
Total Revenue and Expenditure

Year	Share in Total Revenue						Share in Revenue Expenditure	
	Central Taxes Devolved		Grants from the Centre		Total Central Revenue Transfers			
	Kerala	All States+	Kerala	All States	Kerala	All States	Kerala	All States
2000-01	18.2	21.3	7.1	15.9	25.2	37.2	18.5	30.4
2001-02	17.8	20.4	10.8	16.9	28.6	37.3	22.2	30.3
2002-03	16.1	20.2	8.8	16.3	25.0	36.5	18.0	30.5

2003-04	17.0	21.2	7.7	16.2	24.7	37.4	18.8	31.4
2004-05	17.8	21.1	9.7	15.3	27.5	36.4	21.7	33.1
2005-06	16.5	21.8	13.5	17.8	29.9	39.6	24.9	39.0
2006-07	17.7	22.7	11.5	17.8	29.2	40.5	25.5	42.5
2007-08*	18.6	23.6	11.3	19.8	29.8	43.4	24.5	45.0

+ All States referred to in all tables are the states covered by the RBI Study on State Finances unless otherwise stated. * Revised Estimates

Source: K.K George and K.K. Krishna Kumar (2009) computed from State Finances, Reserve Bank of India (RBI), for various years for the paper 'Kerala's Development Experience: Its Implications for Finance Commissions', Centre for Socio-economic & Environmental Studies

The allocation of Central Taxes to the state of Kerala varied between 3.50 percent and 4 percent of the total shareable taxes as recommended by various Finance Commissions from 2nd FC period to 10th FC period. This ratio fell to 3.06 percent in the 11th Finance Commission period. It declined further to 2.67 percent and 2.34 percent correspondingly in the subsequent Finance Commission recommendations.

Table 4.20

Comparative position of Central Transfers to Neighbouring States, 2009-2010

State	2009-10 (BE)			
	Share of Central Taxes	Grant From Centre	Total Amount	Percentage
Andhra Pradesh	12109	13244	25353	7.15
Karnataka	7645	5893	13538	3.82
Tamil Nadu	9096	7193	16289	4.60
Kerala	5417	3049	8466	2.39
All States	185720	168683	354403	100.00

Source: State Finances: A Study of Budget of 2009-10 by RBI

Thus, Kerala's share of central funds compared to neighbouring states – Karnataka, Tamil Nadu and Andhra Pradesh has been inadequate to take care of its essential developmental needs. Kerala occupies the lowest position both in terms of share of central taxes and grants from the centre.

4.3.17 Poor State Finances

The combination of a stagnant economy and a strong commitment to provide health and education has left the state with large budget deficits. Development expert Joseph Collins, for all his praise of Kerala calls it a “bloated social welfare state without the economy to support it,” a place that has developed a “populist welfare culture, where all the parties are into promising more goodies, which means more deficits”.

Direct Fiscal Liabilities (DFL) as a percentage of NSDP, increased to 45.6 percent during the reform period from 32.8 percent during the pre-reform period. Kerala was the leader among the states in India in terms of their dependence on RBI for short term finance. The state continued to impose several controls on payment from the state treasury though of late, there were some relaxations. Further, arrears to be paid to contractors, medical and other suppliers still persist. In short, the state continues to be in the throes of a continuous fiscal as well as liquidity crisis.

4.3.18 Land Reform—Some Adverse Consequences

Kerala's land reform law was the outcome of more than a century of spontaneous rebellion, organizing, petition signing, marching, meetings, strikes, battles with police and landlord goon squads, election campaigns and parliamentary debates. Except for armed revolution, virtually every form of political activity took place in Kerala's land reform struggles (Franke and Chasin 1993). Unfortunately, land reforms, although the most progressive in the country in altering the relations of production, have not fully given the land to the real tiller of the soil or turned out to be the best way of efficiently organising agricultural production.

In recent times, there has been a growing discussion on the disjuncture between land reforms and equity in landownership (Rammohan 2008; Raman and Bijoy, 2003). These studies highlight that land reforms in Kerala have failed to provide adequate land to the actual tillers of the soil. It is also allegedly responsible for the existence of many "paradoxes" such as the decline in agriculture and emergence of absentee landlordism in Kerala (Balakrishnan 2008; Oommen, 1994; Radhakrishnan 1981). Land reforms, unless backed by institutional mechanisms that improve the access of the poor to productive resources, would jeopardize the objective of growth with equity. The recent struggles by landless *Adivasis* (ST) demanding land rights perhaps capture the underlying tensions in the much acclaimed land reforms of Kerala.

Significantly, land reform did not increase production or rural employment in the state. It resulted in extreme fragmentation of land, the oft-cited reason for making agriculture a low-profit venture. The new landlords, not able to make a living out of agriculture, turned to less labour-intensive crops or were forced to seek avenues of additional income. Increasingly, land was kept fallow. This resulted in a drastic fall in employment and a rise in farm wages disproportionate to the yield. Agricultural workers migrated to non-agricultural sectors, especially large-scale construction activity. The Gulf boom pushed

up land prices making sale of agricultural land for real estate development an enticing option.

The land reforms which catered to problems from mainstream agricultural areas did not even consider the fisherfolk's peculiar demands. The *Adivasis* suffered from widespread alienation of land largely by migrants from the plains who could in turn make gains as being recognized as tenants under the tenancy abolition provision. The initial asset position of SC and ST population was quite limited, compared to others. In such circumstances, their ability to transform the opportunities inherent in whatever small benefits that they received also was limited.

4.3.19 Persisting Gap in Justice for Women

Though the state is ranked at the top in its human developed index, the popular public psychology against women is less progressive. Reports (Sreedevi 2003; Chacko, 2003) regarding crimes against women exposed the difficulties and trauma that women in the most literate state in India were experiencing.

4.3.19.1 The persistence of the Dowry System

Dowry as a highly 'competitive' market practice, increasingly divested of previous customary regulations has been documented recently among the Christians (Visvanathan, 1999; Kurien, 1994). Among the matrilineal groups, over the past half century, there has been a very general shift to dowry marriages, as well as a steep rise in the level of dowries (Osella and Osella, 2000, Puthenkalam, 1977; Lindberg, 2001; Uyl, 1995). More importantly, perhaps, the notion of dowry has gained widespread acceptance in the state, across social and economic groups (Eapen and Kodoth, 2003). There has been a very general switch from dowries in land and gold in the past to dowries in cash, gold and consumer durables today. Most women lose control over the entire dowry, which is used to support the needs of the husband's family. The framework of patriarchy and the dowry system foster dependence on men within a marital framework and pressure the women to conform to patriarchal gender codes.

4.3.19.2 Crimes against Women

Women's views are also shaped within the patriarchal structures. The NFHS-2 reveals that 69.4 percent of women in India who had experienced violence at least once in their lifetime and 53.3 percent of women who had never experienced violence justified wife beating on one or other grounds. It is striking that Kerala had a higher proportion of such

women than all India in both categories — 70.2 percent and 60.8 percent, respectively (Kishore and Gupta, 2004). Patriarchal conditioning is thus still firmly grounded in Kerala and resistance to patriarchal norms is one of the key triggers of violence. In the category of cruelty by husband and relatives (section 498A IPC) Kerala has the fifth highest rate of Crimes Against Women (CAW) in 2009 (National Crime Records Bureau – 2009, p. 387).

4.3.20 Deprived Populations — Schedule Tribes (ST)

Saradmoni (1994) and Omvedt (2005) argue that women, Dalits and *Ādivāsis* are the marginalised populations in modern Kerala. Among the outlier populations, *Ādivāsis* are the more deprived ones. The *Ādivāsis* or indigenous people, who make up 1.1 percent of Kerala's population, exemplify the outlier phenomenon at its worst as highlighted by Sreekumar and Parayil (2006). The *Adivasis* have not only suffered discrimination of being denied the social benefits of the Kerala model; they have also been deprived of their traditional livelihoods, losing most of their customary and ancestral lands to settlers and land-grabbers. Rural poverty among STs in Kerala still remains more than two-and-a-half times that of the all Kerala rural population below the poverty line. This situation gets further aggravated by landlessness/small sized holdings among the ST households in the state, a crucial developmental issue.

The much discussed land reforms in Kerala had failed to provide any benefits, especially to the *Ādivāsis*. Compared to the political and social empowerment in 'mainland Kerala', the traditional *Ādivāsi* spaces on the geo-cultural fringes were largely left out. As a result, the *Ādivāsis* were marginalised from the entire developmental discourse of the state. Therefore, as suggested by Raman (2002), Prakash (2002) and Rammohan (2000), it is high time to think of a new land reform.

4.3.20.1 Landholding of ST

The average size of landholding among the STs is 0.68 acres, which is higher than that for the SCs (0.32 acres), OBCs (0.40 acres) and others (0.63 acres) (Nair and Menon, 2006). But due to land encroachment, acquisition of forest lands by the government and tribal displacement, the STs remain vulnerable, the proportion of households with more than one hectare declining over time.

Both the central and state governments have made various efforts to protect and promote the land rights of the ST population. Yet, the outcome is far from satisfactory, given the

requirements of these households, largely dependent on land. The surplus land declared in Kerala as part of land reforms was only 1.35 lakh acres. Out of this 47 percent was distributed among vulnerable sections as on March 1996 the national guideline being 50 percent. It has benefited 43 percent of the SCs and 5 percent of the ST population. The average size of land made available to STs is only 71 cents. The achievement is below expectations, which has seeded the recent struggles for land rights in Kerala by *Adivasi* organisations (Raman, 2002)

4.3.21 Deprived Population—Fishermen

Another major ‘outlier’ social group of the state is the fishing community estimated at 11, 22, 157 during 2009-10, living in 222 fishing villages spread along the Kerala coast and 113 villages in the inland sector. They suffer from high child mortality, low literacy, low electrification of houses, low access to drinking water and poor sanitation. The persistent deprivation of this community demonstrates that, ‘state-led public action, guaranteeing widespread access to basic facilities required to attain a high quality of life, is never adequate. Without genuine people’s participation in the form of collaborative and or adversarial collective action, such well-intended actions serve little purpose’ (Kurien, 2000). However, such collective action has ameliorated the general conditions of the community since the late 1980s, except health, which continues to be chronically poor among the fisherfolk. Evidence from state income statistics show that, the fishery sector product per fisherperson (*i.e. total number of persons in the households of the active fishermen of the state*) was always lower than the State domestic product per capita. The per capita income of the fisher folk in the state in 2007-08 was about Rs 14000 whereas the per capita income of total population was 37507 at constant (1999-2000) prices (Kerala Economic Review 2009). More than the low income, it is the lower quality of life and the higher occupational risk which set marine fishing communities apart from the other occupational risk groupings in Kerala.

4.3.22 Consumerist Culture

Imports into Kerala from other states in India were rising at higher rates than exports, leading to a steady increase in the state’s balance of trade deficits. Being ‘integrated’ into the global economy more than any other state (per-capita import to and export from the state is the highest in India), the people of Kerala have acquired a consumerist culture. Though Kerala ranks only sixth in per capita GSDP, it ranks first in per capita consumer

expenditure both in rural and urban areas. The monthly per capita consumption expenditure (MPCE) in rural Kerala was 79 percent higher than that of rural India. The MPCE of urban Kerala was 32% higher than that of urban India. Kerala which accounts for 4 percent of gross domestic product of India and 3 percent of its population accounted for 4.5 percent of the value of consumer goods in 2006-07 (Purohit and Purohit, 2009). Kerala stands first in liquor consumption among the states in the country with three times the national average (Kerala Human Development Report, 2005).

The per capita state income at constant (2004-05) prices was Rs 56107 in 2010-11, the SDP being Rs 1.93 lakhs crores. The NRK deposit was Rs. 37790 crores in 2011 coming to 19.8% of SDP. The total state plan outlay for the Eleventh Plan (2007-2012) was only 40422 cr. (Kerala Economic Review 2009 and Finance Department, Government of Kerala). This phenomenon of large NRK remittances /deposits has increased disposal income in the hands of the beneficiaries resulting in high level of consumer spending.

Nearly half of the NRK remittances have been found to go for construction activities, mainly residential buildings. Excepting labour and certain locally produced materials all other building requirements are met through outside imports. Hence, the forward linkage effect of such expenditure is registered in other states, and no corresponding value added activities take place within the state. It has, therefore, been rightly pointed out that the leverage effect of foreign remittances has been 'to promote leakages than linkages'. The high marginal propensity to consume and the high income elasticity of demand for consumer goods have thus failed to generate a multiplier effect within the state to enable higher generation of employment opportunities.

4.3.23 Poor Governance: Lack of Focus and Monitoring

Though the state has implemented the three-tier Panchayat system, it often fails to monitor governance. Moreover, the state's economic governance has been instrumental in undermining entrepreneurship, restricting open markets, encouraging forms of rent-seeking, promoting bureaucratically (mis)managed and perennially loss-making public sector enterprises, and institutionalising an unsustainable fiscal policy (Dreze and Sen, 1995). Interference of different powerful social groups largely affects state's decision making process and governance. Lack of focus and monitoring are also raising serious concerns in administration, especially project management, top to bottom.

4.4 OPPORTUNITIES

4.4.1 Tourism

Kerala has become the most acclaimed tourist destination in the country in the recent past. The percentage share of Kerala in foreign tourist arrival is 10.9 percent in the country during 2008-09. The total revenue generated in the economy due to tourism was assessed at 13231 crores during 2008-09 contributing 7.8 percent to the state's GDP.

In the ten years from 2001, domestic tourists arrivals in Kerala increased by an average annual rate of more than 18 percent, while arrivals from abroad rose by 12 percent per annum. These growth rates are well above the world averages and corroborate the findings of the WTTC and Oxford Economic Forecasting (OEF) research. In the ten years from 1991 to 2001, during which time India's international tourist arrivals doubled, Kerala's more than tripled.

Kerala tourism has won several awards / recognition from government of India and authentic international agencies. The success mantra of Kerala tourism comprise,

- Strong brand positioning,
- Products differentiation,
- Model public/private partnership,
- Public acceptance.

With a mission mode approach and a time-bounded plan, Kerala tourism can be developed further as the largest income and employment generating activity of the state.

4.4.2 Information Technology (IT)

The possibility in information technology are obvious for Kerala with its educated manpower and knowledge society. In the 1990s, Kerala initiated an information technology policy. The total investment that has moved into software so far and the value of output produced clearly indicates that Kerala's performance has been poor as compared to both its potential and the performance of its neighbours. Some general constraints are: a lack of proper integration between hardware and software; an imbalance between domestic and export demand; underdevelopment of the domestic market; underinvestment in domestic R&D; lack of an original technology package for packaged

software products; and a lack of indigenous finance and capital (Subrahmanian and Azeez, 2000).

The state government encouraged by the success of Techno Park, Thiruvananthapuram, and Infopark Kochi tried to create more IT infrastructure across the state, with a view to creating about two lakh new employment opportunities in the IT/IES industry by 2012. The concentration is not on only one location but in distributed townships having equal similar good infrastructure. The concept of a hub-model is very innovative; Technopark-Thiruvananthapuram, Infopark-Kochi and Cyber-park-Kozhikode are the hubs while seven satellite centres are being developed at neighbouring locations to serve as the spokes.

Although Kerala has abundant educated and technically qualified personnel, the state is not able to retain them. This is because of the absence of metropolitan social infrastructure. In order to reap the full potential of the IT industry, Kerala needs to adopt an IT industry facilitation policy to improve the quality physical infrastructure, and achieve quality in educational capabilities. The National Association of Software & Service Companies (NASSCOM) has rated Thiruvananthapuram and Cochin as leading two tier cities with IT focus. Cities in Kerala especially Thiruvananthapuram and Kochi have been rated as the next booming metros and challenging IT locations in India. It is also predicted that Thiruvananthapuram and Kochi offering quality life with good infrastructure and educational institutions will attract more IT/ITES businesses than existing leading locations like Bangalore, Hyderabad and Chennai.

However, software exports from Kerala during 2007-08 has been only of the order of Rs. 1,200 crores as compared to Rs. 108,612 crores from all India, Rs. 54,000 crores from Karnataka, Rs. 28,490 crores from Tamil Nadu and Rs. 26,122 crores from Andhra Pradesh. Similarly, total employment in the software sector of Kerala was only of the order of 20,000.

It appears that part of the strategy should be to further strengthen the presence in Japanese and South East Asian market and explore the new emerging markets like the Middle East, China and others. Any institutional intervention from the State in this regard, like the arrangement for providing training foreign languages like Japanese and Chinese would be highly useful. ICT should be used to improve efficiency and

transparency in the working of the government, including local self government. The State should structure its e-governance projects based on the National e-Governance Plan and suggestions given by the National Knowledge Commission, in addition to locally relevant factors. Taking the Right to Information Act in its true spirit, the government can take up ICT enabled programmes for efficient flow of information between the citizen and the government.

4.4.3 Bio-Technology

A major knowledge intensive area that would be natural for Kerala to focus on are biotechnology and pharmaceuticals research and application. A dynamic Bio-Technology policy should be implemented.

Areas in which biotechnology can contribute to the state's development are:

- i. Value creation in spices and other plantation crops, sea foods and marine resources and protection of crops from biotic and abiotic stresses;
- ii. New and internationally competitive products and applications in rubber, coconut, and tuber crops;
- iii. Help in exploiting the state's forest, animal and marine resources in a sustainable and eco-friendly manner;
- iv. Ayurveda — herbal and traditional medicines; and
- v. Research on diseases such as cancer, diabetes, cardio-vascular diseases, and other physiological disorders.

The state should aggressively develop the institutions presently in Biotech such as – the Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, and Centre for Plant Biotechnology and Molecular Biology, Kerala Agricultural University, Thrissur. Kerala should set up the Kerala Biotechnology Board and Kerala Biotechnology Commission for infrastructure, policy and implementation.

4.4.4 Manpower Development and Export

Kerala's 'Gulf phenomenon' has largely been on the initiative of the people with very little contribution from the government. But with imaginative support and a dynamic programme led by the government manpower development and export can become a successful thrust area for the state's further development.

As the educated unemployment rises, it is essential to develop a man power grid in accordance with the demands of global market through resource and management techniques. There are models worth emulating such as the Philippines Overseas Employment Assistance (POEA) Mission which exists to ensure decent and quality employment for overseas Philippino workers. Of Philippine's 76.5 million population, about 10 percent is hard at work outside the country. During 2001, more than 800,000 people headed out on a commute to Italy, Saudi Arabia, Canada, Singapore, Uzbekistan, Mongolia and Equatorial Guinea. Kerala should launch a mechanism which can fully exploit the opportunities of overseas employment for Kerala's highly educated but unemployed manpower.

4.4.5 Inland Water Transport

Refurbishment and development of the age-old natural inland water transport network is a grand opportunity to develop transportation and tourism in the state. The main constraint in expansion of Inland Water transport in the state are lack of depth in the waterways caused by silting, lack of maintenance of navigation system and bank protection, accelerated growth of the water hyacinth, lack of modern inland craft terminals and cargo handling systems. On the basis of efficiency analysis of Kerala's transport system, (Sunny, 1990) argues that 'the inland water transport has benefits to offer which are not being adequately exploited due to the decline that this particular model has undergone on account of government neglect'.

4.4.6 Mineral Development

Emery and Noakes (1968) divided placer minerals into three categories (a) heavy minerals (gold, tin, platinum chromite), (b) light heavy minerals (rutile, zircon, ilmenite, magnetite, monazite) and (c) gems (diamond, sapphire). One of the richest heavy mineral deposits of the second category, are available in high concentrations along the 22 km stretch of Neendakara-Kayamkulam barrier beach in the state. Recent estimates by India's Atomic Minerals Division is that this coast has 37 million tonnes of ilmenite and 2.54 million tonnes of rutile. The heavy mineral concentration in the belt is as high as 80 percent with about 42000 tonnes of monazite to a depth of 1.5m at an overall grade of 1.2 percent. These are now mined on an industrial scale. The other minerals mined are zircon and garnet. Lower grade deposits are available at several stretches of the Kerala coast. Instead of exporting the minerals, efforts are required to produce high quality industrial

products such as titanium metal, titanium sponge as done by countries like Japan. This can boost Kerala's economy and generate large employment opportunities.

4.4.7 Public Private Partnership

Overcoming the obsolete ideological and other prejudices against the private sector and recognising that major investment in the state and at least 85 percent of its jobs have to come through private sector investment, Kerala should launch an all out programme for public-private partnership and non-governmental participation in investment and enterprise creation. The benefits of synergy between government and private sector will give a great boost to the State in its economic growth. Kerala has already witnessed success stories such as Techno Park and the Cochin International Airport both in the government and the public-private domain.

The state requires massive investments for infrastructure. Public investments alone are grossly inadequate and public-private partnership (PPP) can make infrastructural investment more effective and efficient through better management and technologies. PPP in infrastructure can be fruitful only if long standing cost and benefit sharing agreements (or contracts) could be arrived at between the State and private investors, and the state provides clear signals that such contracts will not be subjected to political tussle and administrative corruption. At present, there are serious limitations in the administrative and political space of Kerala that discourages the shaping of mutually beneficial contracts and their enforcement. These have to be addressed.

The PPP framework can be widened and a support system set up at the state level to identify and structure appropriate projects and hand-hold the local government in working out the concessions and monitoring performance. Preferably a highly professional state level mission could carry out this important task. There is already an institutional set up called Kerala Local Government Development Fund (KLGDF) to mobilize resources from the financial institutions, the market and the public for commercially viable projects. Its functioning has to be vitalized so that the surplus funds available with the people of Kerala can be channeled for local level development.

4.4.8 Global Destination in Education—Hub of Knowledge Society

Growth of education sector largely contributed to uniqueness of the KMD. Progress in the educational sector should be utilised by turning the state into a global educational

hub. Such a move can harness global students to Kerala for education. A clear cut road map has to be prepared on the streams of knowledge building, preceded by continuous assessment of development needs and of the growth process. Simultaneously state should mobilize new private investment in higher education and rationalize policy and procedures to ensure transparency and accountability.

4.5 THREATS

The following are some of the identified threats which need to be confronted.

4.5.1 FTA and External Environment — Bondage to Global Economy

The pressure of adjustment under the Free Trade Area (FTA) would be severe for members who have competitive economies specializing in same set of products and sectors. Natural rubber, coconut, tea, coffee, Malabar spices, cashew, and tropical fish varieties such as shrimp, crustaceans, tuna, cuttle fish, mackerel, sardines, etc., are leading areas of Kerala's specialisation in the national and international division of labour. Notably, the very same goods are among the main areas of specialisation of the South East Asian economies. In fact, South Asia and South East Asia were main contestants with Kerala in the international markets for these products over many decades.

Unfortunately, the new FTAs among South and South East Asia might further aggravate competition in the upstream nodes of the tropical commodity chains and thus run down value realized in these countries, especially by the farming communities (Harilal, 2010). At the same time, the fluctuations in the global market negatively affect the domestic economy. Liberalisation of foreign trade resulted in the sharp decline 'of commodity prices in Kerala except for rubber. As a result, agricultural income of many farmers has declined. But the cost of production of these crops only increased, mainly by the withdrawal by government of the subsidies in inputs like chemical fertilizers. The cost or agricultural credit also went up by changes in monetary policies. The small farmers largely borrowed from the moneylenders and cooperative banks for meeting their agricultural and domestic requirements. The fall in agricultural incomes coupled with the rise in cost of cultivation and cost of living have made a large number of farmers heavily indebted.

4.5.2 Agitational Attitude Towards Development

Over the years, the dominant ideology in the state was more focused on distribution than on growth of income discouraging private investment labelling it as a means for

exploitation of workers and natural resources. Any new project taken up in the state was widely debated among the intelligentsia, consisting of social activists, litterateurs, social and religious interest groups and offsprings of political parties. They take up issues relating to environment and civic rights on a regular basis by arranging protests, *dharnas*, meetings, seminars, etc, and in turn get wide media coverage. In most of the debates on these issues, the economic rationale is ignored.

4.5.3 Falling Gulf Remittance and Increasing return of Immigrants

Though there had been a significant growth in immigration to the Gulf countries during the late eighties and early nineties, the situation has drastically changed since 2000. Studies points out that (Prakash, 2000) the structural changes in the economy of the Gulf countries had adversely affected immigration. Moreover, the peak construction phase of the Gulf countries has passed; therefore, the demand for the Kerala's unskilled labour has virtually vanished. There has been failure to upgrade the technical skill of the Kerala workers to keep abreast with the types and levels of technical skills needed for employment in the receiving countries. The improved supply of local workers within the Gulf countries and competition from workers from other Asian countries who are better trained than Kerala workers, as also Gulf States' policies to reduce the size of foreign workers, promotion of native workers in job placements, reduction in wage rates and imposing stringent restriction on migrant labour have resulted in the exodus of large number of emigrants (Ibid).

4.5.4 Spectre of Labour Indiscipline

The psychic costs of managing labour relations in an environment of multiplicity of unions and their rivalries are high in the state. The employers respond by introducing technological changes wherever feasible and/or to shift the industry to low wage areas outside Kerala. In the handloom weaving industry for example, absence of modernisation including technological advancement led to the decline of the industry despite the clear ability of the workers to innovate products and capture foreign markets.

According to an official release by the Government of India, the left-ruled West Bengal and Kerala topped the list of highest mandays loss due to strikes and lockouts whereas the country as a whole witnessed four percent decline in industrial disputes in 2005. The release said: "In the state and central spheres taken together, West Bengal alone was responsible for the loss of 13.99 million man days, constituting 60.15 percent of the total

man days, lost. Kerala was next in order accounting for 3.06 million man days lost accounting for 13.16 percent of the total time-lost^{xxiii}.

4.5.5 Ageing Population and Lifestyle Diseases

The people of Kerala are now facing the problem of high morbidity both from re-emergence of communicable diseases and non communicable diseases and second generation problems like the ageing population. Since the life expectancy of women is comparatively higher than that of men a large member of them are widowed. Health insecurity arising from the high morbidity rate and the ever increasing expenditure for medical treatment are major issues facing the elderly.

Several reasons can be identified to this high morbidity pattern such as, changing standard of living, climatic conditions, high levels of awareness of ill-health conditions and high demand for medical treatment even for small ailments. Life style related diseases are also on the rise in Kerala, as it has entered the fourth stage of health transition. A study conducted by Health Action by People (2002-2003), Trivandrum, reveals that the prevalence of risk factors is highest in hypertension, diabetes and coronary heart diseases. Increasing mental ill health is also drawing considerable attention. Kerala has one of the highest suicide rates in the country, manifesting extreme mental distress.

4.5.6 The Question of Migrant Labourers

Over the last two decades Kerala has been witnessing a large inflow of migrant workers.^{xxiv} This has helped to offset the shortage of labour caused partially due to the labour migration to other states and emigration to other countries. Substantial sections of these labours are facing socio-political marginalization and a lack of socio-economic and societal resources.^{xxv} As of 2009, there were three million migrant workers in Kerala and many of them were being exploited by labour contractors and denied the statutory minimum wage. The provisions of Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act 1979 were flouted by employers, who hired workers through labour contractors to hoodwink the law (The Hindu, 14/3/2009). Though

^{xxiii} Reported by the weekly magazine Outlook (dated 31 October 2006. See <http://news.outlookindia.com/items.aspx?artid=426213>, last accessed 11th August 2012)

^{xxv} The present wave of migrant labour inflow is entirely different from what Kerala had witnessed during the early eighties and nineties from Tamil Nadu. Apart from Tamil Nadu, presently, unskilled labours from West Bengal, Odisha, Bihar, Uttar Pradesh, Uttarakhand, Assam and Manipur are also coming to Kerala for better employment.

the Kerala government has initiated a welfare fund for migrant workers in April 2010, the overall state policy towards this issue is still shrouded in obscurity. The state agencies and the rural and urban local bodies in Kerala have to revamp their enforcement mechanism to make sure that the migrant workers are able to enjoy a ‘decent’ living and working conditions as also to help them benefit from the public service providers (Kumar, 2011).

4.6 Conclusion - The SWOT Matrix

The overall strategy in the upgraded Kerala model of development should be:

- Concentrate on the state’s unique strengths and achieve maximum additionalities and growth.
- Tackle the weaknesses, minimise their impact and convert them into strength contributories.
- Exploit all the opportunities of the state maximally for fast socio-economic development
- Meet the threats and overcome them through conscientisation and mobilisation of the people and strategic policy planning and projects implementation.

The chapters VI to IX attempt to translate the above matrix to policies and programmes for the coming decade 2012-2021 for achievement of the five major goals of the new KMD viz Total Social Justice, Comprehensive Economic Development, Full Employment, Fiscal Health and Good Governance.

Chapter - V

RESPONDENTS OPINIONS - ANALYSIS

5.1 Data Sources, Collection and Analysis

The present study uses both secondary and primary data. Secondary data has been collected from the reports of the government, both state and central; the State Planning Board, research theses, books, academic journals and internet.

5.1.1 Tools Used for collection of Data

For collecting the views of respondents, an appropriate interview schedule was finalised after a pilot study of 50 respondents.

5.1.2 Tools Used for Analysis of Data

The collected primary data was analysed and interpreted by using percentages, ratios, mean, standard deviation, covariance, correlation, regression analysis and factorisation techniques.

5.2 The Theoretical Frame for Analysis

5.2.1 Identification of Tentative Variables and their Constituent Items

There are no set methods and clear-cut prescription to establish an 'Upgraded Model' for the development of Kerala. After a close review of relevant theories, models, approaches and research studies on a wide spectrum of socio economic segments of the state, the researcher attempted to identify the variables and their constituent sub-variables, which influence and condition the socio-economic realities of the state.

5.2.2 Variables on Interview Schedule

For collecting the opinion of respondents, structured interview schedules were formulated.

The six main variables with sub-components are as follows.

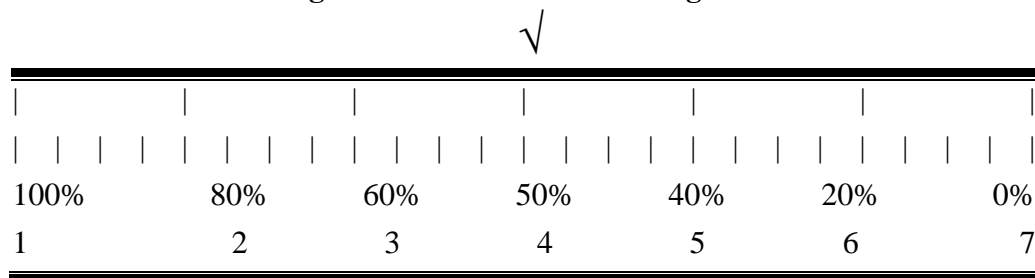
(i) Agriculture and allied sectors (14 sub variables), (ii) Industry, Infrastructure and Environment sectors (24 sub variables), (iii) Social Services, Security, Welfare and Justice Sector (27 sub variables), (iv) Education, Skill Building and Employment (14 sub variables), (v) Finance and Fiscal Policy Sector (15 sub variables), (vi) Governance and Project Implementation Sector (21 sub variables).

5.2.3 Collection of opinion through Interview Schedule

Each question within different variables and sub-variables of the interview schedule was framed after a close study of previous research works, theories, models, a literature survey at the state, national and international levels, and the pilot survey.

The opinions of the respondents were collected and quantified by using scaling techniques. For scaling the opinions in the interview schedules, a seven point rating scale indicating the response mood of the interviewers was used.

Figure: 5:1 Seven Point Rating Scale



The above scale (Figure 5:1) was drawn on a card board and presented to each respondent. Care was taken to give sufficient time to the respondent to think over and answer. They were requested to indicate to which 'percentage' each of their answers belong. The interviewer ticked the answer accordingly. The respondent was encouraged to give additional specific observations relating to the Kerala experience in relation to the questions and their observations were aggregated. This forms the basis of the contents of the narration under each of the sub variables.

5.2.4 Pilot Survey

A pilot survey was conducted on a cross-section of the respondents in Thiruvananthapuram district. Respondents from experts, planners, bureaucrats, politicians, academicians and general public constituted a total of 30 respondents in the pilot survey. At the end of the survey, questions found irrelevant in the draft interview schedule were deleted and the remaining were kept. The interview schedule so reformed and reframed was administered for the final collection of data.

5.2.5 Sampling Technique

Primary data has been obtained from experts in the field of planning and public administration. Purposive sampling technique was used for collection of primary data. 50 each from experts, planners, bureaucrats, politicians, academicians and general public making a total of 300 respondents were selected by using the purposive sampling technique.

5.2.6 Procedure of Analysis (Theoretical Frame)

As per the 'Achievement Rating Schedule (WEARS)' the positive responses on the items with higher average score are selected. For the sake of authenticity and conceptual clarity, statistical tools such as arithmetic mean, standard deviation and coefficient of variation were also computed for each of the sub-variables (items) using SPSS (Statistical Package for Social Science).

The data quality was checked with Robust Estimation Test and the collected data was validated using histogram with normality test in this SPSS. Trimming of extreme values for a pragmatic trimmed mean has been done in some of the unavoidable cases without detriment to the ethics of statistics. In the first stage, scores and their percentage on total scores of the various selected variables on Upgraded model were calculated.

In the second stage a stepwise Regression Analysis has been used to predict the best fit model. The process of analysis with resultant conclusions is explained below.

5.3. OPINIONS OF RESPONDENTS – A DETAILED ANALYSIS

The opinion of the respondents on the need for a new upgraded Kerala Model of Development for complete social justice, comprehensive sustainable economic development and full employment is analysed in six major heads with 115 sub variables:

The table content analysis is made based on considering the views expressed by the respondents one each of the sub variables to the main variable, leaving the minor opinions and taking only the average level of the respondents on each variable as given in the analysis.

The significance of variables are considered by looking into those variables with the highest Co-efficient (Beta) and Correlation (R) and those with lowest Error (e) determining the significance of the main variables through One, Two, Three, Four, Five and Six variable predictor equation models through which the final model is developed.

I. Agriculture and Allied Sectors

This is one of the important main variables which determine the upgraded model for Kerala. Kerala's agricultural economy has undergone structural transformation from the mid seventies due to switch over of a large proportion of its traditional crop area which was devoted to subsistence crops like rice and tapioca to more remunerative crops of coconut, rubber, tea, coffee and spices (for details see Chapter-IV). The state has a

significant share in the export of cashew, spices, coir and coir products and marine products. As a result, the sector has been more open to the market both domestic and international. This sector generally is in a state of stagnation and is in need of urgent revival through innovative policies and programmes. The views obtained from respondents on this sector are analysed with the help of 14 sub variables and is depicted in Table 5.1.

1. Opinion on Strategy for Rice Cultivation in the state

The views of respondents on strategy for rice cultivation in the state are shown as item number V_{1.1} of Table 5.1. In this case 196 respondents (66 percent) are of the opinion that the strategy for rice cultivation in the state is somewhat appreciable by recording a level of satisfaction between 50 and 60 percent . It is strongly supported by another 11 respondents (4 percent) by recording at 80 percent and above. The Mean Recorded Level Opinion (MRLO) of 51 percent.

The respondents are generally of the opinion that efforts so far for safeguarding a minimum area of land for rice cultivation are inadequate as against the need for minimum food security and is supportive of government initiatives like lease land farming, farming operations by *Kudumbashree* and introduction of mechanisation.

2. Disappearance of Peasant Class

Traditional agriculture including food crops except plantations being uneconomic and also due to fragmentation of holdings, and low esteem for agriculture as an occupation, the erstwhile farmers are moving to other occupations and employment including migration.

The views of respondents on disappearance of peasantry class are is shown as item number V_{1.2} of Table 5.1. In this case 142 respondents (47 percent) are of the opinion that the peasantry class has now disappeared from the agricultural sector by recording a level of opinion at 80 percent. It is strongly supported by another 63 respondents (21 percent) by recording a level at 100 percent. 86 respondents (29 percent) marked a level between 50 and 60 percent. The MRLO is 77 percent and reflects the strongly prevalent view that in Kerala the size of the peasant class has shrunk drastically.

3. Farming as Secondary Occupation of Owners

Farming operations in Kerala are becoming secondary basically due to scarcity of labour and high wages.

The opinion on farming as secondary occupation of owners is shown as item number V_{1.3} of Table 5.1. In this case 107 respondents (36 percent) are of the opinion that farming is only a secondary occupation of the farmers by recording a level of opinion at 60 percent. It is strongly supported by another 10 respondents (4 percent) by recording a level of above 80 percent. 91 respondents (30 percent) marked a level at 50 percent. The MRLO of 51 percent shows that majority of the farmers are relegating farming to the status of a secondary occupation basically due to scarcity of labour and high wages.

4. State of Plantation Agriculture

In spite of concessions given to plantations such as exemptions in land reforms, plantation agriculture is stagnating, except in rubber, mainly due to dependency on the foreign trade regime.

The opinion on state of plantation agriculture is shown as item number V_{1.4} of Table 5.1. In this case 172 respondents (57 percent) are of the opinion that there exists a better state in the plantation recording a level of opinion at 60 percent. It is strongly supported by another 10 respondents (4 percent) by recording a level of above 80 percent. 91 respondents (30 percent) marked a level at 50 percent. The MRLO is 57 percent; the majority opinion is that while the government is helpful towards plantation agriculture, much more serious efforts have to be made.

5. Irrigation Management in the state

The opinion on irrigation management in the state is shown as item number V_{1.5} of Table 5.1. In this case 198 respondents (66 percent) are of the opinion that irrigation management is average by recording their level between 50 and 60 percent. 10 respondents (4 percent) by recording a level of above 80 percent.

The MRLO of 51 percent means that government's performance in this sector has been mediocre and a thorough, scientific revamping of irrigation policy and programmes is called for.

6. Land Reforms and its after Effects

The opinion on land reforms and its after effects is shown as item number V_{1.6} of Table 5.1. In this case 189 respondents (64 percent) are of the opinion that land reforms meaningfully transferred the economy by recording a level of opinion between 50 and 60 percent. This view is strongly supported by another 54 respondents (17.4 percent) by recording a level of above 80 percent and above.

The MRLO is 55 percent. Many respondents while lauding the social justice aspect of land reforms point out the negatives of fall in agricultural production, especially in rice, scarcity of industrial land and the exclusion of fishermen and *Adivasis* from land reform benefits. This points to the need for a new comprehensive land reforms legislation for the state.

7. High Wage Rate

The wage rate in Kerala is high compared to other states and is in fact a desirable outcome of workers' struggles which have uplifted the living conditions of the working class and increasingly given them access to health, education and better living. However the high wages have acted as a disincentive for agricultural production specially for food crops where the labour component is high. The views of respondents are tabulated as item number V_{1.7} of Table 5.1. 85 respondents (28 percent) marked their opinion at 50 percent. 159 respondents (53 percent) recorded a level of 60 percent and above. The MRLO of 57 percent indicates that the respondents while welcoming high wages want the government to subsidise production taking this fact into account and also move to innovative programmes to ensure sustainability of Kerala's agriculture.

8. Labour Shortage in an Economy of Labour Surplus

Paradoxically, though the state is facing acute unemployment, there is labour shortage for agricultural operations.

The opinion is tabulated as item number V_{1.8} of Table 5.1. 62 respondents (21 percent) recorded a level of opinion at 50 percent. The existence of the problem is strongly endorsed by 91 respondents (30 percent) recording a level at 60 percent and 101 respondents (34 percent) recording a level at 80 percent and above. The MRLO of 61 percent confirms the reality and indicates people's desire for scientific planning and measures to tackle the problem through mechanisation, adoption of co-operative and group farming and high value agriculture.

9. Productivity and Sustainability of Agricultural Sector

The opinions are tabulated as item number V_{1.9} of Table 5.1. 59 respondents (19 percent) are of the opinion that productivity and sustainability of agricultural sector is a serious issue by recording a level of opinion at 60 percent and above. 65 respondents (22 percent) recorded a level at 50 per. The MRLO of 41 percent reflects the anguish of the

people about the un-sustainability of the agricultural sector and their demand for urgent and consisted efforts to improve productivity and production.

10. Effect on Terms of Trade on Account of GATT/WTO

The fate of more than 80 percent of Kerala's agricultural commodities and products is dependent on domestic and international trade. The terms of trade of GATT/WTO have hit the economy of Kerala by depressing commodity prices except that of rubber. The fall in agricultural incomes coupled with the rise in cost of living have left a large number of farmers under heavy debt.

The opinions are shown as item number V_{1.10} of Table 5.1. 241 respondents (81 percent) are of the opinion that the effect in terms of trade on account of GATT/WTO affected the agriculturists in toto by recording a level between 50 and 60 percent. Another 31 respondents (10 percent) recorded a level of above 80 percent. The MRLO of 60 percent shows that the opinion of the majority of the respondents is that Kerala has been adversely affected by the WTO regime.

11. Ill Effects of Globalisation

The opinions collected are which is shown as item number V_{1.11} of Table 5.1. 101 respondents (34 percent) are of the opinion that globalisation created ill effects for the agricultural sector of Kerala by recording a level at 60 percent. 84 respondents (28 percent) recorded a level at 80 percent and above. 70 respondents (23 percent) marked a level at 50 per. The mean recorded level of opinion (MRLO) in this case is 59 percent which means that globalisation generally has created serious problems for the agricultural sector of Kerala which need to be addressed and mitigated / resolved.

12. Modernisation and Conservation of Fishery Resources

The opinion on modernization and conservation of fishery resources is shown as item number V_{1.12} of Table 5.1. 147 respondents (61 percent) are of the opinion that modernization and conservation of fishery resources are not proper by recording a level of opinion between 50 and 60 percent. Another 17 respondents (4 percent) recorded a level at 80 percent. The MRLO of 49 percent indicates that the majority have argued that modernization of fisheries and conservation of fishery resources in the state are not up to the mark.

13. Land Use Management and Policies in the state

The opinion is shown as item number V_{1.13} of Table 5.1. 183 respondents (62 percent) are of the opinion that the land use management and policies in the state is at an average level by recording at 50 and 60 percent. Another 80 respondents (26 percent) recorded a level of above 80 percent. The MRLO is 67 percent with the majority of the respondents arguing that land use pattern was a concomitant of the KMD and any large-scale revision through governmental measures is difficult. However, government policy should strive to achieve an ideal pattern in the long run. In such a scenario land would be used for optimum efficiency, utility and people's welfare.

14. Programme for Allied Agricultural Sectors: Animal Husbandry, Dairy and Poultry in the state

The opinion is shown as item number V_{1.14} of Table 5.1. 164 respondents (57percent) are of the opinion that the sectors are doing reasonably well by recording a level between 50 and 60 percent. 83 respondents (28 percent) recorded a level of above 80 percent. The MRLO of 59 percent denotes that performance in these allied sectors is just above average and calls for focussed efforts of government and proper organisation for maximum development.

Table 5.1

Variable-I - Agriculture and Allied Sectors (Item Number 5.1.1 to 5.1.14)

Sl No	Sub-Variables (Items)	Opinion Scores							Total	Avg	SD	CV
		0	20	40	50	60	80	100				
1	(V _{1.1})Opinion on Strategy for Rice Cultivation in the state	0 (0)	17 (6)	76 (25)	90 (30)	106 (36)	9 (3)	2 (1)	300 (100)	51	12	24
2	(V _{1.2}) Opinion on Disappearance of Peasantry Class	0 (0)	0 (0)	9 (3)	21 (7)	65 (22)	142 (47)	63 (21)	300 (100)	77	16	21
3	(V _{1.3}) Opinion on Farming as Secondary Occupation of Land Owners	0 (0)	17 (6)	75 (25)	91 (30)	107 (36)	8 (3)	2 (1)	300 (100)	51	12	24
4	(V _{1.4}) Opinion on the state of Plantation Agriculture	3 (1)	12 (4)	41 (14)	85 (28)	87 (29)	68 (23)	4 (1)	300 (100)	57	17	30
5	(V _{1.5}) Opinion on Irrigation management in the state	0 (0)	18 (6)	74 (25)	90 (30)	108 (36)	8 (3)	2 (1)	300 (100)	51	12	24
6	(V _{1.6}) Opinion on Land Reforms and its after Effects	3 (1)	18 (6)	36 (12)	120 (40)	69 (24)	50 (16)	4 (1)	300 (100)	55	16	28
7	(V _{1.7}) Opinion the High Wage Rate	3 (1)	11 (4)	42 (14)	85 (28)	87 (29)	68 (23)	4 (1)	300 (100)	57	17	29
8	(V _{1.8}) Opinion on Labour shortage in an economy of Labour Surplus	10 (3)	11 (4)	25 (8)	62 (21)	91 (30)	84 (28)	17 (6)	300 (100)	61	21	34
9	(V _{1.9}) Opinion on Productivity and sustainability of Agricultural Sector	4 (1)	93 (31)	79 (26)	65 (22)	39 (13)	19 (6)	1 (0)	300 (100)	41	18	45
10	(V _{1.10}) Opinion on the effect of Terms of trade on account of GATT/WTO	0 (0)	4 (1)	24 (8)	35 (12)	206 (69)	19 (6)	12 (4)	300 (100)	60	12	21
11	(V _{1.11}) Opinion on Overall Effects of Globalisation	3 (1)	9 (3)	33 (11)	70 (23)	101 (34)	83 (28)	1 (0)	300 (100)	59	16	28
12	(V _{1.12}) Opinion on Modernisation and conservation of Fishery Resources	6 (2)	34 (9)	96 (24)	109 (27)	38 (34)	17 (4)	0 (0)	300 (100)	49	15	31

13	(V _{1.13}) Opinion on Land Use Management and Policies in state	3 (1)	3 (1)	31 (8)	62 (16)	121 (31)	46 (37)	34 (9)	300 (100)	67	17	25
14	(V _{1.14}) Opinion on Programmes of Allied agricultural sectors of Animal Husbandry, Dairy and Poultry in the state	4 (1)	10 (3)	34 (11)	69 (23)	100 (34)	82 (28)	1 (0)	300 (100)	59	16	28

Source: SPSS output of Primary Data
 Figures in brackets shows percentage to total

Based on Table 5.1, it is found that within agricultural and allied sectors, issues like disappearance of peasantry class, labour shortage, effect of globalisation and land use management are given higher importance by respondents.

II. Industry, Infrastructure and Environment Sectors

This group of sectors is another main variable which can significantly contribute to an upgraded Kerala Model. The views of respondents are analysed using 24 sub variables as seen in the Table 5.2.

1. Level of Industrialisation of the state on the Eve of Independence

The views of respondents on the level of industrialisation on the eve of independence are presented as item number V_{2.1} of Table 5.2. 73 respondents (24 percent) recorded a level of opinion at 50 percent. 150 respondents (50 percent) recorded in a level between 60 and 80 percent 12 respondents (4 percent) recorded a level at cent percent. The MRLO value of 57 percent shows that people are appreciative of the industrial progress made especially by Travancore region during the pre-independence years.

2. Current Status of Industrialisation

The views of respondents on the current status of industrialisation are depicted as item number V_{2.2} of Table 5.2.1. 63 respondents (21 percent) recorded a level of opinion at 50 percent. 63 respondents (21 percent) recorded a level at 60 percent and above. The MRLO of 41 percent reflects the unhappiness of Keralites with the industrial situation in the state and their desire for bold initiatives for industrial growth with enlightened and pragmatic policies.

3. Industrial production and induction of Technology

The views of respondents are depicted as item number V_{2.3} of Table 5.2. 43 respondents (14 percent) recorded a level of opinion at 50 percent. 65 respondents (21 percent) recorded a level between 60. The MRLO of 40 percent indicates that efforts in this direction are below par.

4. Steps taken by Government for developing Traditional Industries

The views of respondents on steps taken by government in developing traditional industries of Kerala are collected and is given as item number V_{2.4} of Table 5.2. In this case 134 respondents (45 percent) recorded a level at 20 percent and less which means they are contented about the steps taken by the government for developing traditional industries in Kerala. The MRLO of 40 percent shows that majority of the respondents viewed the steps taken by the government in this sector as inadequate.

5. State's Industrial Promotion Mechanism and Incentives

The views are depicted as item number V_{2.5} of Table 5.2. 220 respondents (74 percent) recorded a level of opinion between 50 and 60 percent. 41 respondents (13 percent) recorded a level at 80 percent and above. The MRLO of 60 percent shows that the majority view is that the government is earnest in industrial promotion but substantial results are yet to be achieved.

6. Procedural Formalities for Starting Enterprises

The opinion of respondents is shown as item number V_{2.6} of Table 5.2. 96 respondents (32 percent) recorded a level at 60 percent and above. 40 respondents (13 percent) marked a level at 50 percent. The procedural formalities in starting new enterprises in Kerala are cumbersome compared to neighbouring and other successful states. The MRLO of 55 percent confirms the perception that drastic overhaul of the present cumbersome procedures is imperative for successful investment and promotion of enterprises.

7. Policy failures in the Development of Public Sector Enterprises

The views are given as item number V_{2.7} of Table 5.2. 130 respondents (43 percent) are of the opinion that there are policy failures in this area by recording their level at 60 percent. 30 respondents (10 percent) recorded a level of opinion at 80 percent and above. 108 respondents (36 percent) recorded a level at 50 percent. The MRLO of 57 percent points to policy failures and calls for determined action with political will.

8. Role of Trade Unions in Industrial Progress

The opinion of is given as item number V_{2.8} of Table 5.2. 90 respondents (30percent) recorded a level at 50 percent and 153 respondents (51 percent) recorded 60 percent and above. The MRLO of 60 percent shows that in Kerala, there has been considerable

improvement in the labour relations but there has been a persisting negative perception about the labour climate due to labour strife in the past.

9. Progress of Labour Reforms for Creating Conducive Investment Climate

The opinion of respondents on labour reforms is furnished as item number V_{2.12} of Table 5.2. 16 respondents (5 percent) recorded a level at 50 percent and 96 respondents (29 percent) recorded a high level at 60 percent and above. The MRLO of 45 percent shows that people want the pace of labour reforms to be accelerated.

10. Present state of Development in Infrastructure

The views are shown as item number V_{2.10} of Table 5.2. 91 respondents (31 percent) are of the opinion that there is adequate development in the infrastructure sector at present by recording their level at 80 percent and above. 148 respondents (49 percent) recorded a level of opinion between 50 and 60 percent. The MRLO is 61 percent showing that the opinion of the majority is that Kerala has a comparatively developed infrastructure, which needs to be upgraded for further development and growth.

11. Development of Infrastructure to Global Standards

The levels of opinion are presented as item number 2.11 of Table 5.2. 47 respondents (16 percent) recorded a level of above 60 percent and 91 respondents (30 percent) recorded a level at 50 percent. The mean recorded level of 41 percent as well as individual opinions shows that the infrastructure of air port, ports, water ways, sewage, drainage, and waste disposal are below global standards in Kerala and need time bound upgradation.

12. Opinion on Utilisation of Kerala's Unique Mineral Resources

The level of opinion is presented as item number 2.12 of Table 5.2. 114 respondents (38 percent) recorded a level of above 60 81 respondents (27 percent) marked at 50 percent. The mean marked level of opinion is 49 percent which reflects people's feeling that Kerala's unique mineral resources such as china clay and mineral sands are not adequately utilised and they desire an imaginative development thrust in this area.

13. Need for Adoption of New Technologies for Kerala

The opinion is furnished as item number V_{2.13} of Table 5.2. 249 respondents (83 percent) marked a level between 60 and 80 percent. 36 respondents (12 percent) marked a level at 50 percent. The MRLO of 81 percent means that majority want the state to adopt modern technologies to avail of the benefits of globalisation.

14. Power Sector Management and Reforms

The views are tabled as item number 2.14 of Table 5.2. 83 respondents (28 percent) recorded at a very high level at 80 percent and above where as 169 respondents (57 percent) recorded a level between 50 and 60 percent. The MRLO of 59 percent shows that the power sector management and reforms are mediocre and they need focussed attention to make Kerala self sufficient in capacity and quality of power.

15. Neglected Infrastructure of Inland Waterways in the state

Kerala's network of rivers and lakes with the old traditional waterways are a unique gift of nature which could be developed into a magnificent modern infrastructure for passenger and cargo movement and for promotion of tourism and culture.

The opinion is tabled as item number 2.15 of Table 5.2. 93 respondents (31 percent) recorded at a very high level at 80 percent and above where as 166 respondents (56 percent) recorded a level between 50 and 60 percent. This grand opportunity unique for Kerala is as yet not utilised and it is underlined by the MRLO of 61 percent. This calls for urgent efforts and focused action for a master plan for Kerala's inland waterway development and speedy execution of currently projected schemes.

16. Land Acquisition Issues and their solution

The views of are given as item number 2.16 of Table 5.2. 186 respondents (64 percent) recorded a level between 50 percent and above. The MRLO of 61 percent signifies the need for urgent resolve to tackle this crucial obstacle to the state's development.

17. Public Private Participation Initiatives

The opinion is tabled as item number 2.17 of Table 5.2. 190 respondents (64 percent) recorded at a level between 50 and 60 percent and none of them recorded a level beyond 80 percent. The MRLO of 49 percent shows clearly the lack of dynamism in this area, which could be organised into a major programme for investment inflow in the state for infrastructure and enterprise development.

18. Entrepreneur Development Measures of government

Opinions are given as item number V_{2.18} of Table 5.2.2. No respondent recorded a level of above 80 percent. 68 respondents (23 percent) recorded a level at 50 percent and 122 respondents (41 percent) a level at 60 percent. Considering the fact that jobs in the

government and public sector undertakings are not more than 15 percent of total job opportunities in the state, the state should develop entrepreneurship capabilities of the people to meet the challenges of massive enterprise development and employment creation. The MRLO of 53 percent signifies that the current efforts of the state in this regard are just mediocre.

19. Cost and Time Overrun on Projects

The views are depicted as item number V_{2.19} of Table 5.2. 180 respondents (60 percent) are of the opinion that there are unconscionable time and cost over run on projects undertaken by the government by recording their level at 80 percent. 57 respondents (19 percent) recorded a level of opinion at cent present. An MRLO of 79 percent virtually castigates the government for this chronic organisational and management failure causing high losses especially in areas like power and irrigation. Timely execution of projects within the cost estimates is the exception rather than the rule in the state.

20. Consensus in Economic and Industrial Development

The opinion is shown as item number 2.20 of table 5.2. A large majority recorded a lower level at 40 percent and less. Only 12 respondents (4 percent) recorded a level at 50 percent. Most projects in the state are involved in political controversy and many of them get delayed or abandoned. The MRLO of 22 percent confirms this popular perception and emphasises the need to address the issue collectively by political parties, trade unions, civil society and the public.

21. Environmental Management and Protection in state

The views of respondents are tabled as item number 2.21 of Table 5.2. 253 respondents (85 percent) recorded at a very high level at 80 percent and above where as 43 respondents (14 percent) recorded a level between 50 and 60 percent. The MRLO of 82 percent states that the government and the vigilant public are alert to environmental management and protection. A balance has to be arrived at between preservation of Kerala's rich environment and the genuine needs of the state's development.

22. Forest Conservation Policy and Management

The opinion is tabled as item number 2.22 of Table 5.2. 92 respondents (31 percent) recorded at a very high level at 80 percent and above. 160 respondents (53 percent) recorded a level between 50 and 60 percent. The MRLO of 61 percent depicts satisfaction with the current measures of the state for forest conservation and management as against

the loose and harmful policies and events of the past which had resulted in significant loss of the forest wealth of the state.

23. Need for River, Backwaters and Aqua System Management

The views of respondents are presented as item number 2.23 of table 5.2. 162 respondents (54 percent) recorded a level between 50 and 60 percent. 95 respondents (31 percent) recorded a level at 80 percent and above. The MRLO of 61 percent calls for proactive and sufficient measures for river backwaters and aqua system management to protect the state's unique biodiversity and eco system.

24. Waste Disposal Scenario in state

The opinion of respondents is presented as item number 2.24 of Table 5.2. 40 respondents (13 percent) recorded a level at 50 percent. 96 respondents (32 percent) recorded a level at 60 percent and above. The state is facing enormous problems in waste management and the MRLO of 42 percent reflects the frustration of the people and the need for a master plan for comprehensive waste disposal aided by modern technology to be implemented in a time bound manner.

Table 5.2
Variable-II – Industry, Infrastructure and Environment Sectors
(Item Number 5.2.1 to 5.2.24)

Sl No	Sub-Variables (Items)	Opinion Scores							Total	Avg	SD	CV
		0	20	40	50	60	80	100				
1	(V _{2.1}) Opinion on Level of Industrialisation on the eve of Independence	4 (1)	16 (5)	45 (15)	73 (24)	90 (30)	60 (20)	12 (4)	300 (100)	57	19	33
2	(V _{2.2}) Opinion on current status of industrialisation	5 (2)	91 (30)	78 (26)	63 (21)	40 (13)	21 (7)	2 (1)	300 (100)	41	19	46
3	(V _{2.3}) Opinion on account of production and introduction of technology	19 (6)	78 (26)	72 (24)	66 (22)	43 (14)	22 (7)	0 (0)	300 (100)	40	20	50
4	(V _{2.9}) Opinion on steps taken by government in developing traditional industries	3 (1)	131 (44)	84 (28)	32 (11)	12 (4)	3 (1)	35 (12)	300 (100)	40	26	64
5	(V _{2.6}) Opinion on states Industrial Promotion Mechanism and Incentives	10 (3)	9 (3)	20 (3)	11 (4)	209 (70)	10 (3)	31 (10)	300 (100)	60	19	32
6	(V _{1.6}) Opinion on Procedural formalities for starting Enterprising	3 (1)	18 (6)	36 (12)	120 (40)	69 (24)	50 (16)	4 (1)	300 (100)	55	16	28
7	(V _{2.7}) Opinion on Policy failures in the development of public sector	0 (0)	2 (1)	30 (10)	108 (36)	130 (43)	21 (7)	9 (3)	300 (100)	57	12	22
8	(V _{2.8}) Opinion on Role of Trade Unions in Industrial progress	0 (0)	15 (5)	42 (14)	90 (30)	60 (20)	65 (22)	28 (9)	300 (100)	60	20	33
9	(V _{2.9}) Opinion on need for labour reforms for creating conducive investment climate	0 (0)	1 (0)	197 (66)	16 (5)	19 (6)	61 (21)	6 (2)	300 (100)	45	18	20
10	(V _{2.10}) Opinion on the present state of development Infrastructure	0 (0)	13 (4)	48 (16)	69 (23)	79 (26)	62 (21)	29 (10)	300 (100)	61	20	33
11	(V _{2.11}) Opinion on Development of infrastructure to global standards	18 (6)	50 (17)	94 (31)	91 (30)	45 (15)	2 (1)	0 (0)	300 (100)	41	16	40
12	(V _{1.12}) Opinion on utilisation of Kerala's unique mineral resources	6 (2)	27 (9)	72 (24)	81 (27)	102 (34)	12 (4)	0 (0)	300 (100)	49	15	31
13	(V _{2.13}) Opinion on the need for adoption of technologies for Kerala	0 (0)	0 (0)	1 (0)	14 (5)	36 (12)	176 (59)	73 (24)	300 (100)	81	14	17

14	(V _{1.14}) Opinion on Power sector Management and Reforms	4 (1)	10 (3)	34 (11)	69 (23)	100 (34)	82 (28)	1 (0)	300 (100)	59	16	28
15	(V _{2.15}) Opinion on Neglected infrastructure of Inland Waterways in state	0 (0)	12 (4)	28 (9)	71 (24)	95 (32)	92 (31)	1 (0)	300 (100)	61	16	27
16	(V _{2.16}) Opinion on Land Acquisition issues and their Solutions	7 (2)	2 (1)	27 (9)	99 (33)	72 (24)	93 (31)	0 (0)	300 (100)	61	16	27
17	(V _{2.17}) Opinion on Public Private Participation Initiatives	15 (3)	72 (24)	27 (9)	182 (63)	4 (1)	0 (0)	0 (0)	300 (100)	49	12	22
18	(V _{2.18}) Opinion on Entrepreneurial development measures of government	0 (0)	0 (0)	100 (33)	68 (23)	122 (41)	0 (0)	0 (0)	300 (100)	53	16	68
19	(V _{2.19}) Opinion on the cost and time over run on projects	0 (0)	0 (0)	2 (1)	18 (6)	43 (14)	180 (60)	57 (19)	300 (100)	79	15	18
20	(V _{2.20}) Opinion on consensus ;in economic and industrial development	57 (19)	156 (52)	75 (25)	11 (4)	1 (0)	0 (0)	0 (0)	300 (100)	22	14	64
21	(V _{2.21}) Opinion on Environmental Management and Protection in state	0 (0)	3 (1)	1 (0)	13 (4)	30 (10)	166 (56)	87 (29)	300 (100)	82	15	18
22	(V _{2.22}) Opinion on forest conservation, policy and Management	2 (1)	13 (4)	33 (11)	76 (25)	84 (28)	92 (31)	0 (0)	300 (100)	61	19	30
23	(V _{2.23}) Opinion on need for River, Backwaters and Aqua System Management	0 (0)	19 (7)	24 (8)	66 (22)	96 (32)	82 (27)	13 (4)	300 (100)	61	19	32
24	(V _{2.24}) Opinion on Waste Disposal Scenario in state	10 (3)	90 (30)	64 (21)	40 (13)	68 (23)	28 (9)	0 (0)	300 (100)	42	21	49

Source: SPSS output of Primary Data. Figures in brackets shows percentage to total

Table 5.2 indicates that sub-sectors of industrial promotion mechanism, role of trade unions, state of the infrastructure, adoption of suitable technologies, cost and time over run of projects, environmental management and protection and forest conservation and management require higher attention.

III. Social Services, Security, Welfare and Justice Sector

This is the Third Main variable identified for analysis. The views on the 27 sub variables are presented in Table 5.3.

1. Opinion on state of the Public Distribution System

Kerala's PDS has been acclaimed as the most effective in the past in the country but now is facing issues mainly due to the fluctuating nature of the central government policies. The views of respondents on this sub variable are depicted as item number 3.1 of Table 5.3. 161 respondents (54 percent) recorded a level between 50 and 60 percent and 134 respondents (44 percent) recorded a high level at 80 percent and above. The MRLO of 68 percent shows a general satisfaction of the public and the need to maintain and strengthen the system. The National Food Security Act on the anvil is expected to benefit the general population, especially the poor and weaker sections, in the state.

2. Distortion in Public Demand and Culture of Consumerism

On the one hand, Kerala has become a large market and on the other its vulnerability has increased due to its import dependent economy. The pressure on income is probably causal to rising mental distress and social evils like alcoholism. The opinion of

respondents on this sub variable is presented as item number 3.2 of Table 5.3. 92 respondents (31 percent) recorded a level between 50 and 60 percent where as a large majority of them, 208 respondents (70 percent) recorded a high level at 80 percent and above. The MRLO of 78 percent rejects the rising consumerism and materialistic demand in the state, especially for products from outside.

3. Family Planning Programmes in the state

Universal awareness and acceptance of the family planning programme has contributed to effective population control and high HDI in the state. The views of respondents on this sub variable is depicted as item number 3.3 of Table 5.3. 137 respondents (46 percent) recorded a level between 50 and 60 percent whereas 163 respondents (54 percent) recorded a high level at 80 percent and above people strongly endorse the progress and primacy of Kerala in the FP programme as reflected in the MRLO of 74 percent.

4. State's Performance in Controlling Population

Kerala is moving towards zero population growth rate through voluntary family planning acceptance. This achievement is unique in India and the world. The views of respondents on this sub variable is depicted as item number 3.4 of Table 5.3 In this none of them recorded a level at less than 50 percent. The recorded level is 80 percent and 100 percent by 289 respondents (96 percent). An MRLO of 98 percent signifies that Keralites are very proud of this achievement.

5. People's Accessibility to the Health Services of the government

The opinion is depicted as item number 3.5 of Table 5.3. 129 respondents (43 percent) recorded a level at 50 percent and 116 respondents (39 percent) recorded a level at above 60 percent. An MRLO of 53 percent means that people do have accessibility to health services provided by the government. Most respondents have also highlighted the deteriorating quality of public health services.

6. Private Sector Health Care and its Affordability

The opinion of respondents is shown as item number 3.6 of Table 5.3. In this 174 respondents (58 percent) recorded a level between 50 and 60 percent. 86 respondents (28 percent) recorded a high level at 80 percent and above. The MRLO is 60 percent. The access to the private health sector, which is large in the state, is unaffordable for the larger public and somewhat exploitative in nature.

7. The state of Public Private Participation in Social Development

The government faces the problem of inadequacy of funds for maintaining public infrastructure in social services and for investing in capital projects. The views are depicted as item number 3.7 of Table 5.3. In this 120 respondents (40 percent) recorded a level between 50 and 60 percent. Only 7 respondents (2 percent) recorded a high level at 80 percent. The need of Public Private Participation (PPP) is self-evident but the MRLO of 40 percent reflects lack of sufficient initiatives by the government.

8. Government Programmes for Social Justice

The opinion is given as item number 3.8 of Table 5.3. 54 respondents (21 percent) recorded a very high level at 80 percent and above. 195 respondents (65 percent) recorded a high level between 50 and 60 percent. An MRLO of 58 percent is indicative of general satisfaction in government measures for social justice but suggestive of the gaps existing especially among marginalised sections like *Adivasis* and fishermen.

9. Schemes of Children Welfare

The views are shown as item number 3.9 of Table 5.3. In this 161 respondents (54 percent) recorded a level between 50 and 60 percent. 46 respondents (16 percent) recorded a high level at 80 percent and above. The MRLO of 51 percent indicates that respondents are aware of government's efforts such as mid-day meals for school children but want that the scope of such programmes be expanded.

10. Women and Social Welfare Schemes

The views are depicted as item number 3.10 of Table 5.3. 167 respondents (55 percent) recorded a level between 50 and 60 percent. and 76 respondents (25 percent) recorded a level at a very high of 80 percent and above. Awareness about micro finance, self help groups, neighbourhood groups and micro enterprises at the local level for generating income and assets for women is indicated in an MRLO of 58 percent. The respondents have asked for acceleration and universalisation of these programmes.

11. Social Welfare Schemes for the Aged

The opinion is depicted as item number 3.11 of Table 5.3. 20 respondents (6 percent) recorded a level at 80 percent and above. 99 respondents (33 percent) recorded a level between 50 and 60 percent. The population of Kerala is ageing due to longer life expectancy and there seems to be a genuine concern for the needs of the aged which have remained largely unmet. This is reflected in an MRLO value of 31 percent.

12. Social Welfare for Handicapped

The opinion is given as item number 3.12 of Table 5.3. Only 32 (11 percent) recorded a high level at 80 percent and above. 152 respondents (51 percent) recorded a high level at 50 and 60 percent. Kerala was the first state which established a Handicapped Development Corporation and had taken a series of steps including reservation for the handicapped in education and jobs. However an MRLO of 49 percent expresses only a sense of average satisfaction.

13. Role played by the government in Preventing Communicable and Life Style Diseases

The views are depicted as item number 3.13 of Table 5.3. Only 17 respondents (5 percent) recorded a level at 80 percent and above. 111 respondents (37 percent) recorded a level between 50 and 60 percent. Despite its earlier good record in health care the state is now plagued by a resurgence of such diseases and the inadequacy of the steps for solutions so far is indicated by a low MRLO of 41 percent.

14. Programme for the Upliftment of Scheduled Castes (SCs)

The upliftment of the socially and economically downtrodden sections of society especially the SCs was a major challenge to the successive governments since independence. Realising the fact that reservation in jobs and admission in educational institutions alone are not sufficient to solve the problem, governments have implemented separate schemes such as the special component plan.

The opinion of respondents is shown as item number 3.14 of Table 5.3. Only 6 respondents (2 percent) recorded a high level of 80 percent. 93 respondents (31 percent) recorded a level between 50 and 60 percent. The MRLO of 36 percent shows the inadequacy of these measures.

15. Programme for Upliftment of Scheduled Tribe (ST)

The continuing marginalisation and exploitation of *Adivasis* and STs in Kerala has been elaborated elsewhere in this Thesis¹.

The opinion of respondents is given as item number 3.15 of Table 5.3. 35 respondents (12 percent) recorded a level between 50 and 60 percent. None of them recorded a high

¹ See, Chapter 4, Section: 4:3:24: Deprived Populations — ST

level. Severe dissatisfaction with state policies and programmes in this area is shown in the MRLO of 21 percent.

16. Programmes for the Welfare of Fishermen

In spite of numerous programmes aimed at the welfare of the fishermen implemented during the last six decades, the fishermen community in Kerala continues to be marginalised and economically backward.

The views of respondents on this sub variable is shown as item number 3.16 of Table 5.3. Only 5 respondents (2 percent) recorded a level at a high of 80 percent and above. 187 respondents (52 percent) recorded a level at 50 and 60 percent. The efforts of the government have to be strengthened as seen in the mlro of 45 percent.

17. Eliminating exploitation of fisher folk by middle man through programmes of co-operatives and self governing fisheries villages

The views of respondents are depicted as item number 3.17 of Table 5.3. 67 respondents (22 percent) recorded a level at 80 percent and above. 167 respondents (56 percent) recorded a high level between 50 and 60 percent. The MRLO of 51 percent shows that the co-operatives and earlier proposed fishermen village welfare societies are functioning but their effectiveness is just average.

18. Housing Policy and Programmes of state

The opinion is depicted as item number 3.18 of Table 5.3. 190 respondents (64 percent) recorded a level between 50 and 60 percent. None recorded a level of over 80 percent. Kerala has done well on the housing front reflected in the MRLO of 53 percent. Respondents have emphasised the need for a thrust in affordable housing to achieve the goal of 'housing for all' in the state.

19. Insurance and its Coverage for Security of APL, BPL including specially vulnerable groups

The views are depicted as item number 3.19 of Table 5.3. In it 153 respondents (51 percent) recorded a level between 50 and 60 percent. None recorded a level at 80 percent and above. An MRLO of 40 percent indicates that the majority of the respondents are not satisfied with the insurance schemes and their coverage of security offered to the vulnerable groups.

20. Steps taken for Alleviation of Poverty

The opinion is depicted as item number 3.20 of Table 5.3. 33 respondents (11 percent) recorded a level at 80 percent and above. 238 respondents (79 percent) recorded a level at 50 and 60 percent. As elaborated elsewhere Kerala can boast of high performance in this area reflected in the MRLO of 60 percent.

21. Lead taken by *Kudumbashree* for Eradication of Poverty

Kudumbashree is an innovative, women-centered poverty eradication programme being carried out since 1998 and 2000 in rural and urban areas of the state.

The views are presented as item number 3.21 of Table 5.3. None of the respondents recorded a level below 40 percent. Only 66 respondents (22 percent) recorded a level between 50 and 60 percent. A large majority, 234 respondents (78 percent) recorded a high level at 80 percent and 100 percent.

The programme has been highly successful which the responses reflect in the MRLO of 82 percent.

22. Universalisation of Social Justice

The opinion is seen as item number 3.22 of Table 5.3. 137 respondents (46 percent) recorded a level between 50 and 60 percent. Only 10 respondents (3 percent) recorded a high level at 80 percent. Kerala has one of the largest programs for social justice compared to any other state and the MRLO of 40 percent indicates people's desire for the state to build on this and move towards total social justice for its citizens.

23. Sustainability of Kerala Model of Social Welfare

The views of respondents on this sub variable is shown as item number 3.23 of Table 5.3. Only 4 respondents (1 percent) recorded a level between 50 and 60 percent. 295 respondents (98 percent) recorded a high level at 80 percent and cent present. With an MRLO of 95 percent respondents have strongly opined that the KMD has benefitted the state but now requires upgradation to a revised model built on the solid foundations of the old to achieve complete social justice for the entire population.

24. Internalising the phenomenon of Migrant Labour

The opinion of respondents is depicted as item number 3.24 of Table 5.3. 28 respondents (9 percent) recorded a level at 80 percent and 108 respondents (37 percent) recorded a high level between 50 and 60 percent. MRLO of 40 percent indicates that the migrant

labour is required to sustain Kerala's economy and policies have to be framed and implemented for proper management as well as over all welfare of this growing sector of the workers.

25. Programme of Nutrition Security

The opinion of respondents is given as item number 3.25 of Table 5.3. In this 11 respondents (4 percent) recorded a level at 80 percent and above. 134 respondents (35 percent) recorded a high level between 50 and 60 percent. The MRLO (40 percent) depicts the insufficiency and the incompleteness of the programmes of government to achieve full nutritional security against the backdrop of persisting pockets of poverty and falling food production in the state.

26. Growing Culture of Consumerism in the state

The views are depicted as item number 3.26 of Table 5.3. 25 respondents (8 percent) recorded a level between 50 and 60 percent. A large majority of 255 respondents (85 percent) recorded a high level at 80 percent and 100 percent. An MRLO of 79 percent shows that people are aware of the movement of the state towards a consumerist society and an import economy over shadowing and undermining local production.

27. Social problems of Alcoholism, Mental Distress and Suicide

The opinion is shown as item number 3.27 of Table 5.3. 128 respondents (43 percent) recorded a level between 50 and 60 percent. 171 respondents (57 percent) recorded a high level at 80 percent and cent percent. A MRLO of 76 percent confirms the high incidence of these social problems as second generation problems of the KMD.

Table: 5.3

Variable III – Social Services, Security, Welfare and Justice Sector
(Item Number 5. 3.1 to 5.3.27))

SI No	Sub-Variables (Items)	Opinion Scores							Total	Avg	SD	CV
		0	20	40	50	60	80	100				
1	(V _{3.1}) Opinion on state of the Public distribution system	0 (0)	2 (1)	3 (1)	74 (25)	87 (29)	103 (34)	31 (10)	300 (100)	68	17	24
2	(V _{3.2}) Opinion on Distortion in Public Demand Culture	0 (0)	0 (0)	0 (0)	3 (1)	89 (30)	140 (47)	68 (23)	300 (100)	78	15	24
3	(V _{3.3}) Opinion on family planning programmes in the state	0 (0)	0 (0)	0 (0)	48 (16)	89 (30)	97 (32)	66 (22)	300 (100)	74	18	24
4	(V _{3.4}) Opinion on states performance in controlling population	0 (0)	0 (0)	0 (0)	0 (0)	11 (4)	13 (4)	276 (92)	300 (100)	98	8	9
5	(V _{3.5}) Opinion on Peoples accessibility to Health service of the Government	0 (0)	10 (3)	45 (15)	129 (43)	99 (33)	17 (6)	0 (0)	300 (100)	53	11	21
6	(V _{3.6}) Opinion on Private Sector Health care and its affordability	1 (6)	5 (2)	34 (11)	84 (28)	90 (30)	79 (26)	7 (2)	300 (100)	60	16	27
7	(V _{3.7}) Opinion on Public Private Participation in social Development	1 (0)	99 (33)	73 (24)	70 (23)	50 (17)	7 (2)	0 (0)	300 (100)	40	16	41
8	(V _{3.8}) Opinion on the government Programmes for Social Justice	0 (0)	10 (3)	32 (11)	80 (27)	115 (38)	50 (20)	4 (1)	300 (100)	58	15	26

9	(V _{3.9}) Opinion on Schemes of employment and Social Welfare for children	8 (3)	27 (9)	58 (19)	98 (33)	63 (21)	44 (15)	2 (1)	300 (100)	51	18	36
10	(V _{3.10}) Opinion on schemes of social welfare for women	4 (1)	13 (4)	40 (13)	73 (24)	94 (31)	73 (24)	3 (1)	300 (100)	58	17	30
11	(V _{3.11}) Opinion on schemes of social welfare for aged	21 (7)	88 (29)	72 (24)	54 (18)	45 (15)	19 (6)	1 (0)	300 (100)	39	21	53
12	(V _{3.12}) Opinion on schemes of social welfare for handicapped	20 (7)	8 (3)	88 (29)	72 (24)	80 (27)	30 (10)	2 (1)	300 (100)	49	19	38
13	(V _{3.13}) Opinion on the role played by the government in respect of preventing communicable and life style diseases	6 (2)	90 (30)	76 (25)	66 (22)	45 (15)	16 (5)	1 (0)	300 (100)	41	18	45
14	(V _{3.14}) Opinion on upliftment of SC	10 (3)	117 (39)	74 (25)	59 (20)	34 (11)	3 (1)	3 (1)	300 (100)	36	18	49
15	(V _{3.15}) Opinion on upliftment of ST	105 (35)	104 (35)	55 (18)	24 (8)	11 (4)	1 (0)	0 (0)	300 (100)	21	19	91
16	(V _{3.16}) Opinion on Programmes of Fishermen welfare	0 (0)	45 (15)	63 (21)	144 (48)	43 (14)	3 (1)	2 (1)	300 (100)	45	13	29
17	(V _{3.17}) Opinion on solving problems of fisher folk through self governing fisheries village	0 (0)	17 (6)	49 (16)	83 (28)	84 (28)	45 (15)	22 (7)	300 (100)	51	20	39
18	(V _{3.18}) Opinion on Housing Policy and programme of state	0 (0)	0 (0)	100 (33)	68 (23)	122 (41)	0 (0)	0 (0)	300 (100)	53	16	68
19	(V _{3.19}) Opinion on Insurance and its coverage for security of APL, BPL including specially vulnerable groups	45 (15)	14 (5)	88 (29)	109 (36)	44 (15)	0 (0)	0 (0)	300 (100)	40	19	48
20	(V _{3.20}) Opinion on steps taken for alleviation of poverty	6 (2)	11 (4)	12 (4)	12 (4)	226 (75)	11 (4)	22 (7)	300 (100)	60	17	28
21	(V _{3.21}) Opinion on the lead taken by Kudumbashree for eradication of poverty	0 (0)	0 (0)	0 (0)	4 (1)	62 (21)	137 (46)	97 (32)	300 (100)	82	15	18
22	(V _{3.22}) Opinion on universalisation of social justice	28 (9)	59 (20)	66 (22)	80 (27)	57 (19)	10 (3)	0 (0)	300 (100)	40	20	49
23	(V _{3.23}) Opinion on Sustainability of the Kerala model of Social Welfare	0 (0)	0 (0)	1 (0)	1 (0)	3 (1)	58 (19)	237 (79)	300 (100)	95	10	10
24	(V _{3.24}) Opinion on Recent Phenomenon of Migrant Labour	10 (3)	90 (30)	64 (21)	40 (13)	68 (23)	28 (9)	0 (0)	300 (100)	42	21	49
25	(V _{3.25}) Opinion on Program of Nutrition Security	0 (0)	98 (33)	87 (29)	83 (18)	51 (17)	11 (4)	0 (0)	300 (100)	40	17	41
26	(V _{3.26}) Opinion on Consumerist culture in state	0 (0)	0 (0)	20 (7)	7 (2)	18 (6)	203 (68)	52 (17)	300 (100)	79	15	19
27	(V _{3.27}) Opinion on Social evils of alcoholism, dowry and suicide	0 (0)	0 (0)	1 (0)	18 (6)	110 (37)	97 (32)	74 (25)	300 (100)	76	17	22

Source: SPSS output of Primary Data. Figures in brackets shows percentage to total.

Table 5.4 reveals that like agricultural and industry, social sector has been considered very important for development by the people. Within social and justice sector, public distribution system, the family planning programme, health sector, anti poverty programs and sustaining and improvement of Social Welfare have been assigned higher importance by the respondents.

IV. Education, Skill Building, and other Sectoral Thrusts for Employment

This is the fourth significant variable identified for analysis with 14 sub variables (Table 5.4)

1. State of Government Education Sector and its Quality

The views of respondents are depicted as item number 4.1 of Table 5.4. A large majority, 196 respondents (66 percent) recorded a level between 50 and 60 percent and only 11 respondents (4 percent) recorded a level at 80 percent and above. An MRLO of 51 percent shows that while the state has a remarkable infrastructure spread in education its quality is below par.

2. Present System of Higher Education Vis-à-vis Global Standards

The opinion is given as item number 4.2 of Table 5.4. 108 respondents (36 percent) recorded a level between 50 and 60 percent. 11 respondents (4 percent) recorded a level at 80 percent and above. An MRLO of 42 percent denotes the opinion of the majority of respondents that higher education in the state is of low quality in modern pedagogy and content and a concerted effort to raise it to global standards is imperative.

3. Government programmes for Job Oriented Education

The opinion is shown as item number 4.3 of Table 5.4. 12 respondents (4 percent) recorded a level between 50 and 60 percent. The MRLO of opinion of 21 reflects the perception of an outmoded education system largely unrelated to the needs of development, and employment opportunities.

4. Private Education Sector - Cost and Equity

The opinion is given as item number 4.4 of Table 5.4. 41 respondents (13 percent) recorded a level between 50 and 60 percent. 250 respondents (83 percent) recorded a level at 80 percent and above. The MRLO is 80 percent which reflects the concerns of higher costs and inequities in access of the general public in the private education sector to which students have been forced to turn due to lower quality of public sector education.

5. Introduction of Modern World Class Curricula, teaching and evaluation procedures in Education

The opinion of respondents is given as item number 4.5 of Table 5.4. 11 respondents (4 percent) recorded a level between 50 and 60 percent and none have recorded above that. An MRLO of 21 percent reflects the overwhelming opinion that the state's education is badly lacking in these aspects and points to urgent efforts required for modernisation in the field of education.

6. Need for World Class Universities and Institutions in the state.

The views of respondents are shown as item number 4.6 of Table 5.4. 255 respondents (85 percent) recorded a level at 80 percent and above. The MRLO of 79 percent points to the need for establishment of institutions of excellence in higher education in the state and utilising the potential of transforming Kerala into a global higher educational hub.

7. Development of Tourism Sector

The opinion of respondents is depicted as item number 4.7 of Table 5.4. 172 respondents (57 percent) recorded a level between 50 and 60 percent. 72 respondents (24 percent) recorded a level at 80 percent and above. The MRLO of 57 percent means that while there has been good progress in this sector, a focussed effort for sustained development in the area of tourism is necessary, and it must be mounted without endangering Kerala's environment.

8. Steps Initiated for Development of Ayurveda

The opinion of respondents on this sub variable is shown as item number 4.8 of Table 5.4. 220 respondents (74 percent) recorded a level between 50 and 60 percent. 41 respondents (13 percent) recorded a level at 80 percent and above. Kerala's Ayurvedic tradition and system is one of its unique strengths and the MRLO of 60 percent shows majority of respondents arguing that there is progress but there is the need for systematising and authenticating the Ayurveda sector for realising its full potential for growth.

9. Policy frame in IT and Biotechnology for Employment Creation

The views of respondents are shown as item number 4.9 of Table 5.4. 147 respondents (49 percent) recorded a level between 50 and 60 percent and 105 respondents (35 percent) recorded a level at 80 percent and above. The MRLO of 61 percent signifies that the government is active in developing IT and Biotechnology but the achievement of the state is far below its potential.

10. Manpower Planning and Development in Kerala

The views of respondents are shown as item number 4.10 of Table 5.4. 47 respondents (16 percent) recorded a level between 50 and 60 percent where as none recorded a level above that. With an MRLO of 25 percent vast majority of respondents have opined, predictably, that proper manpower planning and development has been one of the weakest links of the KMD, not yet addressed with the focus and determination it deserves.

11. Migration and its impact on state's Development

The opinion of respondents is shown as item number 4.11 of Table 5.4. 162 respondents (54 percent) recorded a level between 50 and 60 percent. 86 respondents (29 percent) recorded a level at 80 percent and above. With an MRLO 49 percent the dominant

opinion is that while migration has been an integral part of the KMD with largely beneficial effects it has to be sustained and developed through concrete efforts to fully exploit the global HR market place.

12. Government's efforts for Promoting Overseas Employment

The opinion of respondents is shown as item number 4.12 of Table 5.4. 205 respondents (51 percent) recorded a level between 50 and 60 percent. 86 respondents (29 percent) recorded a level at 80 percent and above. The MRLO of 49 percent means the present efforts of the government for promoting overseas employment have been insufficient and a massive effort has to be launched towards betterment in this area.

13. State's efforts to tackle Unemployment

The views of respondents is shown as item number 4.13 of Table 5.4. 183 respondents (47 percent) recorded a level between 50 and 60 percent. 49 respondents (38 percent) recorded a level at 80 percent and above.

With an MRLO of 47 percent respondents have highlighted the failure of the state to tackle this central socio-economic issue of the state.

14. Youth and Sports Development

The opinion of respondents is shown as item number 4.14 of Table 5.4. Respondents (57 percent) recorded a level between 50 and 60 percent. 83 respondents (28 percent) recorded a level at 80 percent and above. The MRLO of 59 percent signifies that the measures taken by the state for development of youth and sports affairs are lacklustre and a dynamic effort has to be launched for development and utilisation of the capabilities and talents of the youth of Kerala.

Table 5.4
Variable IV - Education, Skill Building and Employment
(Item Number 5.4.1 to 4.14)

Sl No	Sub-Variables (Items)	Opinion Scores							Total	Avg	SD	CV
		0	20	40	50	60	80	100				
1	(V _{4.1}) Opinion on Education sector of the government and its quality	0 (0)	17 (6)	76 (25)	90 (30)	106 (36)	9 (3)	2 (1)	300 (100)	51	12	24
2	(V _{4.2}) Opinion on the present system of Higher Education vis a vis global standards	10 (3)	90 (30)	64 (21)	40 (13)	68 (23)	28 (9)	0 (0)	300 (100)	42	21	49
3	(V _{4.3}) Opinion on Government progress for job oriented education	105 (35)	104 (35)	55 (18)	24 (8)	11 (4)	1 (0)	0 (0)	300 (100)	21	19	91
4	(V _{4.4}) Opinion on Private education sector cost and accessibility	0 (0)	2 (1)	7 (2)	13 (4)	28 (9)	177 (59)	73 (24)	300 (100)	80	15	19
5	(V _{4.5}) Opinion on the introduction of modern world class curricula, teaching and evaluation procedure in Education	47 (16)	201 (67)	41 (14)	8 (3)	3 (1)	0 (0)	0 (0)	300 (100)	21	13	60
6	(V _{4.6}) Opinion on the needs for world class universities and institutions	0 (0)	0 (0)	20 (7)	7 (2)	18 (6)	203 (68)	52 (17)	300 (100)	79	15	19

7	(V _{4.7}) Opinion on the development of Tourism Sector	3 (1)	11 (4)	42 (14)	85 (28)	87 (29)	68 (23)	4 (1)	300 (100)	57	17	29
8	(V _{4.8}) Opinion on steps initiated for the development of Ayurveda	10 (3)	9 (3)	20 (3)	11 (4)	209 (70)	10 (3)	31 (10)	300 (100)	60	19	32
9	(V _{4.9}) Opinion on policy frame in IT and Biotechnology for employment creation	2 (1)	13 (4)	33 (11)	63 (21)	84 (28)	92 (31)	13 (4)	300 (100)	61	19	30
10	(V _{4.10}) Opinion on the manpower planning and development in kerala	41 (14)	177 (59)	35 (12)	27 (9)	20 (7)	0 (0)	0 (0)	300 (100)	25	16	65
11	(V _{4.11}) Opinion on migration and its impact on State's development	3 (1)	11 (4)	38 (13)	82 (27)	80 (27)	72 (24)	14 (5)	300 (100)	59	19	31
12	(V _{4.12}) Opinion on governments effort for promoting overseas employment	6 (2)	34 (9)	96 (24)	109 (27)	38 (34)	17 (4)	0 (0)	300 (100)	49	15	31
13	(V _{4.13}) Opinion on states efforts to tackle unemployment	3 (1)	34 (9)	31 (8)	121 (31)	62 (16)	46 (37)	3 (1)	300 (100)	47	17	25
14	(V _{4.14}) Opinion on Youth and Sports development	4 (1)	10 (3)	34 (11)	69 (23)	100 (34)	82 (28)	1 (0)	300 (100)	59	16	28

Source: SPSS output of Primary Data. Figures in brackets shows percentage to total

Out of 14 sub-variables, cost of private education, quality of educational institutions, policies for IT and Biotechnology and Youth and Sports development are given higher importance by respondents.

V. Finance and Fiscal Policy Sector

This the fifth main variable identified for analysis and is analysed through 15 sub variables (Table 5.5).

1. Fiscal Management of the state

The views of respondents are shown as item number 5.1 of Table 5.5. 156 respondents (52 percent) recorded a level between 50 and 60 percent. 94 respondents (31 percent) recorded a level at 80 percent and above. The MRLO of 40 percent shows that the state of fiscal management is far from satisfactory and is in dire need of reform.

2. Effect of Fiscal Deficit on the Social Development

The opinion of respondents is shown as item number 5.2 of Table 5.5. 84 respondents (31 percent) recorded a level between 50 and 60 percent. 206 respondents (69 percent) recorded a level at 80 percent and above. The MRLO of 78 percent makes it clear that social development in the state is severely constrained due to the escalating fiscal deficit and also points to need for higher growth rates, resource mobilisation and carefully planned expenditure to solve this problem.

3. Overall Investment flow to the state

The opinion of respondents is shown as item number 5.3 of Table 5.5. None of the respondents recorded a level at 80 percent and above. 116 respondents (39 percent)

recorded a level between 50 and 60 percent. The MRLO of 48 percent denotes that the overall investment flow to the state is inadequate compared to its great potential.

4. NRK Remittances and its Productive Utilisation

The views of respondents are shown as item number 5.4 of Table 5.5. 63 respondents (21 percent) recorded a level between 50 and 60 percent. 31 respondents (10 percent) recorded a level at 80 percent and above. An MRLO of 39 percent means the majority have argued that the state has largely failed to utilise the substantial NRK remittances, unique to the state, for the state's development and growth.

5. State programmes for convergent working of Keralites and NRKs

The opinion of respondents is shown as item number 5.5 of Table 5.5. 140 respondents (47 percent) recorded a level between 50 and 60 percent. Only 12 respondents (4 percent) recorded a level at 80 percent. The MRLO of 42 percent shows that the policies and programmes implemented in Kerala in this regard have not been effective. They consist more of propaganda than of concrete action and results.

6. FDI flow into state

The opinion of respondents is shown as item number 5.6 of Table 5.5. 43 respondents (14 percent) recorded a level between 50 and 80 percent. The MRLO of 24 percent endorses the reality of poor FDI investment into the state due to a host of adverse factors detailed elsewhere in this thesis.

7. Central Investment in and Assistance to state

The views of respondents are shown as item number 5.7 of Table 5.5. 30 respondents (10 percent) recorded a level between 50 and 60 percent. None recorded a level at 80 percent and above. The MRLO of 23 percent reflects the concern if not the anguish of Keralites over the disproportionately poor central allocations and assistance to the state for decades.

8. Need for Mobilisation and utilization of loan assistance from World Bank, ADB and Other International Agencies

The opinion of respondents is shown as item number 5.8 of Table 5.5. Only 47 respondents (15 percent) recorded a level between 50 and 60 percent. 249 respondents (83 percent) recorded a very high level at 80 percent and above. The MRLO of 79 percent signifies the argument of the majority that the state has not been alert and

resourceful in mobilising and utilising funds from these international sources and there is need for a dynamic thrust in this area.

9. Need for Availing Benefits from Central and, Quasi Government Agencies

The opinion of respondents is shown as item number 5.9 of Table 5.5. 19 respondents (6 percent) recorded a level between 50 and 60 percent. A large majority, 279 respondents (93 percent) recorded a very high level at 80 percent and 100 percent. The MRLO opinion of 95 percent shows that the state's administrative system is severely lacking in tapping all possible loan and funding resources from within the country.

10. Need for Expenditure Management by the state

The views of respondents are shown as item number 5.10 of Table 5.5. 155 respondents (51 percent) recorded a level between 50 and 60 percent. 111 respondents (37 percent) recorded a very high level at 80 percent and 100 percent. The MRLO of 63 percent emphasises the urgent necessity of scientific expenditure management for better financial health of the state.

11. Low Credit Deposit Ratio

Keralites blame the banks for the low CDR in the state. On the other side, the banks advance the argument of low capital nature of Kerala's industries, the lack of entrepreneurship and viable projects. The opinion of respondents on this sub variable is shown as item number 5.11 of Table 5.5. 76 respondents (25 percent) recorded a level between 50 and 60 percent. 219 respondents (73 percent) recorded a very high level at 80 percent and cent percent. The MRLO of 77 percent signifies great public resentment on this issue.

12. Role of government in Privatisation (Disinvestment)

The opinion of respondents is shown as item number 5.12 of Table 5.5. 132 respondents (44 percent) recorded a level between 50 and 80 percent. None have recorded a level above that. A low MRLO of 40 percent reflects the lack of progress in disinvestment mainly due to ideological opposition and the weak approach of government on this issue.

13. The Poor Taxation Efforts of state

The opinion of respondents is shown as item number 5.13 of Table 5.5. 52 respondents (18 percent) recorded a level between 50 and 60 percent. 248 respondents (82 percent) recorded a very high level at 80 percent and cent percent. The MRLO of 81 percent

endorses the reality that the state has been lax in enforcing tax compliance and plugging leakages and in formulating a serious programme for broadening its tax base and mopping up unearned incomes.

14. Implementation of policies towards Economic Reforms in the state

The opinion of respondents is shown as item number 5.14 of Table 5.5. 127 respondents (42 percent) recorded a level between 50 and 80 percent. None have recorded above that. The MRLO of 40 percent denotes the mediocre gains realised by the state through the one step forward two steps backward approach to implementation of economic reforms.

15. Skewed Tertiary Sector dominated Growth in the state

The opinion of respondents is shown as item number 5.15 of Table 5.5. 179 respondents (60 percent) recorded a level between 50 and 60 percent. None recorded a level at 80 percent and above. The MRLO of 59 percent confirms the reality that of all the sectors only the service sector is advancing while agriculture and industry are stagnating in the state. The survey points out the need for revival of agriculture and industry and a massive programme for development of infrastructure for balanced and sustainable development of the state.

Table 5.5
Variable-V Finance and Fiscal Policy Sector
(Item Number 5.5.1 to 5.15)

SI No	Sub-Variables (Items)	Opinion Scores								Avg	SD	CV
		0	20	40	50	60	80	100	Total			
1	(V _{5.1}) Opinion on the fiscal management of the state	1 (0)	10 (3)	39 (13)	63 (21)	93 (31)	90 (30)	4 (1)	300 (100)	60	17	28
2	(V _{5.4}) Opinion on effect of fiscal deficit on social development	0 (0)	0 (0)	0 (0)	7 (2)	87 (29)	140 (47)	66 (22)	300 (100)	78	15	19
3	(V _{5.3}) Opinion on Overall Investment flow to the state	105 (35)	24 (8)	55 (18)	104 (35)	12 (4)	0 (0)	0 (0)	300 (100)	48	19	91
4	(V _{5.4}) Opinion on NRK remittance and productive utilisation	6 (2)	91 (30)	150 (36)	38 (13)	25 (8)	31 (10)	0 (0)	300 (100)	39	21	53
5	(V _{5.5}) Opinion on state programme for convergent working of Keralities and NRKs	26 (9)	56 (19)	66 (22)	63 (21)	77 (26)	12 (4)	0 (0)	300 (100)	42	20	48
6	(V _{5.6}) Opinion on Foreign Direct Investment flow into the state	88 (29)	84 (28)	85 (28)	37 (12)	5 (2)	1 (0)	0 (0)	300 (100)	24	19	78
7	(V _{5.7}) Opinion on central assistance to Kerala	79 (26)	109 (36)	82 (27)	26 (9)	4 (1)	0 (0)	0 (0)	300 (100)	23	17	75
8	(V _{5.8}) Opinion on need mobilisation and utilisation on loan assistance from world bank, ADB and other international agencies	0 (0)	0 (0)	3 (1)	16 (5)	31 (10)	193 (64)	56 (19)	300 (100)	79	14	12
9	(V _{5.9}) Opinion on need for availing of benefits from central, quasi Govt and international agencies	0 (0)	0 (0)	2 (1)	3 (1)	16 (5)	23 (8)	256 (85)	300 (100)	95	12	13
10	(V _{5.10}) Opinion on need for expenditure management by the state	1 (0)	4 (1)	29 (10)	52 (17)	103 (34)	106 (35)	5 (2)	300 (100)	63	16	25
11	(V _{5.11}) Opinion on low credit deposit ratio	0 (0)	1 (0)	4 (1)	16 (5)	60 (20)	171 (57)	48 (16)	300 (100)	77	15	19

12	(V _{5.12}) Opinion on role of government towards privatisation (disinvestment)	5 (2)	90 (30)	73 (24)	64 (21)	65 (22)	3 (1)	0 (0)	300 (100)	40	16	41
13	(V _{5.13}) Opinion on poor taxation efforts of the state	0 (0)	0 (0)	0 (0)	5 (2)	47 (16)	172 (57)	76 (25)	300 (100)	81	13	16
14	(V _{5.14}) Opinion on the implementation of policies towards economic reforms in the state	1 (0)	99 (33)	73 (24)	70 (23)	50 (17)	7 (2)	0 (0)	300 (100)	40	16	41
15	(V _{5.15}) Opinion on Skewed tertiary sector dominated growth in the state	0 (0)	34 (11)	83 (28)	110 (37)	69 (23)	0 (0)	0 (0)	300	59	28	28

Source: SPSS output of Primary Data. Figures in brackets shows percentage to total

It is clear from Table 5.6 that tackling of financial deficit, availing of loan from international organisation like ADB, World Bank, garnering full benefits from central, quasi Govt and international agencies and better taxation efforts of the state are highlighted by the respondents.

VI. Governance and Project Implementation Sector

This is the sixth major variable identified for analysis which contributes significantly to the up graded model for Kerala's development. The Sector is analysed through 15 sub variables that have been identified (Table 5.6).

1. Need for the Structural Reforms in Administration

The opinion of respondents is shown as item number 6.1 of Table 5.6. 126 respondents (42 percent) recorded a level between 50 and 60 percent. 80 respondents (27 percent) recorded a very high level at 80 percent and above. The MRLO of 60 percent reflects a strong demand for effective administrative reforms and restructuring of government which have been only partially and haphazardly implemented in the past due to resistance from vested interests and lack of political will.

2. Need for effective Project Administration in government

The opinion of respondents is shown as item number 6.2 of Table 5.6. 34 respondents (12 percent) recorded a level between 50 and 60 percent. 249 respondents (83 percent) recorded a very high level at 80 percent and above. The MRLO of 80 percent reflects the very poor and unprofessional project administration in the state which has led to cost and time overruns across the board and squandering of scarce resources. The need to modernise and streamline project administration is an urgent imperative.

3. Funds for Modernisation of Governance

The views of respondents are shown as item number 6.3 of Table 5.6. Only 21 respondents (7 percent) recorded a level between 50 and 60 percent and none recorded a level at 80 percent and above. The MRLO of 25 percent reflects the low allocation of funds for and slow progress of the state in modernising governmental processes.

4. State's Decentralised Planning and Beneficiary Participation

The opinion of respondents is shown as item number 6.4 of Table 5.6. 110 respondents (37 percent) recorded a level between 50 and 60 percent. 180 respondents (60 percent) recorded a very high level at 80 percent and above. The MRLO of 76 percent endorses the national view that Kerala has been at the forefront in implementing decentralized planning and effective participation of beneficiaries in the development process.

5. Integration of Schemes of National Rural Health Mission, NREGHS etc with Local Body Schemes

The opinion of respondents is shown as item number 6.5 of Table 5.6. 34 respondents (11 percent) recorded a level at 80 percent. 179 respondents (53 percent) recorded a level between 50 and 60 percent. The MRLO of 50 percent indicates that there is a need for proper integration of central government's flagship schemes and missions for rural development at the grassroots level with the work of local bodies in the state. Many have highlighted the incongruence of the pattern of the central schemes with the specific socio-economic conditions of the state.

6. Regional and Local Economic Development through Local Governance

The views of respondents are shown as item number 6.6 of Table 5.6. 198 respondents (66 percent) recorded a level between 50 and 60 percent. 66 respondents (22 percent) recorded a very high level at 80 percent.

An MRLO 60 percent denotes that the respondents are generally satisfied with the performance of Kerala's LSGs in economic development.

7. Systems for Project preparation and pursuit of Project funding in state

The opinion of respondents is shown as item number 6.7 of Table 5.6. 198 respondents (66 percent) recorded a level between 50 and 60 percent. 66 respondents (22 percent) recorded a very high level at 80 percent. The MRLO of 49 percent emphasises that the system for project preparation and project funding in the state is average and is basically on account of poor organisational structures, professionalism, management and monitoring.

8. Effectiveness of Monitoring for Development Schemes

The views of respondents are shown as item number 6.8 of Table 5.6. Only 15 respondents (5 percent) recorded a level between 50 and 60 percent and a minor number

of 10 respondents recorded a level at 80 percent. The MRLO of 19 percent faults the state for poor and ineffective monitoring of development schemes.

9. Steps taken for Removing the Bottlenecks in full Utilization of Resources by government

The opinion of respondents is shown as item number 6.9 of Table 5.6. Only 39 respondents (13 percent) recorded a level between 50 and 80 percent and none recorded a level of above 80 percent. The MRLO of 26 percent is a loud criticism of the state government for not overcoming the obstructions by political and other interests for full utilisation of the abundant natural and human resources of the state.

10. Need for SMART Governance

The views of respondents are shown as item number 6.10 of Table 5.6. 63 respondents (21 percent) recorded a level between 50 and 60 percent. 237 respondents (79 percent) recorded a very high level at 80 percent and cent percent. It is seen from MRLO of 79 percent that the respondents have strongly supported the need for accelerated and comprehensive implementation of SMART (simple, moral, accountable, responsive and transparent) governance in the state.

11. Working of Co-operatives in the state

The opinion of respondents is shown as item number 6.11 of Table 5.6. 126 respondents (42 percent) recorded a level between 50 and 60 percent. 80 respondents (27 percent) recorded a very high level at 80 percent and 100 percent. The MRLO of 78 percent indicates that people generally appreciate the working of the cooperative movement of the state which has a dominant role in meeting the credit requirements of the common man in both rural and urban areas. Respondents have also pointed out the excessive politicking, mismanagement and corruption in parts of the cooperative network.

12. Working of Community Development Society in the state

The views of respondents are shown as item number 6.12 of Table 5.6. 238 respondents (42 percent) recorded a level between 50 and 60 percent. 33 respondents (11 percent) recorded a very high level at 80 percent and above. An MRLO of 60 percent indicates better than average performance of the CD society which needs further strengthening, in coverage and goal orientation.

13. Environmental Protection and Economic growth

The opinion is shown as item number 6.13 of Table 5.6. 103 respondents (34 percent) recorded a level between 50 and 60 percent. Only 8 respondents (2 percent) recorded a very high level at 80 percent. The MRLO of 37 percent signifies that the state has not succeeded in building a proper balance and consensus between environment and the needs of development. While on the one hand even environmentally sound schemes are mired in controversies and agitations, uncontrolled environmental destruction is being perpetrated by vested interests and mafias. A streamlined system of environmental impact assessment and authentic clearance of projects followed by strong political will to push forward with the cleared projects is imperatively required in the state.

14. Present Laws and Regulations Impeding Kerala's Growth

The opinion of respondents on this sub variable is shown as item number 6.14 of Table 5.6. 107 respondents (36 percent) recorded a level between 50 and 60 percent. 22 respondents (7 percent) recorded a very high level at above 80 percent. The MRLO of 42 percent reflects the poor progress of the initiative of government in repealing or amending untenable and obsolescent laws which delay and obstruct Kerala's growth.

15. Need for government to transform Kerala as a Global destination in each of its unique Strength Areas

The views are presented as item number 6.15 of Table 5.6. 25 respondents (9 percent) recorded a level between 50 and 60 percent. 273 respondents (91 percent) recorded a very high level at 80 percent and cent percent. The near unanimous MRLO of 94 percent points to the intense desire of Keralites to develop Kerala as a global destination in areas like Tourism, Ayurvedic Services, Higher Education, IT and Biotechnology in which the state has unparalleled strengths.

16. Measures to tackle Corruption

The opinion of respondents is tabled as item number 6.16 of Table 5.6. 186 respondents (64 percent) recorded a level between 50 and 60 percent and none recorded a level at 80 percent and above. The MRLO of 60 percent denotes that while Kerala is generally perceived as a comparatively less corrupt state there is need for more effective systems for tackling the menace, which is not only morally condemnable but also results in siphoning off of scarce resources hampering the overall progress of the state.

17. Influence of Community and Religious Organizations on government

The opinion of respondents is shown as item number 6.17 of Table 5.6. 237 respondents (79 percent) recorded a level between 50 and 60 percent. Only 33 respondents (11 percent) recorded a very high level at 80 percent and none recorded a level at 100 percent. It is seen from the MRLO of 60 percent that these organisations are influencing the government on a wide spectrum of issues exercising the electoral and quasi-political power they have come to acquire.

18. *Hartals* and *Bandhs* in state

The opinion of respondents is given as item number 6.18 of Table 5.6. 171 respondents (57 percent) recorded a level between 50 and 60 percent. 93 respondents (31 percent) recorded a very high level at 80 percent. The MRLO is 61 percent. The respondents are generally critical of the frequent *hartals* and *bandhs* in the state called by political parties, trade unions and all sorts of fringe groups, which contribute to public waste, destruction of public property, impede production and act as a serious disincentive for investment in the state.

19. Integrated Physical Planning of the Rural-Urban continuum in the state

The views of respondents is tabled as item number 6.19 of Table 5.6. 61 respondents (20 percent) recorded a level between 50 and 60 percent. 237 respondents (79 percent) recorded a very high level at 80 percent. The MRLO of 79 percent reflects the strong desire for proper integrated planning of the state's rural- urban continuum with scientific land use and delineation of residential, commercial and industrial areas and open spaces.

20. Need for Right Sizing of government

The opinion of respondents is depicted as item number 6.20 of Table 5.6. 112 respondents (37 percent) recorded a level between 50 and 60 percent. 93 respondents (31 percent) recorded a very high level at 80 percent. The MRLO 79 percent underlines the need for reducing the bloat in the governmental apparatus, restructuring the different departments based on present and emerging needs, re-deployment through retraining and through professionalisation. Governmental efforts in the area are minimal and halting.

21. Need for Enhanced Private Sector Participation in the state's Development

The views are shown as item number 6.21 of Table 5.6. 154 respondents (51 percent) recorded a level between 50 and 60 percent. Whereas 78 respondents (26 percent) recorded a very high level at 80 percent and above. The MRLO of 62 percent shows that

the people are generally supportive of the need for private participation in the state's development – a massive opportunity especially in the context of non-resident remittances unique to the state.

Table 5.6
Variable VI – Governance and Project Implementation Sector
(Item Number 6.1 to 6.21))

SI No	Sub-Variables (Items)	Opinion Scores							Total	Avg	SD	CV
		0	20	40	50	60	80	100				
1	(V _{6.1}) Opinion on the need for the structural reforms in administration	10 (3)	28 (9)	56 (19)	48 (16)	78 (26)	71 (24)	9 (3)	300 (100)	60	40	56
2	(V _{6.2}) Opinion on need for effective Project administration in Govt.	0 (0)	2 (1)	15 (5)	14 (5)	20 (7)	171 (57)	78 (26)	300 (100)	80	17	21
3	(V _{6.3}) Opinion on of funds for current modernization of governance	53 (18)	136 (45)	83 (28)	20 (7)	1 (0)	0 (0)	0 (0)	300 (100)	25	16	65
4	(V _{6.4}) Opinion on State's decentralized planning and beneficiary participation	0 (0)	3 (1)	7 (2)	42 (14)	68 (23)	79 (26)	101 (34)	300 (100)	76	20	27
5	(V _{6.5}) Opinion on the integration of schemes of National Rural Health Mission, NREGHS etc with local body schemes	11 (4)	22 (7)	74 (25)	80 (27)	79 (26)	34 (11)	0 (0)	300 (100)	50	18	36
6	(V _{6.6}) Opinion on regional and local economic development through local governance	0 (0)	12 (4)	24 (8)	80 (27)	118 (39)	43 (14)	23 (8)	300 (100)	60	17	29
7	(V _{6.7}) Opinion on system of project preparation and pursuit of project funding in state	7 (2)	94 (31)	42 (14)	147 (49)	8 (3)	2 (1)	0 (0)	300 (100)	49	16	88
8	(V _{6.8}) Opinion on effectiveness of the monitoring for development schemes	94 (31)	147 (49)	42 (14)	7 (2)	8 (3)	2 (1)	0 (0)	300 (100)	19	16	88
9	(V _{6.9}) Opinion on the steps taken for removing the bottlenecks in full utilisation of resources by government	51 (17)	137 (46)	73 (24)	30 (10)	8 (3)	1 (0)	0 (0)	300 (100)	26	17	65
10	(V _{6.10}) Opinion on need for SMART Governance	0 (0)	0 (0)	0 (0)	5 (2)	58 (19)	181 (60)	56 (19)	300 (100)	79	13	16
11	(V _{6.11}) Opinion on working of Co-operatives in the state	0 (0)	0 (0)	0 (0)	7 (2)	67 (22)	173 (58)	53 (18)	300 (100)	78	13	17
12	(V _{6.12}) Opinion on working of CD Society in the state	6 (2)	11 (4)	12 (4)	12 (4)	226 (75)	12 (4)	21 (7)	300 (100)	60	17	28
13	(V _{6.13}) Opinion on environmental protection and economic growth	8 (3)	114 (38)	67 (22)	57 (19)	46 (15)	7 (2)	1 (0)	300 (100)	37	18	48
14	(V _{6.14}) Opinion on present laws and regulation impending Kerala's growth	8 (3)	74 (25)	89 (30)	71 (24)	36 (12)	18 (6)	4 (1)	300 (100)	42	19	45
15	(V _{6.15}) Opinion on need for government to transform Kerala as a global destination in each of its unique strength areas	0 (0)	0 (0)	2 (1)	8 (3)	17 (6)	31 (10)	242 (81)	300 (100)	94	14	15
16	(V _{6.16}) Opinion on measures to tackle corruption	15 (3)	72 (24)	27 (9)	182 (63)	4 (1)	0 (0)	0 (0)	300 (100)	49	12	22
17	(V _{6.17}) Opinion on influence of community and religious organizations on government	0 (0)	18 (6)	12 (4)	12 (4)	225 (75)	33 (11)	0 (0)	300 (100)	60	17	28
18	(V _{6.18}) Opinion on <i>Hartals</i> and <i>Bandhs</i> in State	0 (0)	9 (3)	27 (9)	99 (33)	72 (24)	93 (31)	0 (0)	300 (100)	61	16	27
19	(V _{6.19}) Opinion on Integrated physical planning of the rural –urban continuum in the state	0 (0)	0 (0)	2 (1)	18 (6)	43 (14)	180 (60)	57 (19)	300 (100)	79	15	18
20	(V _{6.20}) Opinion on the need for right sizing of Govt.	0 (0)	0 (0)	0 (0)	12 (4)	100 (33)	116 (39)	72 (24)	300 (100)	77	16	21
21	(V _{6.21}) Opinion on role of Private sector in states development	0 (0)	28 (9)	40 (13)	64 (21)	90 (30)	68 (23)	10 (3)	300 (100)	62	21	42

Source: SPSS output of Primary Data. Figures in brackets shows percentage to total

Table 5.7 indicates that respondents have emphasised administrative reforms, decentralized planning and beneficiary participation, need for SMART governance, working of co-operatives in the state, and building Kerala a global destination based on its strengths and need for right sizing of Govt as needing special attention.

5.4 Predictor Equation of the Upgraded Model

From the analysis of the Six Main variables and sub – variables on the opinion levels recorded by the respondents, the present study has proceeded by forming a predictor equation model for an upgraded model for complete social justice, full employment and comprehensive economic development. Six independent and one dependent variable are considered and the extent of influence of independent variables on dependent variable in relation to the upgraded model are examined by using regression analysis. The dependent variable is the Upgraded Model which is systematically expressed as 'V₇' and Independent Variables are: Agriculture and Allied Sectors; Industry, Infrastructure and Environment Sectors; Social Service, Security, Welfare and Justice Sectors; Education, Skill Building, and Other Sectoral Trusts for Employment; Finance and Fiscal Policy Sector and Governance and Project Implementation Sector expressed as 'V₁', 'V₂', 'V₃', 'V₄', 'V₅', and 'V₆' respectively.

The Pearson's Correlation Coefficient is used to measure the correlation among dependent and independent variables. The result is presented in Table 5.7 from which, it appears that most of the independent variables do have significant correlation with the dependent variable and are statistically significant at 1 percent level (two-tailed) and thus could be considered for the development of the model. This is the reason why these variables were chosen.

Table 5:7
Cross-correlation among independent and dependent variables

	V1	V2	V3	V4	V5	V6	V7
V1	1	0.082	-0.043	0.054	0.191**	0.073	0.286**
V2	0.082	1	0.039	0.055	0.179**	0.095	0.480**
V3	-0.043	0.039	1	0.091	0.173**	0.130*	0.563**
V4	0.054	0.055	0.091	1	0.095	0.065	0.349**
V5	0.191**	0.179**	0.173**	0.095	1	0.177**	0.657**
V6	0.073	0.095	0.130*	0.065	0.177**	1	0.547**
V7	0.286**	0.480**	0.563**	0.349**	0.657**	0.547**	1

* Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS (Statistical Package for Social Sciences) Output of Analysis of Primary Data

Having examined the correlations among variables, regression analysis was carried out using stepwise regression procedure to select the best fit model. We have used the

forward selection method which involves starting with no variables in the model, testing the addition of each variable using a chosen model comparison criterion and adding the variable (if any) that improves the model the most. This process continues until none improves the model.

Variable inclusion criteria

Variables are added to the regression equation one at a time, using the statistical criterion of maximizing the R^2 of the included variables. We started with single variable model and then moved to six variables in steps. As seen from Appendix Table 5A, with addition of each variable, the value of R^2 has been increasing. This indicates that all the independent variables have contributed to the model significantly. For example, in the first stage (single regression model), the value of R^2 is 0.43. Variable V5 is entered in regression model. All other independent variables are excluded. In the second stage, variable V3 enter into regression with V5. All other independent variables are excluded. After inclusion of second variable, the value of R^2 increases to 0.64. This indicates that, second variable (V3) contributed around 0.31 to R^2 . Similarly, with the inclusion third variable (V6), the value of R^2 further increases to 0.78. The excluded variables are V2, V4 and V1. Finally, after inclusion of all the variables, the value of R^2 further increases to 0.98. Similar trend also found for adjusted R^2 . In addition, standard error of the regression model has declined with progressive inclusion of variables.

Table 5.8 Variable Entered/removed

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	V5	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)
2	V3	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)
3	V6	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)
4	V2	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)
5	V4	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)
6	V1	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)

a. Dependent Variable: V7

Stepwise regression procedure

Based on the inclusion criteria, the best fit regression model is presented in Table 5.10. It is clear that in the first step V5 included in the model. In this case beta coefficient is the highest and the value of R^2 is highest. This means that Finance and Fiscal Policy variable is the most significant one while considering a single variable from six main variables. This signifies that a unit improvement in V_5 (Finance and Fiscal Policy variable) is

accountable for 0.38 unit improvement in the value of V_7 – the dependent variable which in other variables cases are lesser. In the second step, variable V_3 enter into regression model along with V_5 . Table 5.10 reveals that this combination has highest R^2 . The F-statistics also increased significantly. The t-ratio of both V_3 and V_5 are at the highest and significant at 1% level. Results indicate that improvement in one unit of V_5 and V_3 is accountable for improvement of dependent variable by 0.33 and 0.29 units respectively. In the third step, variable V_6 entered into regression along with V_5 and V_3 . As a result both R^2 and adjusted R^2 and F-statistics of regression model have also increased. Table 5.10 reveals that one unit of improvement of V_5 , V_3 and V_6 is capable of improvement in the dependent variable by 0.30, 0.27 and 0.21 units respectively. Therefore, from three variable models it is found that not only V_5 but other variables such as V_3 and V_6 should be taken into account in framing policy measures in the upgraded Kerala model.

Table 5.9 Step-wise Regression Model (Dependent Variable V_7)

Steps	Variables included into regression model	Constant	Co-efficient of Ind. Variable	F-Stat	R^2 and Adjusted R^2
1	V5	33.725** (23.433)	0.378** (15.057)	226.7** (0.00)	$R^2 = 0.432$ Adjusted $=R^2$ 0.430
2	V5 V3	20.254** (13.107)	0.332** (16.341) 0.246** (9.443)	264.5** (0.00)	$R^2 = 0.64$ Adjusted $=R^2$ 0.638
3	V5 V3 V6	11.51 (8.65)	0.296** (18.750) 0.267** (15.533) 0.211** (14.451)	369.4** (0.00)	$R^2 = 0.789$ Adjusted $=R^2$ 0.787
4	V5 V3 V6 V2	4.58** (3.83)	0.263** (24.372) 0.267** (23.036) 0.199** (20.187) 0.178** (18.914)	700.35** (0.00)	$R^2 = 0.905$ Adjusted $=R^2$ 0.903
5	V5 V3	2.33** (3.48)	0.254** (34.474) 0.257**	1275.9** (0.00)	$R^2 = 0.956$ Adjusted $=R^2$ 0.955

	V6		(32.416) 0.194**		
	V2		(28.888) 0.173**		
	V4		(27.086) 0.081**		
6	V5	- 0.219 (- 0.469)	0.236** (47.498)	2461.80** (0.00)	R ² =0.981 Adjusted =R ² 0.980
	V3		0.265** (50.182)		
	V6		0.191** (42.511)		
	V2		0.170** (39.764)		
	V4		0.079** (26.986)		
	V1		0.062** (19.252)		

Notes: ** denotes significant at 1% level. Figures in the parentheses are t-ratio.

Source: SPSS (Statistical Package for Social Sciences) Output of Analysis of Primary Data

In step four, we have four variables entered into regression with R² approaching 0.90. Similarly, F-statistics also increased significantly compared to three variables model. These four variables are Industry, Infrastructure and Environment Sector (V₂), Social Service, Security, Welfare and Justice Sector (V₃), Finance and Fiscal Policy Sector (V₅) and Governance and Project Implementation Sector (V₆). The predictor equation signifies that improvement of one unit of V₃, V₅, V₆ and V₂ is making improvement of 0.27, 0.26, 0.20 and 0.18 units respectively in the dependent variable V₇. Therefore, within the four variable model the coefficient of Social Service, Security, Welfare and Justice Sector (V₃) is the highest.

In step five, we have Five Variables Predictor Equation model. The Table 5.12 reveals that the best fit predictor equation in respect of five variables is the combination with Industry, Infrastructure and Environment Sector (V₂), Social Service, Security, Welfare and Justice Sector (V₃), Education, Skill Building, Sectoral thrusts For Employment (V₄), Finance and Fiscal Policy Sector (V₅) and Governance and Project Implementation Sector (V₆). The estimated regressions of these variables have the highest value of Correlation square (**0.96**). In this case beta coefficient of V₃ is highest followed by V₅ and V₆. The predictor equation signifies that improvement of one unit of V₃, V₅, V₆, V₂ and V₄ is competent of making improvement of 0.26, 0.25, 0.19, 0.17 and 0.08 units respectively in the dependent variable V₇. In terms of relative importance Social Service,

Security, Welfare and justice sector has the highest impact on upgraded model. Therefore, better policies and programmes related to this sector are vital in the building of the Upgraded Kerala model.

6. Best fit Equation for Upgraded Kerala Model

Finally, we move to six variables Predictor Equation and there is only one combination of independent variables. As per the step-wise regression method, this is the best fit model for predicting upgraded Kerala model.

Table 5.10 Best Fit Regression Model (Dep Variable V7)

Eq. No	Ind. Variable/s	Constant	Co-efficient of Ind Variable	F-stat	R ² and Adjusted R ²
1	V1	- 0.219 (- 0.469)	0.062** (19.252)	2461.80** (0.00)	R ² =0.981 Adjusted R ² =0.980
	V2		0.170** (39.764)		
	V3		0.265** (50.182)		
	V4		0.079** (26.986)		
	V5		0.236** (47.498)		
	V6		0.191** (42.511)		

Notes: ** denotes significant at 1% level. Figures in the parentheses are t-ratio.

In Table 5.10 regression results of six independent variables Agriculture and Allied Sectors (V1), Industry, Infrastructure and Environment Sector (V2), Social Service, Security, Welfare and Justice Sector (V3), Education, Skill Building, Sectoral Thrusts for Employment (V4), Finance and Fiscal Policy Sector (V5) and Governance and Project Implementation Sector (V6) are presented. The R² is very high (0.98) indicating that the dependent variable is explained by highest margin. Similarly, the adjusted R² is also very high ruling out the possibilities of spurious results.

The best fit equation for the Six independent variables (V1), (V2), (V3), (V4), (V5), and (V6) is:

$$(1) \quad V_7 = \beta_0 + \beta_1 V_1 + \beta_2 V_2 + \beta_3 V_3 + \beta_4 V_4 + \beta_5 V_5 + \beta_6 V_6 + \epsilon$$

After the calculation of the constant, beta coefficient of the (V1),(V2),(V3),(V4),(V5) and (V6) and the residual error, the best fit variable predictor equation is:

$$(2) \quad V_7 = 0.22 + 0.06V_1 + 0.17V_2 + 0.265V_3 + 0.08V_4 + 0.236V_5 + 0.19 V_6 + 0.31$$

In the above multiple regression the coefficient of V_3 is found to be highest followed by V_5 and V_6 . One unit increase in these variables will result in 0.27, 0.24 and 0.19 units change in the upgraded model respectively. On the other hand, one unit increase in V_4 , V_2 and V_1 will result in 0.19, 0.17 and 0.06 units change in the upgraded model respectively. On this basis, the order of significance in contributing towards an upgraded Kerala Model (V_7) are Social Service, Security, Welfare and Justice Sector (V_3), Governance, Finance and Fiscal Policy Sector (V_5), and Project Implementation Sector (V_6), Industry, Infrastructure and Environment Sector (V_2), Skill Building, Sectoral Thrusts For Employment (V_4), and Agriculture and Allied sector (V_1), based on regression analysis. The mean score, standard deviation, co-efficient of variation and t-ratio are ascertained based on the opinion at different levels to know the significance of the variables.

Although all these variables are significant, the more prominent variables in the order of importance in developing an upgraded model for full development of Kerala are Social Service, Security, Welfare and Justice sector (V_3), Finance and Fiscal Policy sector (V_5) ranking first, ranking second; Governance and Project implementation sector (V_6) ranking third. Ranking fourth, fifth and sixth are Industry, Infrastructure and Environment sector (V_2); Education, Skill Building and other Sectoral Thrusts for Employment (V_4) and Agriculture and Allied sector (V_1) respectively. The Agriculture and allied sectors and the Industry and environment sector are however important in the economy as base sectors and for linkages with the rest of the economy without which the economy itself is not sustainable. The model states the relatively important variables through one variable predictor equation to six variable predictor equations. Given the order of the importance of the variables, policy should be directed towards them. Although V_4 , V_2 and V_1 have lower Impact on upgraded model, they have to be attended to properly in all seriousness, for development to be inclusive and comprehensive. So ultimately the government has to contemplate and act on all the six variables, the importance being given in the order of V_3 , V_5 , V_6 , V_4 , V_2 and V_1 as the analysis has propounded.

Conclusion

The above findings have been used as the background to design the new model which has the cardinal aims of total social justice, comprehensive economic development, full employment, fiscal health and good governance to build the state in socio economic development to its rightful place as the most advanced state in India.

Appendix 5A

Stepwise Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	V5	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	V3	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	V6	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	V2	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
5	V4	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
6	V1	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: V7

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 ^a	.432	.430	1.679
2	.800 ^b	.640	.638	1.338
3	.888 ^c	.789	.787	1.026
4	.951 ^d	.905	.903	.691
5	.978 ^e	.956	.955	.471
6	.990 ^f	.981	.980	.313

- a. Predictors: (Constant), V5
- b. Predictors: (Constant), V5, V3
- c. Predictors: (Constant), V5, V3, V6
- d. Predictors: (Constant), V5, V3, V6, V2
- e. Predictors: (Constant), V5, V3, V6, V2, V4
- f. Predictors: (Constant), V5, V3, V6, V2, V4, V1

ANOVA^g

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	638.924	1	638.924	226.703	.000 ^a
	Residual	839.863	298	2.818		
	Total	1478.787	299			
2	Regression	947.123	2	473.561	264.543	.000 ^b
	Residual	531.664	297	1.790		
	Total	1478.787	299			
3	Regression	1167.053	3	389.018	369.383	.000 ^c
	Residual	311.734	296	1.053		
	Total	1478.787	299			
4	Regression	1337.900	4	334.475	700.354	.000 ^d
	Residual	140.886	295	.478		
	Total	1478.787	299			
5	Regression	1413.639	5	282.728	1275.904	.000 ^e
	Residual	65.148	294	.222		
	Total	1478.787	299			
6	Regression	1450.023	6	241.671	2461.808	.000 ^f
	Residual	28.763	293	.098		
	Total	1478.787	299			

- a. Predictors: (Constant), V5
- b. Predictors: (Constant), V5, V3
- c. Predictors: (Constant), V5, V3, V6
- d. Predictors: (Constant), V5, V3, V6, V2
- e. Predictors: (Constant), V5, V3, V6, V2, V4
- f. Predictors: (Constant), V5, V3, V6, V2, V4, V1
- g. Dependent Variable: V7

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.803	1.443		23.433	.000
	V5	.378	.025	.657	15.057	.000
2	(Constant)	20.254	1.545		13.107	.000
	V5	.332	.020	.577	16.341	.000
	V3	.293	.022	.463	13.121	.000
3	(Constant)	11.517	1.331		8.655	.000
	V5	.296	.016	.514	18.750	.000
	V3	.267	.017	.423	15.533	.000
	V6	.211	.015	.394	14.451	.000
4	(Constant)	4.582	.968		4.732	.000
	V5	.263	.011	.456	24.372	.000
	V3	.267	.012	.423	23.036	.000
	V6	.199	.010	.371	20.187	.000
	V2	.178	.009	.346	18.914	.000
5	(Constant)	2.337	.671		3.485	.001
	V5	.254	.007	.441	34.474	.000
	V3	.257	.008	.406	32.416	.000
	V6	.194	.007	.362	28.888	.000
	V2	.173	.006	.338	27.086	.000
	V4	.081	.004	.228	18.488	.000
6	(Constant)	-.219	.466		-.469	.639
	V5	.236	.005	.411	47.498	.000
	V3	.265	.005	.420	50.182	.000
	V6	.191	.004	.355	42.511	.000
	V2	.170	.004	.331	39.764	.000
	V4	.079	.003	.222	26.986	.000
	V1	.062	.003	.161	19.252	.000

a. Dependent Variable: V7

Excluded Variables ^f

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	V1	.167 ^a	3.834	.000	.217	.964
	V2	.374 ^a	9.643	.000	.488	.968
	V3	.463 ^a	13.121	.000	.606	.970
	V4	.289 ^a	7.130	.000	.382	.991
	V6	.437 ^a	11.993	.000	.571	.969
2	V1	.205 ^b	6.097	.000	.334	.958
	V2	.370 ^b	13.155	.000	.607	.968
	V4	.256 ^b	8.054	.000	.424	.985
	V6	.394 ^b	14.451	.000	.643	.958
3	V1	.186 ^c	7.402	.000	.396	.955
	V2	.346 ^c	18.914	.000	.740	.964
	V4	.240 ^c	10.433	.000	.519	.984
4	V1	.170 ^d	10.916	.000	.537	.953
	V4	.228 ^d	18.488	.000	.733	.982
5	V1	.161 ^e	19.252	.000	.747	.952

- a. Predictors in the Model: (Constant), V5
- b. Predictors in the Model: (Constant), V5, V3
- c. Predictors in the Model: (Constant), V5, V3, V6
- d. Predictors in the Model: (Constant), V5, V3, V6, V2
- e. Predictors in the Model: (Constant), V5, V3, V6, V2, V4
- f. Dependent Variable: V7

CHAPTER - VI

TOTAL SOCIAL JUSTICE

6.1 Introduction

The popular narratives about the reasons behind the success of Kerala in social justice are largely focusing on the state's history of progressive redistribution measures like land reforms and a wide network of the public distribution system (Frankie and Chasin, 1995). Though the state has achieved remarkable progress in social justice and human development the weaker sections of the social hierarchy and 'outlier' segments like Schedule Castes, Schedules Tribes, fishermen, artisans, workers in traditional industries, and landless agricultural labourers, are yet to receive the benefits of social democracy and live in persistent poverty. This chapter attempts to identify the gaps in social development of the state and carve out an upgraded comprehensive policy framework for making Kerala a state with 'total social justice'.

6.2 Strengthening and expanding Social Justice and Security – The Social Justice Commission

The aim of the proposed commission will be to achieve for all of Kerala's citizens social justice and full opportunity with equality to live a socially and economically productive life. Though Kerala has a good record in schemes and policies of social justice only three percent of budget outlay is being spent on the social security sector. Augmentation is possible only when government revenues rise through pragmatic development policies. The Commission should continuously evaluate socio-economic conditions of the entire spectrum of population on the basis of gender, backwardness, professions and vocations and recommend practical steps for ensuring minimum living wage, living and working conditions and standards, equal opportunities etc. and will recommend legislation and policy, fiscal and administrative measures. With active participation of civil society, the media, NGOs and environmental activists in the developmental process the commission will evolve a development model which synthesises planned economic growth with redistribution and environment.

The state should have a development strategy to tackle the problems of poverty holistically other than merely implementing centrally sponsored schemes. The problems

of the educated poor and relative poverty merit special attention. The Commission can recommend strengthening pension and other benefits for different sections on the basis of actual field data and develop inputs for framing government policies and instruments including the state budget.

The Commission should initiate extra governmental schemes for social security eg. insurance schemes, participatory pension and provident fund schemes, loan schemes for education / skill building in collaboration with banks and other lending institutions. Commission's mandate can also include recommending assistance to organisations which promote social justice among different disadvantaged groups. The Commission should codify and study social security schemes of all Indian states as well as innovative schemes in other countries and develop a total social justice and security model for the state.

While Kerala has a large number of social welfare programmes and projects for children, women, the aged, the handicapped and the destitute and similar vulnerable groups, the effectiveness of these needs to be reviewed. These are in the nature of 'relief for the poor' and are hardly adequate for maintaining a minimum standard of living. Payment of pensions, nominal and hardly adequate for biological maintenance, are not even distributed regularly. A review of the functioning of the welfare funds including their establishment charges is required with a view to enhancing their efficiency. A number of welfare funds spend heavily on given the advanced stage in Kerala's demographic transition, the share of the aged in the population will continue to increase though the coming decades. Care for the elderly will therefore emerge as a major challenge in the area of social security and welfare.

6.2.1 Fiscal Costs of Social Security Pension Schemes

The various social security schemes in Kerala have a direct and explicit bearing on the state exchequer. Pension payment was Rs 4,686 crore in 2008-09 (Government of Kerala Audit Report, 2009) 29.32 percent of the total tax revenue of the state. The introduction of social security measures for casual workers in the informal sector is considered a unique initiative. During the latter half of the 1980s and early 1990s, the state introduced social welfare funds through contribution from workers, employers and the government for different categories of the unorganised sector, administered by tripartite statutory welfare fund boards. These welfare fund schemes have brought about beneficial changes in the socio economic conditions of the workers.

In the operation of the scheme, the government acts as a catalyst, and the scheme is relatively superior to other social assistance measures provided by the government because it is essentially a self-financing mechanism, while the latter are dependent fully on budgetary sources.

6.2.2 Care of the Aged

The proportion of the population aged 60+ increased from 5.9 percent in 1961 to 8.8 percent in 1991 and then to 10.5 percent in 2001 and is expected to reach 17 percent by the year 2021. The old age dependency ratio (ODR) increased from 11 in 1961 to 14 in 1991. Its acceleration has been greater from 2001 onwards. By the year 2021, there will be about 26 old people for every 100 working age population.

A comprehensive policy for the aged has assumed urgency. Since women generally live longer than men, approximately 5 years more in the case of Kerala, appropriate policies and institutional arrangements are necessary specially to protect the well-being of the older women. One of the long-standing schemes is the provision of old age pension to the poor. However, this scheme requires considerable strengthening. The monthly pension is too meagre and works out to less than 30 percent of the per capita income required to cross the poverty line. The progressive enhancement of the scale of pension will be quite legitimate.

6.3 Social Justice for Scheduled Tribes (ST)

While Kerala's performance in reducing overall poverty is indeed remarkable, there is persisting disparity among various social and economic groups. It has been argued that STs have not benefited from a more equitable provisioning of social services due to the lower diversification of these groups into non-agricultural activities (Narayana, 2002). The lower economic diversification, which also impacts the level of wages earned in agriculture, get translated into poorer material conditions of life and poor access to basic social amenities, whether it is housing, electricity, good sanitation or drinking water. The STs in Wayanad district are the most deprived social group, followed by the STs in Idukki and Palakkad. This situation gets further aggravated by landlessness/small sized holdings among ST households in the state.

6.3.1 Education for STs

The high aggregate levels of literacy in the state obscure many horizontal disparities. As per the NSSO data for 1999-00, over a quarter of the ST population was illiterate compared to just a little over 10 percent for 'others'. The deprived group lags behind the

'others' in the basic functioning achievement of education which has played a central role in Kerala's development process. Across all districts, the literacy rates of STs are lower than the non-ST population (as given by the 1991 Census); the variability is higher for females in the ST groups. The female literacy among the ST population is significantly lower in the districts of Palakkad (29 percent), Malappuram (38 percent) and Wayanad (43 percent).

6.4 Social Justice for Fishermen

Evidence from state income statistics show that, the fishery sector product per fisherperson (*i.e. total number of persons in the households of the active fishermen of the state*) was always lower than the state domestic product per capita. The per capita income of the fisher folk in the state in 2007-08 was about Rs 14000 (Kerala Economic Review, 2009), while the State per capita income in the same year 2007-08 was Rs. 51980 (Kerala Economic Review, 2010). More than the low income, it is the lower quality of life and the higher occupational risk which set marine fishing communities apart from the other occupational risk groupings in Kerala. The four areas requiring close attention and rectification are:

(i), Capacity Building

Participative mechanisms should be set up for responsible fishing / resource management.

(ii), Community Capital for Institutional Credit

The annual capital investment requirement of around Rs. 350 crores and working capital requirement of 150 crores are still being met through trade intermediaries. The state must implement an institutional mechanism to revamp this credit system.

(iii), Technology Interventions

There are about 20,000 small fishing craft along the coast of Kerala, mostly made of marine plywood with Fibreglass Reinforced Plastic (FRP) coating, which use outboard motors with kerosene as fuel. These small-scale fishermen are vulnerable to energy costs (65 percent of operation expenses) impacting on net incomes.

The allocation of Kerosene to the state under the Public Distribution System is on the decline. Most fishermen rely on the black market for kerosene. The crafts which use outboard motors (OBMs) as propulsion units should be suitably modified to

accommodate heavier diesel engines. These crafts need to be equipped with fish / ice holds to enable fishing trips of longer duration and preserving the freshness of fish.

6:4.1 Fishermen Welfare

The fisheries department has undertaken various projects and programs for increasing production, for conserving and ensuring sustainable exploitation of fisheries wealth, for promoting cultivation of fish and prawns, for development of fishing harbours and facilities for landing of fish, for marketing and for the welfare and upliftment of the fishing community. The Kerala Debt Relief Commission Bill of March 19, 2008 aimed to liberate the fishermen from the clutches of the middlemen and traders who have been exploiting them for decades. The Department of Fisheries and its allied setups viz. Kerala State Cooperative Federation for Fisheries Development Ltd. (Matsyafed), Agency for the Development of Aquaculture (ADAK), Kerala Fishermen's Welfare Fund Board (KFWFB), Fisheries Resource Management Society (FIRMA) and Fish Farmer's Development Agency (FFDA) implement the government's visions and schemes in this sector. For enhancing the inland fish production on a sustainable basis government have initiated the programme *Matsyakeralam* during 2008-09. Upgrading the levels and quality of education of the future generation in the fishermen community is another top priority, so that the youth combine traditional knowledge systems with the latest developments in technology and institutional management.

Young girls of the fishing community who have gone through a minimum of 10 years of schooling could be trained as primary village workers; and be given the responsibility for setting up child-care centres, noon meal schemes, food-for-work, local small-scale employment schemes, saving and credit unions, sanitation and hygiene education programmes, etc., at the panchayat level. This is one area where the liberal financial resources available for poverty alleviation in the state can be effectively utilised.

6.4.2 Social Security Provisions and Public Action from below

Collective action by fishermen for social security started only after the growth of labour unions among fish workers. Compared to other sections of the labouring poor in Kerala like agricultural labourers, toddy tappers, and coir and cashew workers, unionization of fish workers had a late start, with the formation of the Catholic Fishermen Union (CFU)

at Alappuzha, the Latin Catholic Fishermen Federation, the Kerala Swathanthra Malsya Thozhilali Federation (KSMTF) and the *Dheevara Sabha*.

6.4.3 Social Security for Fishermen: What more needs to be done?

Strengthening of Promotional Measures

The realms of nutrition, health and sanitation, employment training, empowerment of women and education for the fishermen community warrant much closer and continued attention. On the employment front a long – run strategy should include taking youth out of fishing by enhancing educational attainments. Simultaneously, more employment in fishery or coastal-area related activities should be fostered.

(i) Sanitation and Health

The lack of basic facilities, including toilets lead to poor health conditions. More than 50 percent of fisher folk suffer from lack in drinking water supply. (Panikar and Soman, 1984). Substantial improvement in health sector requires breaking the vicious cycle of well-water pollution emanating from septic tank use. Given the high water table and porous soils in the coastal tracts, rain harvesting, desalination and dry composting are the only stable remedies for achieving improved health conditions. These will require a mix of individual and collective investments.

While programmes like immunization have received some priority, thanks to national level policies and programmes, the question of management of wastes, vector control and other public health issues have not received adequate attention.

(ii) Literacy and Education

The fisherfolk lag in literacy and the primary school dropout rates are very high. Government has introduced ‘Fisheries Schools’, ten so far, with students from very poor families being given scholarships for their studies but a much larger and stronger programme is required.

(iii) Safety at Sea

Marine fishing has high levels of risks and accidents and deaths and loss of property are common. One fisherman dies at sea in Kerala once in about four days (Kurien and Paul, 2000). A comprehensive programme for safety at sea is imperative. There are recent incidents of ocean liners hitting fishermen boats away from designated routes. In a tragic

incident, some Kerala fishermen have been shot dead by a foreign vessel ostensibly mistaken as ‘pirates’! (The Hindu, 17th February, 2012).

(iv) Investment Management

Coastal Kerala is a stark reminder of the inefficiency of investments without appropriate institutional capacity building. The coastline is scattered with ice plants, cold storages, fish landing centres and fishing harbours which are defunct or malfunctioning due to poor institutional systems for management. There are 9 fishing harbours (5 under construction) and 38 fish landing centres in Kerala. Cooperatives are registered and liquidated but there has been little effort to transform these entities to viable, participative institutions for taking care of the economic interests of the community. Of 629 primary cooperatives, only 282 societies have an input-output based business plans (Economic Review, 2011). Most cooperatives in the inland sector and the women cooperatives are yet to be covered by continuous capacity building effort. These issues require concentrated attention and rectification.

6.5 Poverty alleviation – Towards Zero Poverty

Residual Problem of Absolute Poverty and Deprivation

Kerala has achieved an impressive rate of economic growth from the end of the 1980s and there are indications that it is likely to continue for a while (Kannan, 2005). This high rate of growth is matched by an equally impressive rate of reduction in the percentage of persons under the poverty line. In such circumstances, a straightforward assumption can be that the total elimination of poverty from Kerala society is only a matter of time. Kerala has thus reached a stage, for a shift in its objective of poverty reduction or alleviation to one of absolute elimination of poverty. The state should therefore go for a final push for achieving zero poverty through a focussed and comprehensive programme with a time target of ten years (2012-2021).

6.5.1 Poverty Profile

Dandekar and Rath (1971) were the first to present the relative prevalence of poverty in Kerala in relation to other states in India as well as the national average. Kerala State Planning Board has observed that although poverty had reduced between 1993-94 and 2004-05 the pace of poverty reduction was lower than in the previous two decades. Taking the rural and urban areas together, the pace of poverty reduction fell from

1.1 percent point per annum during 1987-2005 and 0.7 percent point per annum during 1993-2005. But between 1957-58 and 1993-94, the headcount index of poverty in rural Kerala declined at an average annual rate of 2.4 percent, the maximum achieved among 15 major Indian states (World Bank, 1997). Table 6.1 shows that till 1973-74, the incidence of poverty in Kerala, both rural and urban, was higher compared to that in the rest of the country. It was in 1983-84 the relative position of Kerala vis-a-vis India was reversed — the incidence of poverty in Kerala dropped below the Indian average.

Thereafter the pace of poverty reduction in Kerala increased. By 1998-2000 poverty incidence in Kerala became 12:22 compared to 26:30 for all India.

Table 6.1
Head Count Index of Poverty in Kerala and India, 1973-2000

Year	Rural Kerala	Urban Kerala	Total	India
1973-74	59.19	62.74	59.79	54.88
1977-78	51.48	55.52	52.22	51.32
1983-84	39.03	45.68	40.42	44.48
1987-88	29.10	40.33	31.79	38.86
1993-94	25.73	24.55	25.43	35.97
1999-00	9.40	19.80	12.72	26.30

Source: Kerala Human Development Report, 2005, p.49.

The poverty reduction in Kerala especially since 1990s is largely due to the better performance of the state economy in general and the higher growth rate of the service sector in particular. The lower growth rate of population in Kerala, the efficient PDS, the popular social security measures, the poverty eradication programmes, the foreign remittances into the economy and the decentralisation effort all have helped in ameliorating poverty in the state.

However, the recent NSSO Survey finding that there are 37.5 lakh people below the poverty line in Kerala is a cause for concern. There is also a pronounced rural-urban divide, with a curiously skewed pattern. The proportion of poor people in the urban areas of the state is more than in the rural regions. While 13.3 percent of the rural population in the State is BPL, the percentage is slightly above 20 percent in the urban areas (Economic Review, 2010)

Poverty needs to be understood and assessed from a multi-dimensional point of view that incorporates other basic indicators of deprivation. In this sense, poverty in Kerala may be reckoned at around 25 to 30 percent of the population although the same population may not be subjected to all identified deprivation measures. This view is based on recent statistics that 27 percent of children are ‘moderately undernourished’, 23 percent of women have ‘anaemia’, 33 percent of adults experience ‘chronic energy deficiency’ and 30 percent of households are deprived of four basic necessities of wellbeing, such as housing quality, access to drinking water, good sanitation and electric connection (NFHS, 1999). The problem of poverty and deprivation has a specific social dimension in that the most vulnerable are those belonging to the SC/ST and fishing communities.

The *Kudumbashree* mechanism could partner with the local governments to develop viable Anti-Poverty Sub Plans by converging the centrally sponsored mega schemes with their own resources using the framework suggested below:

Table 6.2
Convergence framework for Kudumbashree

Cash income Natural resource management	MGNREGS
Livelihoods	National Rural Livelihood Mission <i>Kudumbashree</i>
Nutrition security	ICDS Mid-day meals
Food security	Right to food
Social security	Life Insurance schemes Health Insurance schemes Pensions
Human Development	National Rural Health Mission Right to education
Social Development	Scheduled Cast Sub Plan (SCSP) Tribal Sub Plan (TSP)
Basic minimum needs	Water supply schemes Sanitation schemes Electrification schemes Connectivity schemes Housing schemes

These participatory plans for poverty reduction grounded in the local community could go a long way in reducing absolute poverty.

Identification of poor households

State poverty eradication mission (*Kudumbashree*) is considering (2001 onwards) the following factors to identify the poor households.

(i) Rural Areas

Families without adequate shelter, without access to safe water within 300 mtrs., without latrine, without at least two meals a day, which depend on the income of one individual alone, belonging to scheduled castes and scheduled tribes, with physically handicapped (more than 40 percent) and mentally retarded persons, with unmarried mothers, widows, divorced women and unmarried women (above the age 18), without an adult male member.

(ii) Urban Areas

Families without land to construct houses, without houses, without access to safe drinking water within 150 meters, without sanitary latrine, headed by women who are widows, divorced women and unmarried women or unmarried mothers, without steady income (employment for less than 10 days in a month), belonging to scheduled caste and scheduled tribes, with physically / mentally disabled persons and seriously diseased persons, without colour television.

A cut-off point of four out of nine factors is used to identify the poor. But families with more unfavourable factors are considered as more poor.

6.5.2 From Poverty Reduction to Absolute Elimination of Poverty

Strategies for Poverty alleviation adopted in India and in other developing countries are listed in table below:

Table 6.3
Poverty Reduction Strategies across Time, 1950-2000

Period	Dominant Development Paradigm	Poverty Reduction Strategies
1950s	Growth through industrialization	Community development
1960s	Agricultural intensification, human capital development	Trickle-down
1970s	Redistribution with growth	Basic needs, integrated Rural development
1980s	Structural adjustments, private sector led development	Growth, human resources development, safety nets, NGOs
1990s	Human development, growth	Labour-intensive growth, Human resources development of the poor,

		targeted programmes and safety nets
2000	Pro-poor economic growth	Facilitating opportunity, promoting empowerment, enhancing security

Sources: CIRDAP: Rural Development Report 1999, p. 191; World Bank, World Development Report, 2000-2001.

The following aspects about residual poverty in Kerala need to be highlighted.

- There should be a prioritization of families below the poverty line, based on severity of poverty, enabling the formulation of separate strategies ranging from direct benefit support to facilitation for self help.
- There is persistent poverty among the outliers of the Kerala model such as tribals, traditional fishermen, people employed in declining traditional industries, Scheduled Castes and Scheduled Tribes.
- A large number of the poor have passed/completed high school education. Most of them are unskilled and lack entrepreneurial ability for self employment. Capacity building of this group is a major challenge.
- The falling job opportunities in the agriculture sector have worsened the poverty situation in the state.
- Since a large number of the poor have nothing more than house plots the conventional strategy of improving land productivity cannot create a positive impact among the poor.

Measurable indicators can be formulated for achieving absolute elimination of poverty within the stipulated time frame. It can be achieved by conscious and effective implementation of various related programmes. These are food security, school education, and primary health care including public health, focus on poor women, housing and social security measures, technological change and modernization of agricultural and agro-processing activities as well as labour intensive manufacturing resulting in enhanced labour productivity.

It can be argued that the rapid growth of the tertiary sector has been beneficial to the poor in Kerala. Ravallion and Datt (2002) find that higher farm yields, higher state development spending, higher non-farm output and lower inflation all work towards reducing poverty. Even though there is hardly any rural-urban difference in the human development indicators in the state there might be some connection between urbanisation and reduction in income poverty through the non-farm income route. In Kerala, over a

period of 40 years, the degree of urbanisation has increased from 15 percent to 26 percent, with the bulk of the increase having taken place during 1981-1991. This is also the period when income poverty declined rapidly.

A long-term measure would be to create opportunities for the acquisition of new skills for young adults in the poorer households. 64 percent of males and 54 percent of females in the age group of 20-59 have at least a middle school pass, i.e. eight to ten years of education. As the percentage of illiterates in the young age population has almost vanished and the average years of school lengthened, it is this segment that dominates Kerala's labour force. They are also the least employable given their propensity to stay away from unskilled manual (and often field) labour, searching for a regular job of one kind or another. Skill formation and upgradation thus becomes a critical factor in their employability. Also their ability to overcome income poverty is closely related to their gainful employment given the fact that most poor in this segment do not have any productive assets.

The programmes implemented in the state benefiting the rural population, especially people below poverty line are Swaranajayanthi Gram Swarozgar Yojana (SGSY), Indira Awaaz Yojana (IAY), and Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS). Taking in to account the immense potential of micro enterprises in poverty alleviation and employment generation, a Micro Enterprises Promotion and Finance Board should be established to promote the development of micro enterprises and the expansion of the existing ones.

6.6 Food Security

For a long time the Public Distribution System played a pivotal role in ensuring food security in Kerala. The PDS has now undergone some decline arising out of the dual pricing system for Below Poverty Line (BPL) households and Above Poverty Line (APL) households. The President of India, in her address to Parliament on June 4, 2009, announced: "My government proposes to enact a new law – the National Food Security Act – that will provide a statutory basis for a framework which assures food security for all. Every family below the poverty line in rural as well as urban areas will be entitled, by law, to 25 kg. This legislation will also be used to bring about broader systemic reform in the public distribution system." The National Advisory Council (NAC) provided a broad framework to achieve the goal of food for all and forever. The NAC's suggestions include the swift initiation of programmes to insulate pregnant and nursing mothers,

infants in the age group of zero to three, and other disadvantaged citizens, from hunger and malnutrition.

The NAC has proposed a phased programme of implementation of the goal of universal public distribution system. This was expected to start either with one-fourth of the districts or blocks in 2011-12 and cover the whole country by 2015, on lines similar to that adopted for MGNREGS. This will provide time to develop infrastructure such as grain storage facilities and village knowledge centres and the issue of household entitlements passbooks. As the major first step to the implementation of the Bill, the Finance Minister promised in his 2012 budget speech, “food security will be fully provided for,” (Mukherjee, 2012) suggesting that the government will find the money to pay for the plan to provide subsidized grain to people living under the poverty level in the country. However, a close look at the budget suggests this plan may not be implemented in the year because it is not fully funded. However, even if delayed, the food security legislation could be the most significant among the laws so far enacted by Parliament. It will mark the fulfilment of Mahatma Gandhi’s call for a hunger-free India. To lend itself to effective implementation, attention has to be focussed on the four pre-requisites of food production, procurement, preservation and public distribution. Kerala which has always been in the forefront in the PDS should fully implement the scheme and develop a comprehensive and foolproof food security system.

6.7 Women’s Freedom and Empowerment

In Gender Development Index, and the Gender Empowerment Measures which measure empowerment or autonomy in women’s basic capabilities and decision-making powers, Kerala is at or near the top. However, it is being argued now that the much lower gender gap in basic capabilities in Kerala need not necessarily suggest a ‘high status’ for women (Eapen and Kodoth, 2003). Among the percentage of women who participated in each of four sets of household decisions, Kerala was ranked 10th among 25 states, trailing behind Punjab, Haryana, Gujarat, Goa, Himachal Pradesh and several north-eastern states (Kishore and Gupta, 2004). This was the case in most areas of household decision-making, even if only working women were considered (NFHS, 1998-99). Findings of this nature question the much-glorified straightforward relation between literacy and women’s autonomy and raise the need to locate women’s educational attainment and access to other resources within the extant patriarchal social structures, specifically the family (Jeffery and Basu, 1996; Heward and Bunwaree, 1999).

High rates of literacy and impressive levels of female education did not *ipso facto* translate into rapid growth of paid employment of women or into upward occupational mobility. The state is witnessing downtrends in women's property rights, rapid growth and spread of dowry and high levels of gender-based violence, particularly domestic violence, even as the levels of education continue to rise. Thus, new questions need to be raised about the conventional indicators of well being — education, health and employment — particularly the ways they combine to reflect extant gender priorities. Also, there is the need to go beyond the conventional indicators of well being to hitherto less examined sites such as mental health, crimes against women, political participation or property rights (Eapen and Kodoth, 2003). The influence of social reform in the state is traced in fostering a new form of patriarchy in the nineteenth and early-mid twentieth century. This new patriarchy is reflected in the limited extent of and constraints in women's property rights in the state today, including regulation of intergenerational transfers of property — such as inheritance rights and dowry transfers and the growing violence against women in the state.

6.7.1 Social Reform, Gender and Family

Comprehensive social reform in the late nineteenth and early twentieth century transformed institutions and practices of marriage and family in Kerala. Modern education and employment, judiciary, public debate, active public mobilisation, institutions of the state, Christian missionaries, caste and religious reform organisations, the nationalist movement and the media combined to advance new norms of gender, sexuality and domestic economy in the state. If the Nairs were matrilineal throughout in Kerala, Ezhavas, Thiyas, Brahmins, Pulayas, Christians and Muslims practised matrilineal descent in specific regions. Matrilineal women had permanent rights to property and residence in their natal *taravads*. 'However, social reform identified patriliney as a key factor in human/individual enterprise, turning the moral criticism against matriliney into an economic rationale' (Kodoth, 2004). In the early twentieth century, laws gave recognised patrilineal inheritance among the matrilineal social groups, eventually abolishing matriliney in 1976. Across caste and religious groups, social reform anchored women's interests firmly to marriage within the nuclear family that undermined their associations with their natal families.

The Hindu Code of 1956,ⁱ including separate laws on marriage and succession, was made applicable to all 'Hindus', though the Nambudiris and matrilineal groups from Kerala were exempted from certain clauses (Agarwal, 1994). Interestingly, the reform activity in the legal sphere among the Hindus stood in contrast to the reluctance of the post-independent state to reform Muslim or Christian personal laws. The marriage and divorce laws of the Christians enacted in the nineteenth century plagued by highly gender discriminatory clauses continue to stand (Agnes, 1999). A Supreme Court decision in 1986 that repealed these laws in favour of the more gender equitable Indian Succession Act 1925 was met with strong and organised resistance from the community and the Church. It is also instructive that few women so far have been able to risk community displeasure and take advantage of it (Jaisingh, 1997).

6.7.2 Gender Justice

Thus while Kerala's record in reducing and even eliminating gender disparity in many socio-economic areas is commendable, the problem of gender justice continues to be intimately related to many issues in development, not only in the nature of unemployment and labour market discrimination but also in matters of right over property, participation in public affairs and domestic violence.

6.7.3 Women's Property Rights

Several customs that regulate, inter-generational transfer of property in the state are gender-differentiated and are also closely associated with the organisation of marriage. Combined with pervasive female disadvantage in access to earned incomes through employment, they restrict women's ability to claim ownership and exercise control over property even in the presence of equitable laws.

Kerala's far-reaching radical land reforms bypassed married women's independent rights to land through the family route (Saradmoni, 1980; Agarwal, 1994). A study in three urban and three rural settings in Thiruvananthapuram district found that only 21 percent of women had title to land. However, 30 percent of the women owned a house (Panda,

ⁱ The Hindu Marriage Act of 1955 was part of the Hindu Code Bills. Three other important acts were also enacted during this time and they include the Hindu Succession Act (1956), the Hindu Minority and Guardianship Act (1956), and the Hindu Adoptions and Maintenance Act (1956). All of these acts were put forth under the leadership of Jawaharlal Nehru, and were meant to modernize the then current Hindu legal tradition.

2003). In the above category, women hold less than 10 percent of total operational holdings and less than 5 percent of the area of operational holdings. It may be inferred that there are strong restrictions on the recognition of control of land by women. Significantly, at the same time, there was no substantial difference in gender disparity in land holding among SC and ST households and all households (Government of Kerala, 2001).

On a rather conflicting note, recent research has documented women's growing responsibility over management and cultivation of family land (as well as other family property). This trend has come in the context of diversification of household incomes and the shift of male members from agriculture to other occupations through migration or otherwise (Morrison, 1997; Arun, 1999). Yet this may not be visible in macro data, as women actively involved in agriculture and related activities such as animal husbandry continue to report/perceive themselves as housewives (Narayana, 2002).

6.7.4 The Persistence of the Dowry System

Dowry as a highly 'competitive' market practice, increasingly divested of previous customary regulations has been documented recently among the Christians (Visvanathan, 1999; Kurien, 1994). Among the matrilineal groups, over the past half century, there has been a very general shift to dowry marriages (Osella and Osella, 2000; Puthenkalam, 1977; Lindberg, 2001; Uyl, 1995). More importantly, perhaps, the notion of dowry has gained widespread acceptance in the state, across social and economic groups (Eapen and Kodoth, 2003).

There has been a very general switch from dowries in land and gold in the past to dowries in cash, gold and consumer durables today. Most women lose control over the entire dowry, which is used to support the needs of the husband's family. Several scholars have documented the steep rise in the levels of dowries among a range of social and occupational groups (Lindberg, 2001; Uyl, 1995; Kodoth and Eapen, 2005; Kurien, 1994). The framework of patriarchy and the dowry system foster dependence on men within a marital framework and pressure women to conform to patriarchal gender codes.

6.7.5 Crimes against Women (CAW)

Women's views are also shaped within the patriarchal structures. The NFHS-2 reveals that 69.4 percent of women in India who had experienced violence at least once in their lifetime and 53.3 percent of women who had never experienced violence

justified wife beating on one or other grounds. It is striking that Kerala had a higher proportion of such women than all India in both categories — 70.2 percent and 60.8 percent, respectively (Kishore and Gupta, 2004). Patriarchal conditioning is thus still firmly grounded in Kerala and resistance to patriarchal norms is one of the key triggers of violence.

In two categories - molestation and cruelty at home, Kerala has the highest rates of CAW. Only in dowry deaths, kidnapping and abduction has Kerala lower rates of crime.

Table 6.4
Crimes against Women

Incidence and rate of crime committed against women in Indian states during 2009

States	Incidence	Percentage Contribution to All India Total	Estimated Mid-Year Population (in Lakhs)#	Rate of Total Cognizable Crimes	Rank as per Rate of Total Cognizable Crimes	Rank as per percentage share
Kerala	8049	3.9	346.6	23.2	7	10
Andhra Pradesh	25569	12.5	833.0	30.7	3	1
Haryana	5312	2.6	242.4	21.9	9	14
Assam	9721	4.8	305.3	31.8	2	7
Tamil Nadu	6051	3.0	671.1	9.0	29	13
Mizoram	150	0.1	10.0	15.1	14	28
All India	203804	100.0	11694.44	17.4		

The table merely presents the highest and lowest ranked states so as to determine the relative position of Kerala among the other states. For the details of the other states see “Crime in India-2009” published by the National Crime Records Bureau, Ministry of Home Affairs, Delhi, Government of India.

6.7.6 Unemployment among Educated Women

Kerala’s decentralised planning effort, has attempted to address ‘gender’ issues with women’s component plan (WCP). A number of studies were done to understand the nature and content of the WCP in resource allocations and its impact on women in meeting their practical as also strategic gender needs (Isaac and Franke, 2000; Seema and Mukherjee, 2000; UNICEF, 2001; Radha and Chowdhury, 2002; Thampi, 2004; Eapen and Thomas, 2005).

A sincere attempt is being made through Self Help Groups (SHG) to address women’s issues with a view to ‘empowering’ them - that is, enhancing their choices.

Given the fact that 70-75 percent of women in Kerala are engaged in household duties, many of the SHG activities enabled women to combine roles and earn some incomes. Mushroom cultivation, poultry, kitchen garden, umbrella making, etc. allow work to be carried out in/near the home and is not full time in nature. Some efforts were made some

panchayats to move into new areas such as IT, auto rickshaw driving, women's transport cooperatives, etc.

It is clear that more attention needs to be paid in Kerala to gender relations as mediators of development processes. Practical and immediate policy responses should be launched for greater capacity building and training of resource persons from a gender perspective, protecting women's rights of ownership over property and assets; improving their productivity and access to markets and enhancing their managerial skills and control.

6.8 Affordable Health Services and Security

The 'Kerala Model of Health' popularly known as 'good health at low cost', is largely an outcome of public action and people's participation. But currently the family health expenditure is rising constituting a "multi-flation". Kerala is facing the double burden of diseases, i.e., lifestyle non-communicable diseases and return of once eradicated communicable diseases and vector borne diseases manifesting at an alarming rate.

Expensive, private sector dominated and curative oriented health care system is dominating the preventive and decentralized primary health care approach. The PHC utilization is very low and the quality of care by government institutions is poor and is deteriorating.

The emerging areas of concern are:

- Strengthening the state health care system,
- Establishing effective institutional arrangements for public health and sanitation,
- Preventive programmes for chronic diseases, and
- Regulating the private health care sector within the ambit of social objectives and medical ethics.

6.8.1 Disease Burden in the State

Communicable diseases such as Malaria, Typhoid, Cholera, and Leptospirosis, had been eliminated from the state. But unplanned urbanization and environmental degradation including poor waste disposal has led to re-emergence of communicable diseases. The state is also facing high morbidity and mortality from non-communicable diseases such as Diabetes, Hypertension, Cardio vascular diseases, renal disorders, arthritis, and malignancy. The state is also a victim of HIV/ AIDS, substance abuse, suicides and

mental illness due to migration and changing family environment and deterioration in family support systems. Studies indicate the excessive use of pesticides on the agricultural land often causes fatal impact on the people as it has a capacity to create genetical disorder across the population (Karatat, *et al*, 2006 and Aljazeera, 2011)ⁱⁱ

6.8.2 Major concerns and remedial measures

19 percent of the households reported deterioration in their health status due to high health care expenditure and more than 24 percent of the inpatients either borrowed or went into debt and a little more than 3.4 percent either sold or mortgaged their property to finance the health care expenditure (Ashokan, 2005). Bypassing of public health care services is basically attributed to poor quality and provisioning of health care services. More than three-fourths (78 percent) and more than four-fifths (88 percent) of the outpatients and inpatients utilised private health care services, respectively in rural Kerala (Ibid).

It is imperative that the public health care infrastructure be strengthened and streamlined. The Primary and Community Health Care Centres have partly been brought under the LSGS. The continuing deficits in physical infrastructure as well as the shortage of qualified medical personnel have to be addressed. The management of wastes, vector control and other public health issues must receive focussed attention.

During the last 40 years the salary component from health budget has grown from about 36 percent to over 70 percent eating into the supply of medicines and upgradation and upkeep of equipments in hospitals.

The major issues of concern in secondary health care are:

- Policy Reforms,
- Management Development,
- Institutional Strengthening,
- Improving access to better health care,
- Access to Quality Services,
- Accessibility of health care to the under privileged such as fishermen, tribals, slum dwellers and street children,

ⁱⁱ Aljazeera's documentary, "The Killer Spray" (2011), examines the impact of the excessive use of Endosulfan (a pesticide) in cashew nut plantations, northern Kerala.

- Improving health outcomes such as reduction in neo natal, infant, under-five mortality, maternal mortality,
- Risk reduction in areas such as obesity, smoking, alcoholism, sexual behaviour

Two-thirds of curative health care is now in the private sector with a propensity to create 'super-speciality' services which cater to the richer sections of the population. A regulatory mechanism is imperative for the private health sector with a policy regime, incentives and disincentives. The package must safeguard the needs of the poorer sections, and ensure proper preventive health care services including disposal of hospital wastes. A measure of taxation of private health care services has to be introduced to create a fund for strengthening preventive health care services.

The time has come for the state to devise a scientific framework for effective public-private collaboration and participation for total health care. Investment can be attracted from NRIs particularly by NRI physicians from Kerala and India finding Kerala an ideal destination for Healthcare and Medical Tourism. An International Medical University in Kerala with NRK participation is also proposed.

Kerala has a strong tradition of indigenous health care especially Ayurveda. It is to the credit of the state government that it has maintained a public health system combining allopathy, ayurveda and homeopathy. Public policy should now focus on standards in ayurvedic health care services and manufacture of pharmaceuticals and related commodities.

6.8.3 Participation of Private Hospitals in National Health Programs and Public Health Programs

Private sector may share the responsibilities of implementing some or all of the national health programs.

(i) Sharing of Services and Goods

Investment in private sector is increasing day by day leading to the availability of better infrastructure. Their value added services like CT scan and other lab tests can be subsidized for the public for better availability. Majority of the doctors are working in private sector (24401) and only 5758 doctors are working in government sector (NRHM, Kerala, 2008).

(ii) Standardisation of Health Institutions

The committee constituted by the state government has recommended standardisation of the service provisions, infrastructure, manpower and equipment at various levels of institutions. It recommended a hierarchy of Sub Centres for 5000 population in rural areas), Primary Health Centres (Grama Panchayat level), Community Health Centres (Block Panchayat level), Taluk Hospital/ Urban CHC (Taluk/sub district level) and District Hospitals (District Panchayat level).

(iii) Decentralization of Health Institutions

The public health services institutions up to the level of district hospitals stand transferred to the Local Self Government Institutions (LSGIs). Hospital Development Committees with financial and functional autonomy have been constituted. These committees levy user charges and use them for the development of the hospitals and procurement of essential drugs and equipment. They hire technicians and doctors wherever necessary.

Proper coordination of the activities of PHC/CHC, anganawadi, Kudumbasree, school health programmes, drinking water and sanitation is also the need of the hour.

NRHM activities should be integrated with the projects of local bodies. They have to be in sync with the emergency health issues of state. Alternate methods of resource generation like pay clinics, user fees for special support services and health cess can be considered and the generated revenue can be used for maintenance costs.

(iv) Tribal, Coastal and Slum Population

The health conditions of tribals, slum dwellers and people living in coastal areas including fishermen are far below the state average. There should be special focus for meeting primary health care needs of these segments of the population.

(v) Health Insurance

The insurance system has to be expanded to cover the uncovered areas and the marginalised APL and BPL groups including the specially vulnerable like tribals, fishermen and urban slum dwellers.

Specific strategies for risk assessment contracting, risk sharing and prevention of malpractices should be introduced. The existing systems of social insurance like ESI, CGHS and Medical Reimbursement should be integrated with a comprehensive health insurance system for the state covering the entire population. As there is scope for enough people to participate in social insurance it can be implemented through the hospital development society (HDS) for service delivery and income generation can be undertaken through any of the community based organisation (CBO) groups like mahila swasthya sanghs (MSS), neighbourhood groups and cooperative credit system operated through local banks. The Health Insurance Programme should be universalized and strengthened by enhancing insurance protection and coverage with the Rashtriya Swasthya Bima Yojana as the base. Special emphasis should be given to address increased incidence of mental illness, depression and related ailments.

6.9 Revisiting Land Reforms and Land Policy

The much-discussed land reform draws criticism from various corners of the social and political landscape (Ajith, 2002). The very model was dysfunctional to the communities of *Ādivāsi* and fishermen in Kerala. The operation of land reforms largely left out the real indented beneficiaries, the tillers of the soil. The *Adivasi* land struggles in Kerala to reclaim their traditional land rights fuelled a major discussion on the disjuncture between land reforms and equity in landownership (Rammohan, 2008; Raman and Bijoy, 2003). The reforms were also allegedly responsible for the existence of many “paradoxes” such as the decline in agriculture and emergence of absentee landlordism in Kerala (Balakrishnan, 2008; Oommen, 1994; Radhakrishnan, 1981). Land reforms, unless they are backed by institutional mechanisms that improve the access of the poor to productive resources would side step the objective of growth with equity.

The rigidities of the existing Act have militated against aggregation of land for industrial projects and genuine requirements of agricultural production such as group farming by cooperatives, private companies of young entrepreneurs and organisations such as Kudumbahree. Lease regulations of agricultural land have to be liberalised. All these point to the need of a revised land reform Act in tune with the changed scenario and regime of globalisation.

6.10 Housing — general

In quantitative and qualitative terms, the housing situation in Kerala is better than in the rest of the country. As per the 2001 Census while 51.8 percent of households lived in

permanent houses and 30 percent in semi-permanent houses at the all India level, the corresponding figures in Kerala were 68 percent and 21.6 percent respectively.ⁱⁱⁱ The Census of 2001 indicates that on an average a house in Kerala had three rooms as against the all India average of two rooms. The numerical shortage of houses in 2001 was only 63 thousand. The number of dilapidated houses was 5.38 lakhs. 4.6 lakh houses are needed for the very poor under EWS in urban and rural areas, around 1.4 lakhs for EWS above poverty line, 2 lakhs for low income group, 1.5 lakhs for middle income group and 0.5 lakhs for high income group families. The state's remarkable achievements in the sphere of social sector and human development are reflected in the general housing situation of its mainstream society. But the housing problem of very poor households remains to be solved.

The state's policy should continue to promote sustainable and inclusive development of habitats in the state to ensure equitable supply of land, shelter and services at affordable prices for the entire population, with special focus on the needs of the poor, marginalized and disadvantaged. Housing construction in Kerala has become a predominant investment activity especially due to the Gulf remittances. It is estimated to create 200 man-years of employment for every Rs. 1 crore of investment from direct construction with indirect employment in areas including production of building materials.

The state government has been active in the housing sector with several innovative schemes and programmes to help the weak and the needy. More than 20 major agencies are implementing housing programmes in the state today - mainly the Kerala State Housing Board, Kerala State Co-operative Housing Federation, Kerala State Development Corporation for SC/ST, SC/ST Development Department, Rural Development Department and, Local Self Government. About 80 percent of state support provided for housing has gone to EWS. During the last decadal period over 14.5 lakh houses have been constructed through state initiatives.

ⁱⁱⁱ The 2001 census also indicates there are 93.56 lakh houses in Kerala and out of it 7.31 lakhs are vacant and 86.25 lakhs (Residences, Shops, Schools, Hospitals, Factories, places of worship etc) are occupied. Among the occupied houses 64.90 lakhs are residences and out of the residences, 36.30 lakh (56%) are good, 23.30 lakhs (36%) are livable and 5.33lakhs (8%) are dilapidated. Among the 2490.96 lakh households in India, 964.47 lakhs are good houses, 849.64 lakhs are livable houses and 105.53 lakhs are dilapidated houses. For details see, http://www.old.kerala.gov.in/dept_planning/er/chapter13.pdf.

6.10.1 Low Cost / affordable housing

Kerala had been a pioneer in cost effective housing and appropriate technologies in landmark programmes such as by Laurie Baker^{iv}. The state should introduce imaginative ways to reduce the pressure on land such as by clustering of environmentally friendly low or high rise housing projects with strict enforcement of laws. To accelerate the pace of supply of land, shelter and infrastructure the state should fully utilise schemes like Jawahar Lal Nehru National Urban Renewal Mission (JNNURM), Indira Avas Yojana (IAY), the credit-cum subsidy scheme for rural poor and the schemes of Government of India for weavers, plantation workers and *beedi* workers. LSGs should prepare local level Housing Action Plans. Public agencies should undertake land acquisition proceedings for housing and urban services on a large scale along with land sharing and land pooling arrangements, particularly in the urban fringes. Housing is to be considered at par with infrastructure for funding and concessions, in order to encourage investment. Kerala should implement the Shelter Fund scheme for leveraging the creation of larger financial flows for EWS/LIG needs as stated already in the state policy. Government should promote Public-Private-Peoples-Partnership (PPPP) to undertake Integrated Housing and Township Projects in the semi urban and rural areas. With a view to provide inclusive housing development and to curtail ostentatious housing a 1percent cess on cost of individual residential units of built up area above 3000 sq.ft. was to be imposed as per policy and this cess was to be pooled into State Shelter Fund for use in state assisted housing schemes for rural and urban poor. Successful technology and innovation should be supported for low cost, affordable shelter. Other initiatives should include:

- Slum improvement programmes for upgrading the services, amenities, hygiene and environment should be taken up as a mission to make the state a slum free state in a decade
- Transferable development rights and additional FAR could be released as an incentive for providing shelter to the poor. The private sector, community based organisations (CBOs), nongovernmental organisations (NGOs) and self help groups should be fully involved.
- Formation of multi-purpose cooperative societies of urban poor and slum dwellers should be encouraged.

^{iv} Laurence Wilfred “Laurie” Baker (2 March 1917 – 1 April 2007) was a British-born Indian architect. He moved to India in 1945 and continued to live and work in India, mostly in Kerala for over 50 years.

- The State Commission on Human Settlements (SCHS) may be set up by Government of Kerala as envisaged in the State Policy.
- The Kerala Institute of Habitat Management Studies may be established.

6.10.2 Fishermen Housing

The main reason for the poor quality of life and the sub-standard habitat conditions of the marine fishing community in Kerala is its crowding on a narrow strip of land along the length of Kerala's coastline. The population density in marine fishing villages was 2162 persons per square kilometre as against the general population density of 819 per square kilometre in 2001. The proportion of houses with brick or stone walls was 66 percent in Kerala while in fishing villages it was just 16 percent. Compared to the state as a whole, the basic amenities of housing – such as electric lighting, toilet facilities and access to water were also at lower standards in the fishing villages (Kurien and Paul, 2000). The viable long-term solution for housing in fishing villages is for the government to acquire private and government lands that lie outside the bounds of the Coastal Regulation Zone (CRZ), but close to the sea/inland waters, and allot space for planned housing estates for active fishermen.

6.11 Conclusion

The chapter has drawn a roadmap for total social justice by giving insights for inclusive growth in which all social groups will have equal access to the services provided by the government and equal opportunity for upward mobility. A permanent Social Justice Commission will keep examining the issues of social justice of the entire population on the basis of occupations and other parameters and advise the government on legislative, fiscal and administrative measures for bringing the entire population of the state under the cover of total social justice. Kerala is already way ahead most other states in India in the sphere of social justice and welfare and is in a position to attempt the ideal of a total welfare state in the next decade. This will be made possible by sustained public and state action and adequate financial outlays and cross subsidies enabled by the dividends of the state's comprehensive economic development.

CHAPTER - VII

COMPREHENSIVE ECONOMIC DEVELOPMENT

7.1 Introduction

Economic development has been the Achilles heel of the Kerala Model. The developmental problems, particularly dealing with the vertical and horizontal disparities of the state have always been controversial and governmental programmes largely dysfunctional. Conventional planning has failed to solve these issues. This chapter outlines a road map of policies and programmes for the comprehensive economic development of the state.

7.2 Population Stabilisation – the Last Push

Kerala is the foremost state in India in the area of population control and is moving towards achieving a zero population growth rate.ⁱ There is universal awareness in the state about family planning and its methods and knowledge of how to access FP services. In order for the family planning programme to reach the entire population of the state, Kerala needs only a last push. The effort should:

- a) focus on the sections of population which are yet to accept family planning
- b) identification of remaining eligible couples and motivating them with a specific person to person approach.
- c) making family planning services available universally in every neighbourhood area.
- d) establishing Family Planning Hospitals in all district HQs where the entire services are provided at one spot. The Hospitals will have facilitation for male and female sterilisation, IUD insertions etc and will offer the best technical services. For women choosing post partum sterilisation (the most preferred method) free or subsidised delivery services with a few days free stay after delivery can be offered. The Hospital can also be counselling, education and referral centre for all Family Planning Services.

ⁱ As per the Census 2011, Kerala has population of 3.33 Crore, an increase from figure of 3.18 Crore in the 2001 census. Total population of Kerala as per 2011 census is 33,387,677 of which male and female are 16,021,290 and 17,366,387 respectively. In 2001, total population was 31,841,374 in which males were 15,468,614 while females were 16,372,760. For details see, *Provisional Population Totals Paper 1 of 2011* : Kerala on http://censusindia.gov.in/2011-prov-results/prov_data_products_kerala_.html

- e) These hospitals can be jointly run by the government and selected voluntary organisations successfully engaged in family planning work such as the Family Planning Association of India, Planned Parenthood Federation and other national and international agencies.
- f) The ample funds being currently spent as well as possible resources which can be mobilised should henceforth concentrate on providing the best technical family planning services and after care as Kerala has already transcended the stage of awareness and acceptance.

As per population projection for the first 50 years of the 21st Century, the total population of Kerala would increase to about 37 million by 2031 and then decrease to less than 35 million by the middle of the century (Zachariah and Rajan, 1997). Twenty first century would be a period of stability and if we are not careful it would be a period of depletion. The long-term prognosis is definitely that the state's population would be stabilized at a level not larger than 37 million.

The state can thus aspire for and achieve a stabilised population of say 3.5 crores by 2025, which will be a remarkable achievement not only in India but anywhere in the developing world.

7.3 Infrastructure: Towards a world class infrastructure

Some major infrastructure initiatives now in progress are:

- International Container Transshipment Terminal (ICTT) at Cochin – US \$ 670 mn
- Vizhinjam International Sea Port - Rs. 6595 crores
- LNG regasification terminal at Cochin – Rs. 2300 crores
- Natural gas pipeline project – Rs. 2200 crores
- National highway development project Rs. 3300 crores
- Expansion of Kochi Refineries & Single Buoy Mooring (SBM) project Rs. 3000 crores
- Dubai Internet City Rs. 1800 crores
- Kochi Metro Project - Rs. 5200 crores
- Kannur International Airport - Rs. 9300 crores

Kerala should aspire for and achieve a world class integrated multi model transport system of roads, waterway, air, coastal and rail traffic. The building of the road system–

national highways, high speed super highway from Manjeswaram to Parasala, the state highways, bypasses, and bridges, and regional roads to panchayat roads, presupposes proper and modern planning, technology, quality control, maintenance and corruption free execution. State, national and international funding and private/NRK participation should be maximally mobilised for the implementation of the plan.

The three international airports should be progressively upgraded and new airports should be built starting with Kannur and expanded to include smaller airports at selected district HQs and tourist destinations such as Munnar. Private airports should be fully encouraged. Kerala Airways should be launched with Public-Private participation. This is necessary to meet Kerala's specific requirement of expatriate Keralites getting a customised fair deal for travel to and from Kerala – a significant element in their livelihood. Helicopter services for normal traffic and for tourism, medical and agricultural purposes should be organised.

The railway system in Kerala has achieved remarkable improvement in the last decade and has contributed to Kerala becoming a virtual commuter society with large numbers travelling sizeable distances to work and back to their homesteads in the suburban and rural areas. With total doubling, establishment of feeder routes, electrification and high speed trains the railway system can become the preferred mode of travel to the majority of the population reducing the pressure on the road system. Apart from maximum funds and attention of the Railway Ministry Kerala should exploit the new policy of the Railways for private sector participation for improving Railways services.

The traditional waterways have to be widened and improved and connected with the National Water Way - a project which is still under implementation but at a snail's pace. A project for an entirely modernised Kerala Inland Water Way System should be conceived and vigorously implemented with public-private participation and international funding. This will be a magnificent infrastructure for the state for slow cargo and passenger traffic, tourism and culture apart from creating lakhs of jobs. Well conceived, such a project can be self financing overseen by a major public-private Corporation. The coastal transport development possibilities of Kerala using smaller vessels and possibilities such as the hovercraft should also be fully utilised.

7.3.1 Roads

The number of vehicles in Kerala during 2009-10 was 54 lakhs growing from 3 lakhs in 1971. The growth rate is steadily increasing. The fast growth of motor vehicles and the growing economy of the state call for wider roads and a scientifically planned road network. Kerala State Transport Project (KSTP) was launched in June 2002 to improve 1600km of the State Road network and 77km of Inland Water Transport (IWT) with an assistance of US\$ 255 million from the World Bank. A State Road Development Policy for the period 2009-21 was announced in 2008, keeping in view the demands of a growing economy and the changing needs of the community. For major road widening projects, green field roads and by passes, the state has developed a policy for commercial utilization of land as well as for providing developed land to the owners whose land is being acquired.

(i) State Roads in Kerala

Currently the total length of roads within the state is 162,149 kms. On an average, Public Works Department (PWD) has been adding about 500 kms of roads (3 percent of PWD road length) each year. Road density of the state at 417 Km/100 Sq. Km. is far ahead of national average of 100.39 Km/100 Sq. Km. The length of road per lakh population is 509.23 Km against national average of 321.3 Km.

(ii) Issues in the road sector

The poor status of the road transport network constrains the state's potential as a tourist and investment destination. Nearly a third of businesses surveyed as part of the 2004 World Bank-CII investment initiative rated Kerala's transport network as a major obstacle for doing business and investing in the state. Due to the poor quality of the PWD roads, much below the prescribed standard of the Indian Road Congress (IRC)), the state has been incurring significant economic loss due to increased vehicle operating costs and accidents.

As per the findings of the PWD, major issues of the road sector in Kerala are:

- Inadequate funds
- Outdated standards and specifications
- Non-scientific method of planning development and prioritizing maintenance works due to absence of a functional road, pavement, and bridge management system.

- Inadequacies in project preparation process
- Outmoded project implementation procedures
- Inadequate quality assurance capabilities
- Lengthy land acquisition procedures
- Inadequate contractor capabilities
- Huge backlog of roads due for maintenance
- Mediocre technology in construction methods
- Problems of co-ordination with other departments such as KSEB, KWA, TELECOM.
- Inadequate capabilities for monitoring and controlling assets.
- Inadequate institutional and human resources.

(iii) Improving Existing Roads

In keeping with the Eleventh and Twelfth Plan strategies and the road development requirements, the following should be achieved over the next decade.

- All state highways to be designed and converted into two lane carriageway with pavements being strengthened appropriately.
- 10 percent of the state highways to be further upgraded into 4 lane divided carriageway.
- All Major Districts Roads (MDRs) should be improved to have a single lane carriageway with hard shoulders and the pavements be strengthened appropriately.
- 10 percent of the MDRs should be further upgraded into 2 lane divided carriageway with hard shoulders.
- Indian Roads Congress (IRC) standards and Ministry of Road Transport & Highways (MORTH) specifications should be adopted for the design and implementation of the road improvement projects. Appropriate measures for regulating direct access from road side properties should be incorporated in the designs.
- Standard right of way should be acquired as part of this program.
- The process of implementation of the projects should be initiated immediately and completed by 2021.

It is estimated that the outlay required for achieving the above road improvement targets would be around Rs. 40,000 crore.

(iv) Urban Links

Targets for 2021 would be:

- Bypasses to be provided to all urban agglomerations with a population of over 1 lakh.
- Project preparation works shall be initiated for all the 15 selected locations and accomplished by 2011.
- Projects to be completed by 2021.

The outlay required for provision of bypasses to urban agglomerations is Rs. 750 crores.

(v) New Road Corridors

Initiation and implementation of the following new road projects should be undertaken over the next decade.

- Development of the North-South road transport corridor. This has the potential for private sector participation.
- Development of missing links and improvement of existing roads along the Hill Highway.
- Development of Coastal Roads.
- Project preparation work for identification and prioritization of new roads to be initiated immediately and completed by 2011.
- New roads should be constructed and completed by 2021.

(vi) Road Maintenance

The following has to be the road maintenance action program.

- All PWD roads to be maintained as per IRC standards.
- Maintenance plans and programs to be formulated on the basis of Road Maintenance and Management System (RMMS)
- Priority should be given to make the RMMS fully functional immediately
- Backlog of maintenance works to be totally cleared by 2021
- Performance based contracts to be adopted as preferred procedure for road maintenance programs.

Table 7.1

Fund Requirement for Roads Development, 2011-2021

Component	Fund Requirement (Rs. Crores)
Improvement to existing needs	34,550
Bypasses to urban agglomerations	500
New road corridors	12,000
Total	47,050
Average annual Requirement	4,705

Source: Government of Kerala (2009), Task force draft of Kerala Road Development Policy 2009-21.

The government is to amend the Kerala Road Fund Act to enable KRF (Kerala Road Fund) to function and operate as an autonomous financial institution.

The United Democratic Front (UDF) government in the state (2001-2006) had floated plans for building an express highway which will connect the state's northern and southern tips. Today, it takes 15 hours to cover the 507 km. distance between Kasaragod in the north and Thiruvananthapuram in the south. With the proposed highway, this travel time would be reduced to less than 8 hours. Feasibility studies indicated that 4,028 hectares of land will have to be acquired for the highway. The total expected cost for the project was Rs 0.65 billion; the state government was planning to raise a part of the funds from non-resident Keralites. However, as usual there has been opposition against the project from various quarters. One argument floated was that the express way will split Kerala into two!

(vii), The Kerala Highways Bill 1983

The long pending Highways Bill could have avoided many of the present problems faced by the highways in the state. As per the Bill, government could have appointed a Highway Authority for all highways in the state; this authority will fix boundary, building and control lines of highways after objections and suggestions are invited from the public. The authority could have prevented buildings coming up along the boundaries of the highway; and unauthorized occupation of public land and encroachments on highways. In most of the Indian states, 'Prevention of Ribbon Development Acts' are in force. Despite the high density of population and the extraordinary rate of growth of vehicles (10 to 12 percent an year), Kerala is yet to pass such a law.

7.3.2 Railways

Development of railways in Kerala since the formation of the state in 1956 has been substantial. The landmarks were linking Kollam and Ernakulam by meter gauge in 1958, its subsequent gauge conversion to broad gauge and extension southwards into Tamil Nadu, doubling of the trunk route from Chennai to Thiruvananthapuram and of the main line from Shorannur to Mangalore and electrification of the former, as well as setting up a new Railway Division at Thiruvananthapuram. A new coastal line via Alappuzha was added, and another new line was laid between Thrissur and Guruvayur. The railways today is the fastest, safest and most popular mode of overland travel, both within and outside the state, with direct trains connecting it with all parts of the country.

(i) Sanctioned works which need to be completed on a time-bound basis

Top priority is for the completion of the doubling of Shorannur – Mangalore section. The portion Shorannur – Calicut has been lagging behind and needs to be speeded up. Kochuveli is ideally suited for a satellite terminal for Thiruvananthapuram being in close proximity to the NH bypass and easily approachable from the city, as well as from the airport. Stage II of the Terminal and a separate terminal for the Army has to be planned.

(ii) Gauge Conversion of Kollam – Shencottah section: The Kollam – Punalur section, which was closed years ago, is still to be reopened as BG. Work on the ghat section between Punalur and Shencottah has not even started, whereas all the MG lines beyond Shencottah, i.e. in Tamil Nadu, have already been converted to BG and opened.

(iii) Maintenance Depot for Mainline Electrical Multiple Units (MEMU) at Kollam: This work, sanctioned in 2007, has been dragging on. The introduction of the much needed MEMU services on sections like Thiruvananthapuram – Kollam and Ernakulam – Angamali is dependent on commissioning of this facility.

(iv) Doubling of line between Ernakulam and Kayamkulam via Kottayam: This a long-overdue project, has been sanctioned in parts but not assigned the due priority.

(v) Road Overbridges (ROBs): Around 50 ROB-s, many of them on important highways, are awaiting completion for various reasons, although they were sanctioned years ago. Since both railways and state government are involved, speedy implementation calls for closer co-ordination and monitoring. 17 new road over bridges have also been proposed by the state government.

7.3.2.1 New Projects yet to be sanctioned

(i) Electrification between Thiruvananthapuram and Kanyakumari: Though announced as approved, this work has not been formally sanctioned yet. Once it is sanctioned and got completed, trains can be run through to Kanyakumari without change of engine at Thiruvananthapuram. It will also enable MEMU services for commuters in this sector.

(ii) Automatic signalling system on sections Angamali – Ernakulam and Kollam – Thiruvananthapuram to create additional line capacity for MEMU services.

(iii) Doubling of line between Ernakulam and Thuravur (on the coastal route via Alleppey): This is to enable starting of the several major bridge-works in advance of the actual doubling of the entire route that will follow.

(iv) A Coach Repair Workshop in Thiruvananthapuram Division: Passengers constitute the dominant traffic of both the Kerala Divisions. Periodical Overhauling (POH) facility within Thiruvananthapuram Division will help improve the availability of coaches which are now being moved to far-off places for POH. A possible location would be Nemom where spare land is available and more could be acquired.

7.3.2.2 Trains

Many new Trains already announced are yet to be started. The top priority should be for introduction of MEMU trains in place of conventional passenger trains on electrified sections with heavy commuter traffic. This has already been approved in principle for Angamali – Ernakulam and Kollam – Thiruvananthapuram sections, but is dependent on commissioning of the MEMU maintenance depot at Kollam.

For busy sections like Kozhikode – Kannur, which are not electrified yet, DMU-s (push-pull trains or multiple units) should be introduced. The frequency of such trains should be increased especially on the doubled routes. Inter-city expresses running within the state should be strengthened from 15/16 coaches to 21 coaches, as done already for Venad Express. Stoppage should be offered at Trivandrum Pettah for all the incoming trains (other than Rajadhani) for the convenience of passengers and for easing the overcrowding at Trivandrum Central station.

7.3.2.3 Kochi – Metro Rail Project

The state has launched the construction of a Metro Rail Project in Kochi city with a length of 26 kms from Alwaye to Tripunithura. The Delhi Metro Rail Corporation

(DMRC) will be the prime consultant for the project costing Rs. 5200 crores. The project, a landmark in Kerala's urban mass transit development, is being given high priority by the state government.

7.3.2.4 Rail Coach Factory, Palakkad

The Planning Commission's approval for the coach factory at an investment of Rs. 5000cr at Kanjikode has become a landmark in the state's railway related development potential.ⁱⁱ The state government has allotted 426 acres of land at Kanjikode for the Rail Coach Factory. The project is being taken up on a Public Private Participation (PPP) model and will also bring more than 100 ancillary industrial units to the area.

7.3.2.5 Other Projects

The wagon factory at Cherthala announced in Railway Budget 2007 is still under study. The Railway Medical College, Bottling Plants, upgradation of key Railway stations have to be speeded up. Land acquisition for the proposed Angamaly – Sabari line is only in its initial stage. Electrification of Shorannur-Mangalore and Gauge conversion for Kollam-Shencotta and Palakkad-Pollachi are pending because of lack of funds. Survey of New Railway lines like Angamaly-Erumely, Guruvayoor-Thirunavaya and Nilambur-Nanjangud need to be expedited. Automotive Signalling System (ASS) is a prerequisite for busy routes to enable Railways to run a targeted 10 trains per hour. Passenger facilities fund and works have to be augmented and implemented. Making available sufficient numbers of coaches and security in trains deserve serious attention. State government has initiated the project for a high speed Rail corridor of 630 km from Mangalore to Thiruvananthapuram. Also on the anvil is a mono rail project for Kozhikode under the Kerala Road Fund Board (KRFB) at a cost of Rs. 1000 crores.

The formation of a Peninsular Railway Zone has been a demand of the state which has been pending for a long time.

7.3.3 Water Transport

The state should develop smart inland water ways connecting Thiruvananthapuram to Kasaragod and making the west coast canal from Kovalam to Neeleswaram navigable with a bed width of 12 meters and draft of 1.5 meters. Development of this water way system is also a fertile sector for public-private participation.

ⁱⁱ The factory will bring an investment of nearly Rs. 2,000 crore in the first phase and another Rs. 4,000 crore in the second phase. It will provide employment to 3,000 people directly and more than 10,000 people indirectly. For details See, <http://www.thehindu.com/news/article10347.ece>.

The government agencies engaged in the development of inland water transport in the state are Coastal Shipping and Inland Department (CSIND), State Water Transport Department (SWTD), Kerala Shipping and Inland Navigation Department (CSIND) and Kerala Shipping and Inland Navigation Corporation Ltd. (KSINC). Adequate infrastructure support has to be provided for the development of coastal waterways and inland waterways for cargo and passenger transportation. There should be a time bound plan of action for the development of all the proposed waterways with the support of Inland Water Authority of India. PPP ventures should also be supported. The focus areas will be land acquisition, net removal, dredging, side protection of canals etc. An integrated master plan for the waterway system and its implementation should be one of the major infrastructure missions of the state government.

7.3.4 Airports

Foundation stone has been laid for an international airport at Kannur which will greatly benefit people and industry in the northern districts of Kerala, particularly Kannur and Kasaragod and the people in the Koorg region of Karnataka. It will augment tourism revenue and help the thriving textile industry. An Air Port City is also planned in Kannur where plantation tourism will be promoted. The project, estimated to cost Rs. 9300 million, will be carried out on public private partnership and on its completion Kerala will be the only state in India to have four international airports.

7.3.5 Ports

7.3.5.1 Modernizing the Intermediate and Minor Ports

Kerala has 17 intermediate and minor ports in addition to the major port of Kochi. The three intermediate ports are: Neendakara, Alappuzha and Kozhikode. The 14 minor ports are: Vizhinjam, Valiyathura, Thankasserry, Kayamkulam, Manakkodam, Munambam, Ponnani, Beypore, Vadakara, Thalasserry, Manjeswaram, Neeleswaram, Kannur, Azhikkal and Kasaragode. The ports to be immediately taken up for modernization are: Vizhinjam, Thankasserry, Alappuzha, Munambam, Ponnani, Beypore, and Azhikkal. The state government has been encouraging private investment in intermediate and minor ports from 1994. A Port Policy has been formulated by the government to guide private sector investments into the port sector.

Development of these ports will boost coastal shipping and help to reduce the traffic burden on the heavily congested highways, leading to major savings in transportation

costs. With the setting up of container terminals in Vallarpadam and Vizhinjam, the share of global transshipment cargo traffic handled by Indian ports will go up while boosting the Kerala economy. It is estimated that 1.35 -- 1.60 million TEUs of transshipment cargo traffic will be diverted through the Vizhinjam port by 2016-17.

7.3.5.2 Vizhinjam Deep Water International Container Transshipment Terminal

The project is a vital infrastructure project in the history of Kerala's development. Vizhinjam is an all-weather natural port with 16-20 meter draft, which is located close to the international shipping route. It could easily accommodate ships with displacements of up to 300,000 tons, with little or no dredging. With a comparatively small 5-6 meters of dredging Vizhinjam can accommodate even the biggest mother ship in the world, with a whopping displacement of more than 564,000 tons. It is expected that at least 50 percent of the nearly 20, 000 ships that pass through the Suez canal per annum will anchor at Vizhinjam port. The Port will boost the trade and commercial activities in Kerala and the rest of the country.

The project opens up avenues for bunkering (re-fuelling) of ships as well as ship-repair. Between three and six container berths here could serve as a starting point for an international transshipment hub. Colombo alone currently handles over 1.5 million containers a year, and it has run out of capacity. The container traffic into and out of Indian ports has sharply increased to over 2.5 million units today. The transshipment market is clear and wide open. On the crude transshipment front, a land based transshipment facility with a storage complex and docking piers, will reduce turn around time for ships and will result in a significant fall in import prices. Vizhinjam in a sheltered location and, unlike East coast ports or those in Gujarat, the Kerala coast suffers comparatively little disruption from cyclone activity.

An estimated investment of Rs 6595 crores (at 2011 prices) will be required while project completion can take 5 years. Government of Kerala have setup a fully owned company viz. Vizhinjam International Seaport Limited (VISL) with the main objective of providing external infrastructure. VISL would also act as the nodal agency for facilitating selection of developers through a transparent and competitive bidding process.

The fast implementation of the Vizhinjam port project has to be one of the highest priorities in building the state's infrastructure.

7.3.5.3 State Maritime Board

The State Maritime Board should be set up through an enactment for comprehensive handling and development of the state's maritime resources.

7.3.6 Power

The Kerala power system has an installed capacity of 2857.59 MW from by 29 hydel stations, 2 thermal, 3 wind, 4 captive and SIPPs as on 31.03.2011.

The Central Electricity Authority has, in its Eighteenth Power Survey Report, projected the power requirements of the state as given in Table below.

Table 7.2
18th Electric Power Survey Forecast

Year	Energy demand (Requirement) MU	Peak Demand (MW)
2012-13	20971.00	3683.00
2013-14	22223.00	3903.00
2014-15	23554.00	4137.00
2015-16	24975.00	4386.00
2016-17	26584.00	4669.00
2017-18	28080.00	4931.00
2018-19	29595.00	5198.00
2019-20	31198.00	5479.00
2020-21	32895.00	5777.00
2021-22	34691.00	6093.00

Source: Central Electricity Authority

The KSEB has been unable to meet the increase in demand for power by correspondingly increasing the generation and transmission facilities within the state due to a variety socio-economic, political and environmental concerns apart from its own functional inefficiencies.

Kerala receives an average rainfall of 3000 mm per annum. It has 44 rivers out of which three are east flowing. The Western Ghats with its rich flora and fauna, lying all along the eastern boundary of the state except at Palakkad gap, provides a unique eco-climate to the state. Kerala has no known reserves of natural gas or coal. Therefore the state has to mainly depend on hydro-electricity to increase generation.

It is estimated that Kerala has a hydro-electric potential of about 6000MW. But so far only about 2000MW potential has been harnessed. KSEB had been making consistent

efforts to develop projects such as Silent Valley (240MW), Pooyamkutty (480MW), Twin Kallar (60MW), Pathrakkadavu (70 MW) and Athirappally (163 MW). Invariably all these projects require forest areas in Western Ghats which has been declared to be a biodiversity hotspot by IUCN. Due to resistance from the environmental groups and orders of the courts in various public interest litigations the Government and KSEB could not go ahead with the implementation of these projects. Therefore the generation of power within the state from the cheapest and cleanest sources namely hydro-electric projects could not be increased commensurate with the increasing demand for power. This has resulted in increased dependence on costly thermal power from the central generating stations allotted to the states as per the Gadgil Formula. The state established a few thermal power stations using liquid fuels such as naphtha and low sulphur heavy stock (LSHS) But the prices naphtha and LSHS have increased to such a level that the price of this energy has crossed Rs.10/- per unit. The cost of imports which is more than half of the KSEB internal generation has resulted in unprecedented increase in the average cost of supply of power. But the consumers, especially industrial consumers, who are used to cheaper hydel power are resisting tariff hike. The political administration in general has been reluctant to increase the power tariff due to electoral concerns. The governments have also been not able to grant subsidy commensurate with the widening revenue gap of KSEB. This had plunged KSEB into deep financial difficulties necessitating huge borrowings and heavy interest burdens.

The transmission projects within the state also face insurmountable impediments. The high tension and extra high tension transmission lines at different voltage levels can be constructed only as per the guide lines and technical standards issued by the Central Electricity Authority. Acquisition of the right of way for the transmission lines has become extremely difficult in view of the high density of population and the prohibitive cost of land.

Aggregate technical and commercial (AT&C) loss in the power system had been above 30% till 2000-01. By consistent efforts majority of the faulty and sluggish meters could be replaced with electronic meters and power theft could be controlled to a great extent thereby minimizing the commercial loss. For improving the power system more sub-stations and transmission lines are being constructed. The most serious problem in this regard is the adverse HT:LT ratio which has now been assessed at 1:6 as against the ideal HT:LT ratio of 1:1. The length of LT lines in Kerala power system is to the tune of 266856 circuit kms and the length of HT lines is to tune of 49232 circuit kms.

Improving HT:LT ratio ,therefore would involve construction of thousands of kilometers of HT lines and enormous investment. It is noteworthy that AT&C loss has been brought down to about 16.00% in recent years.

In view of the serious problems faced by the power utilities all over the country, Government of India and various state governments conducted extensive studies for reforming the power sector and for salvaging the power utilities. The Electricity Act 2003 provides for unbundling of Electricity Boards, formation of companies for various functions such as generation, transmission, distribution and trading, as well as for constitution of Electricity Regulatory Commissions among various other provisions for comprehensive reforms for the power utilities. This was followed by a series of policies such as Rural Electrification Policy and Tariff Policy as well as programmes like Accelerated Power Development and Reforms Programme (APDRP) and Rajiv Gandhi Grameen Vyduitheekaran Yojna (RGGVY). APDRP is providing financial assistance to the states for distribution reforms with a view to reducing AT&C loss, introducing computerization in billing and revenue collection as well as in system management and improving the financial efficiency. RGGVY provides financial assistance to the states for total rural electrification.

Energy conservation is an extremely important area where government and power utilities should join hands with non-governmental organizations and the public to achieve desired results. A multi-faceted approach is required to inculcate conservation practices among the public and to replace old electrical equipments with more energy efficient ones.

Small Hydro Power (SHP) potential of the state is one of the renewable energy sources that could cater to the needs of a section of remote, isolated habitations and could support existing grid to enhance energy availability of the villages in high lands. An atlas of 996 potential micro hydro sites in the state has been drawn up as part of the total energy source in Kerala electrification drive (Economic Review, 2009). It is a herculean task to draw power lines in the remote forest areas where a large number of tribes live but this opportunity has to be utilised through focussed effort.

In view of the increasing resistance from the environmentalists against the coal based thermal projects, atomic energy projects and the hydel projects proposed in the Western Ghats ,implementation of any conventional power project would be extremely difficult in the future. Harnessing renewable energy can be one of the viable solutions in

spite of its present high cost. A few gas based power projects have also to be organized in the state utilizing the imported LNG from the LNG regasification plant at Cochin and the gas pipeline from Cochin to Mangalore under implementation. The southern gas grid also is under formation and Kerala should get a fair share of the domestic gas from Krishna-Godavari basin as also from the total domestic gas resources of the country.

KSEB is today making a cash-loss of approximately Rs. 140 crore per month. This loss is met through borrowings, non-payment of electricity duty to government and deferring payment to NTPC. Against this background Public-Private participation in the Power sector has to be encouraged – a beginning has been made in the proposed Cheemeni Power Project in Kasaragod.

7.3.6.1 Rationalisation of Electricity Charges

Kerala at present imposes high electricity charges on industry to meet the cost of subsidy provided to middle class consumers. Industrial firms in Kerala perceive lack of adequate power and its high charge as major constraints. In fact, it is the subsidy to the domestic sector which indirectly affects the availability of power too. The KSEB is unwilling to buy enough power, because buying more power would mean more losses for the KSEB as they cannot recover costs through tariff from domestic consumers. This is a direct disincentive for industrialization in the state, and the state should consider seriously a balance between industrialization versus the subsidized consumption of the middle class. The prevailing rules and practices also discourage industries from generating or acquiring electricity on their own. The state electricity company and the regulatory commission are yet to take a favourable view on open access. The option of captive generation is also made costlier. In the long run, industries in Kerala should be able to receive electricity at cost based charges, and should not be forced to bear the burden of cross subsidy to the domestic consumers. Though the removal of cross subsidy is envisaged under the Electricity Act 2003, the state electricity regulatory commission is yet to make road map for it.

7.3.6.2 Capacity Augmentation

Kerala's installed capacity is presently around 2850 MW and during the 12th Plan, the target should be to double the installed capacity through installation of new gas based and super critical plants and harnessing of renewable energy. The IPP concept should be

encouraged to provide more resources for development of capacity through hydel power other than SHPs (300 MW), renewable energy (RE) (700 MW) and also from energy conservation measures. A time bound strategy should be implemented to seize the new generation opportunities.

Table 7.3
Perspective plan for Kerala for power capacity addition to double the existing capacity in the 12th five year plan

Year	Hydro	CGS	Case-1 bid	LNG/ Pet cock	Total
	(MW)	(MW)	(MW)	(MW)	(MW)
2012-13	1.3				1.3
2013-14	100.0	115.5	300.0		515.5
2014-15	73.1	32.3			105.4
2015-16	28.2				28.2
2016-17	161.5	300.0			461.5
2017-18	48.0	265.0			313.0
2018-19	36.0			500.0	536.0
2019-20	82.0			350.0	432.0
2020-21					0.0
2021-22					0.0
Total	530.1	712.8	300.0	850.0	2392.9

Source: Kerala State Electricity Board

7.3.6.3 Power Sector Reforms

The major initiatives launched by the Board are:

- A fully owned government company ‘Kerala State Electricity Board Limited’ has been incorporated under the Companies Act.
- KSEB has targeted to reduce the loss by 2 percent every year. T&D loss brought down to 19.41 percent as on 31-3-2010.
- All villages have been electrified.
- Completed 100 percent metering of all distribution feeders.
- All consumers have been metered.
- Energy audit of 11 KV and above metering has been computerized.

The state government and KSEB have been reluctant to embrace and implement the reforms programmes. They have to this tackle these issues headlong, cooperate with the central government and make a concentrated effort to achieve a major breakthrough in optimising the infrastructure of power in the state as on unavoidable basic requirement for the state’s all round development.

7.3.7 Drinking Water Supply

The performance of the state in this area has not been upto the mark. As on 2001, only 23.4 percent of the population in Kerala, with 16.9 percent in the rural and 42.8 percent in the urban areas, received piped water supply.

Table 7.4
Households Access to Safe Drinking Water (Tap / Handpump / Tubewell)
in Indian States. Data for the year 2001

	Total	Rural	Urban
All India	76.7	66.8	97.8
Punjab	97.6	96.9	98.9
Kerala	23.4	16.9	42.8

The smaller states/UTs of Delhi and Chandigarh achieved high ranks with a total percentage of 97.2 and 99.8 respectively. Other states that had a poor record were Jharkhand and Assam (42.6 and 58.8 respectively). Kerala's neighbouring states of Tamil Nadu and Karnataka recorded a percentage coverage of 85.6 and 84.6 respectively. Lakshadweep a union territory recorded a total coverage of only 4.6 percent households. For details see the report of the Planning Commission of India (<http://planningcommission.nic.in/data/datatable/index.php?data=datatab> last accessed 11th August 2012).

As per official state government statistics the overall percentage of urban and rural population covered by piped water supply at present in Kerala is around 84% and 68% respectively. But there are problems with the definition of 'coverage'. As per 2001 census data about 77% of the households depend on wells for their drinking and cooking water requirements. Even the urban households in Kerala who own an open well in their premises prefer to use the well water for drinking & cooking. The projected demand supply scenario of water resources of Kerala for 2021 AD indicates an overall demand supply gap of 5,800 MCM. Though the State has relatively sufficient water resources to meet present needs, it would face scarcity in 2025, unless additional storage, conveyance and regulation systems are increased by 25% or more over the 1995 levels, which require substantial investments and improved management practices.

Implementation of the Japan Bank for International co-operation (JBIC) assisted water supply project valued at Rs. 2600 crore being implemented is to benefit 41 lakh people. Kerala Water Authority (KWA), Kerala Rural Water Supply and Sanitation Agency (KRWSA) and Local Self Government Institutions are organising community participation in the implementation of the water supply schemes by sharing financial costs and taking responsibility in management, operation and maintenance. KWA at present has 86 ongoing Accelerated Rural Water Supply Schemes (ARWSS) under various stages of execution.

Full coverage as well as the envisaged service levels still remains an elusive target and assets created are languishing for want of proper management and maintenance. Institutionally, agencies like KWA, KRWSA, LSG Department and the Total Sanitation Mission, which contributed significantly to achieve the improved coverage, need to be adequately re-oriented / re-engineered to meet the emerging challenges, especially since water and sanitation the mandatory responsibility of the SGs.

During the 11th five year plan GOI have further consolidated the reforms agenda and have revised the rural drinking water programme as National Rural Drinking Water Programme (NRDWP) with revised guidelines published in 2010. Government of Kerala have adopted a comprehensive water policy in 2008 which envisages the micro watershed as basic unit for management and river basins as basic unit for development planning of water resources. The policy envisages the strengthening of the constitutional role of LSGs in management of rural water and sanitation projects.

Recently as the Kerala households are increasingly getting dissatisfied with the service levels under public provision, they are slowly resorting to their own initiatives in compensating public sector inefficiencies. It is abundantly clear that, people are willing to pay for improved/reliable service levels. Strategically, if public finance is used as an instrument to leverage private/community initiatives, greater impact would be achieved and the results would be more sustainable.

7.3.8 Drainage and Sewerage

If the rural and urban continuum in Kerala is properly planned for land use, infrastructure and services and progressively modernized, the state can become a single large garden metropolis. Towards this end all sectors of infrastructure have to be properly planned in an 'in situ' decentralized pattern since there is no discernible rural-urban difference in the physical development of the state. The infrastructure of drainage and sewerage in the state is still rudimentary and is handled by different agencies and local governments. The drainage problem especially in the commercial capital of Kochi has become intractable due to lack of political will and a coordinated and integrated programme.

For city sewerage there are only three schemes at Trivandrum, Cochin and Guruvayur. The Trivandrum scheme, started as early as 1931, is still dragging on with only 30 percent of the city covered by piped sewerage. In unserved areas sewage is polluting entire water courses. Operation and Maintenance (O&M) of sewerage systems is funded entirely by the state government and the progress of this infrastructure is at a snail's pace.

In Kochi the sewerage system covers only 5 percent of the city area and the present plan under JNNURM is only for additional 16 percent of the area. In Guruvayoor coverage is nil as only sewerage lines were laid in the 1980s but not yet commissioned. Only minimal work is now in progress.

A master plan has to be prepared for a modern drainage and sewage infrastructure for the metro cities and municipalities to progressively achieve full coverage in the next decade.

7.4 Agriculture – Stabilisation and Resurgence

7.4.1 Changes in Land Use Pattern

Kerala has six distinct bio-physical zones contributing to its population and land use dynamics - low lands and coastal plains, Malabar midlands, Palakkad region, Southern midlands, Foothills and Eastern highlands (George and Chattopadhyay, 2001). While choice of cropping pattern was guided earlier by agronomic considerations and consumption needs of farmers, now mainly market forces determine the emerging trend (Mahesh, 1999). The cultivable land area has increased only marginally while the land put to non agricultural uses, waste and fallow land has increased drastically.

The most important changes in land use pattern of Kerala are the shrinking area under food crops and increase in the rate of deforestation. The land area of rice cultivation declined from 876,000 hectares in 1975 to 287,340 hectares in 2003-04. The state has reached the alarming situation of 75 percent deficit in food production particularly rice production. Although no official estimate of deforestation in Kerala is available, it is widely known that in certain regions, large-scale conversion of forest land has occurred, contributing to concerns about sustainable land use.

Various studies highlight the mismanagement and over exploitation of land and water resources at an accelerated pace during the last decade compared to the previous decades. Unscientific clay mining, large scale conversion of paddy fields and wetlands and careless quarry mining, ecologically dangerous sand mining, over exploitation of underground water resources, large scale deforestation etc. have taken place unimpeded. The present urbanization pattern in Kerala is at the expense of the diverse ecosystems and rich natural environment of the villages near the urban centres. The per capita available land of 0.04 hectare is declining further. The unabated land degradation has to be controlled, redressed or even reversed by using all land scientifically for the purpose for which it is best suited. Kerala accounts for 42 percent of the country's area under the four plantation crops of rubber, coffee, cardamom and tea and 45 percent of the output.

The state contributes 92 percent of the natural rubber, 61 percent of the cardamom, 21 percent of the coffee and 8 percent of the tea production. Coconut is the principal crop, accounting for 30 percent of the area and 30 percent of the output.

Rice, coconut, rubber, pepper, cashew, cardamom, tubers, banana and vegetables are the major crops of Kerala and the total gross cropped area comes to 29.5 lakh hectares. Over the years there was a shift from food crops to plantation and other crops and the present area under food crops is only 12 percent of the cropped area. As majority of Kerala's farmers are marginal and small, more dependence on food crops is warranted because of food security, livelihood improvement and employment for the rural folk especially women. A joint or shared agenda setting of the programmes for a period of ten years involving all the relevant R&D institutions of Kerala is necessary for sharing and coordination of the programmes of effective land use especially for food production.

The approach to agriculture in the 12th plan proposes raising incomes of farmers through increasing productivity, subsidiary occupations, better marketing and promotion of value added products. To raise productivity, a new approach will have to be followed, where specific packages of inputs will be designed for each of the 5 Agro Ecological Zones and 23 Agro Ecological Units jointly with central and state research institutions and the Kerala Agricultural University.

7.4.2 Innovative Agriculture

A systematic search has to be mounted to identify innovative agricultural technologies and enterprises (tropical cut flowers, green house vegetable/medicinal plant production, mushroom culture, vermiculture, organic vegetables, for instance) in the state.

The state could lay stress on activities such as apiaries and bee keeping, mushroom farming, fruit and vegetable processing, setting up nurseries for agricultural, horticultural and medicinal plants, mixed farming, multi-level cropping, adopting various cropping systems, taking up floriculture for local, national, and international markets, adopting intensive vegetable farming primarily to meet the internal demands of the state and also for export to the expatriate Keralites living in the Gulf countries.

These innovative agricultural activities should be largely carried out through co-operatives and on a cluster basis taking the panchayat, block or district as the unit.

Kerala should develop a generation of entrepreneur farmers taking up innovative and value adding agriculture on commercial lines.

7.4.3 Farming Systems

7.4.3.1 Multi-tier Cropping Systems

The Central Plantation Crops Research Institute (CPCRI) studies show that properly planted gardens permit the establishment of multi-tier cropping systems having two storeys of crops underneath the coconuts. The ground tier of canopy may consist of foeder grass, medicinal plants and/or pineapple and the middle canopy of banana, tree spices, tuber crops or pepper. In addition, a farming unit of even half hectare size will be able to sustain 2-4 heads of cattle and some poultry.

Mixed farming systems of banana, pepper, tuber crops, other herb spices, dairy for milk and meat, piggery unit for meat and piglet production, poultry for egg and meat, goatery for meat, fishery are viable in the state and have to be systematically developed.

7.4.3.2 Organic Farming

In 2008, the global market for certified organic products of food and drink was estimated to be 51 billion US dollars. Sensing the opportunities, some states have already started organic farming in a big way. One such state with an impressive success story is Uttaranchal where 1200 bio-villages are covered under the organic programme and 20,000 farmers have been sensitised. Kerala is much better placed to take to organic farming in view of its wide variety of agro products, skilled labour and the widely spread self help groups.

The most popular organic product groups are fresh fruits and vegetables, dairy products and bakery wares. The certified organic agriculture coverage in 2006-07 in Kerala was 11141.54 ha. Production of organic tea, rice, vegetables, pepper etc is done in Kerala in small areas. Department of Agriculture, State Horticulture Mission (SHM), and Vegetable and Fruit Promotion Council, Keralam (VFPCCK) are the major agencies supporting organic farming in the state apart from NGOs. Promotion of organic agriculture in Kerala could be done effectively by strengthening the organic input supply system and developing the marketing network. Support for certification cost has also to be provided. Isolated attempts were made for the last 5–6 years for promoting organic agriculture and major projects were not implemented through government support.

7.4.4 Structural Transformation – Needed Interventions

Structural transformation in Kerala's agriculture during the last four decades has resulted in a host of developmental issues which need to be resolved to enable strong and sustainable development in the new millennium.

- Foreign exchange earnings to be enhanced through processing and value addition on a massive scale.
- The international competitiveness of the state's agricultural products to be improved significantly.
- Improve the productivity of important crops and launch a quality literacy movement.
- Expand the agricultural insurance programme with low premium covering all major crops.
- Set up an Agricultural Relief Fund for assisting farmers in distress.
- Provide farmers with market intelligence for availing of emerging market opportunities.
- Establish a State Agricultural Marketing Board to co-ordinate, operationalise and monitor the product specific marketing of agricultural produce.
- Establish efficient logistics support and storage facilities including cold chains for promoting domestic and foreign marketing.
- Replant old, senile and diseased coconut palms, pepper vines and tea plantations as necessary. Supply good quality planting materials harnessing biotechnology.
- Launch a specific mission to reduce the food deficit to 50 percent from the current figure of 90 percent which is alarming.

7.4.5 Land & Water management programme

Much of public investment in irrigation has been wasted through non-completion of projects with high time and cost overruns or serves only a limited purpose such as stabilization of yield.

Kerala's distinct micro environmental conditions such as undulating topography, high soil-erosion-proneness and monsoon dependency, require local-level planning and

intervention strategies. Kerala requires a state wide integrated land and water management programme.

7.4.6 Strategies for reviving Rice cultivation

Low productivity, high cost of production, un-remunerative price, labour scarcity and high cost of labour, difficulties in farm mechanization, distorted adoption of technology, pest and disease attack especially during the second crop season, water scarcity, harvest and post harvest losses, lack of proper storage facilities, etc. are the reasons for decline in rice area. These issues should be systematically resolved.

Out of the gross cropped area of 26.69 lakh ha. in 2009 – 10, food crops consisting rice, pulses, minor millets and tapioca occupy only 11 percent. Kerala with already a low base in food production is facing serious challenges in retaining even this meager area.

The urgent steps required for reviving rice cultivation are:-

- Legislation for protection of paddy lands similar to that of Forest Act.
- Technological interventions for increasing productivity like effective mechanization with service back-up, availability of good quality seeds, precision farming and timely availability of inputs.
- The introduction of new technologies of rice production in the state along with improvements in the structure and efficiency of water management.
- Timely availability of quality seed, establishment of seed villages.
- Remunerative price for paddy. This could be done without undue increase in the price of rice for consumers through value addition and bye-product utilization. The potential bye-products from paddy viz silica, bran oil, orycolin, lecithin, straw based products, cattle feed etc should be fully productionised.
- Promotion of specialty rice like scented rices (Jeerakasala and Gandhakasala), medicinal rices (Navara), and organic rice.
- Integrated farming approach such as rice- fish, rice-duck, rice-pig and subsidiary enterprises like mushroom production and compost.
- Bringing youth to rice farming- through mechanization, high-tech and innovative programmes.
- Consortia of co-operative societies/banks/ producer companies to be formed to achieve the above targets.

It is gratifying that some initiatives have been taken by the state government in recent years to increase food production in the state. A major food security project was launched in 2008 – 09 covering rice, milk and egg. Regional subprojects were launched with additional incentives, interest free loans, project based support for fallow land cultivation and a package of support measures. The procurement price has been periodically enhanced and modernization program for lift irrigation was also initiated as part of food security project and the Malabar Package. The conversion of paddy lands for other purposes has been partly controlled from 2009-10 through the Kerala Paddy Land – Wet Land Conversion Act, 2008.

As proposed in the 12th Plan, special projects for food security should be launched increasing of rice production by 25 percent and vegetable production by 50 percent from the base level. Homestead farming should be popularised and the role of co-operatives may be expanded to support agricultural development through backward and forward integration. Contract farming should be encouraged in all lands including fallow lands to raise incomes of farmers.

7.4.7 The Kerala Rice Mission

The state should launch the Mission for the promotion of rice production involving scientists, extension officers, planners, farmers and self help groups to attain 50 percent self sufficiency in rice production in the next 10 years. The schemes of Department of Agriculture, local governments and *Kudumbashree* should be linked under the Mission. *Padasekharam* (paddy field aggregations) based action plans have to be prepared linking with credit, input support, water management, procurement and supplementary income initiatives. Panchayat wise targets could be fixed in potential areas for convergence with the plans of the local governments. The project should also cover total insurance and total procurement. Development of local water resources and lift irrigation schemes should be integrated in the project. Separate targets could be fixed for different areas like Kole lands, Kuttanad, Palakkad etc. A package could be considered for promoting upland rice including development of suitable rice varieties. A fair price for paddy and group farming should be the two main pillars of this Mission.

The state needs for internal consumption 40 lakh tons of rice per annum. In order to achieve at least 50 percent of the requirement, the total area presently under rice *i.e.* 2.9 lakh ha. has to be increased to 6 lakh ha for the three seasons. Similarly the productivity has to be increased from the current level of 2.2 t/ha to 3.5 t/ha by the end of the 12th Plan

period. The experience with GALASA (Group Approaches with Locally Adapted and Sustainable Agriculture) have proved that productivity of rice can be improved by 1-1.5 t/ha. with a reduction in cost of production by Rs. 1000/ha.

Choice of variety, and adoption of agro techniques suitable to the locality, balanced manuring with special emphasis on organic manuring, weed control, pest and disease management, reducing the harvest and post harvest losses, and partial mechanization will definitely improve productivity.

7.4.7.1 Value added products

Rice based agribusiness and industry have to be developed vigorously. From rice bran very valuable anti-oxidants like orcinol can be separated and marketed. A number of other by-products like bran oil, lecithin etc. are manufactured from rice bran. Silica from rice husk is used for the manufacture of outer covering of rockets and missiles. Husk is also used for producing charcoal, graphite and sodium silicate.

7.4.7.2 Special Initiatives

In Kuttanad, the major rice bowl of Kerala, rice area comes to about 50,000 ha. Rice-fish farming has become popular because of profitability and ecological balance. Along with rice-fish, animal component can also be included making it Agriculture Aquaculture-Animal Husbandry (AAA) farming.

Rich source of nutrients from tidal waves and luxuriant with algae areas are ideal for organic farming. Kerala Agricultural University (KAU) along with Pokkali Land Development Agency have applied for registration of the 'Pokkali' rice. The total area of 10,000 ha. under pokkali land may be brought under organic farming and the rice marketed under a brand name. Organic farming module for rice has to be perfected.

7.4.7.3 Promotion of Ethnic Varieties

'Geerakasala' and 'Gandhakasala' are the two scented rice varieties grown in Wayanad area. Assuring proper market for these varieties, the major portion of 16,000 ha. area in Wayanad can be brought under scented rice.

7.4.7.4 New varieties / hybrids

Demand for medicinal rice like *Njavara (Oryza sativa)* is increasing and studies on medicinal rice with protocol for its production should be promoted during the 12th plan period. For hybrid rice production, better quality varieties which can withstand biotic and abiotic stress and specifically suited for second crop have to be developed.

7.4.7.5 Subsidies & Incentives

There are a large number of schemes providing subsidies and incentives for rice cultivation. It would be more effective if the funds for these are rationalised for fixing a very remunerative price of paddy. Whatever be the promotional schemes we provide, the price of the final produce is the ultimate incentive for the farmer.

7.4.8 Plantation Crops

The major plantation crops in Kerala are Coconut, Rubber, Cardamom, Tea, Coffee, Arecanut, Cashew and Cocoa. KAU and CPCRI are having a good collection of the germplasm of different plantation crops. The development initiatives should be:

- Community or cluster approach in production, processing and marketing.
- Developing model organic farming system.
- Large scale planting of dwarf and hybrid varieties of coconut.
- Revival of coconut economy by de-linking profitability from price behaviour of coconut oil.
- Developing value added products from ripe coconut, tender coconut, palm sap and their by products.
- Mitigating the problems of coffee growers arising from the low prices of coffee, through steps such as restructuring of loans interest relief and rainfall insurance. Government of India has approved in June 2010 the coffee debt relief package for the debt ridden small coffee growers with a total financial outlay of Rs. 241.33 crores.
- Encouraging organic tea production (eg. Darjeeling tea).
- Government of India has set up a special purpose Tea Fund for funding replantation and rejuvenation aimed at improving the age profile of tea plantations and this programme should be augmented during the 12th Plan.

7.4.8.1 Integrated Project for Coconut Development

The strategies for income security to coconut growers are:

- Replanting old and diseased trees, conservation of soil and moisture including rain water harvesting and augmenting irrigation, inter cropping
- Total utilisation of coconut, not just as oil and cake, but for other products such as coconut water soft drinks, neera, kerasudha, coconut sugar, etc.
- Coconut is included in the Technology Mission. Small Farmer Agribusiness Consortia owned and managed by the farmers should be popularised.
- The implementation of massive replanting of root wilt affected palms with seedlings of elite palms could be improved immediately on a campaign mode.
- Major plan support for integrated farming has to be provided. Effective harvesting machines and restructuring of the cluster development program need to be developed

7.4.8.2 Vegetables Production

Kerala Agriculture Department has estimated the present production of vegetables in the state as 5.8 lakh tonnes and the import from neighbouring states as 7.5 lakh tonnes, annually. Even this quantity meets only less than 50 percent of the ICMR recommended levels of intake of the people of Kerala.

Commercial vegetables cultivation can be done intensively and even small plots of one-fourth to one-half hectare size can ensure monthly incomes of Rs. 1000-3000 to a farmer family, making the state self sufficient in vegetables. There should be focus on encouraging watershed based agriculture development, especially of vegetables and high value crops in partnership with local government. This should be organized into a mass movement.

7.4.9 Agribusiness and Trade Development

The main areas of agribusiness and agricultural exports having good potential for Kerala and which need to be aggressively promoted are:

- Nutraceutical products: Kerala's spices and nuts have good potential as they are essential ingredients for this rapidly expanding segment.

- Oleo-chemical products: The demand for cosmeceutical and personal care products are expanding at 5 to 20 percent a year and coconut products, turmeric and a wide range of organic products are preferred in this segment.
- Value added products: There is tremendous scope for a wide range of value added products such as herbal extracts, oleoresins, instant foods, organic beverages, dairy products and drug preparations.
- Packaged foods; Global processed food industry has been growing at 12-15 percent and its turnover is presently estimated at \$ 300 billion. In this 50 percent share is of bakery, chilled foods and dairy products and Kerala has high- potential for providing the essential ingredients to this expanding industry like fruits, nuts, spices, oleoresins and nutraceutical inputs.
- Tropical fruits and fruit products: Pineapple accounts for 46 percent of the \$ 2.1 billion market for tropical fruits of which 37percent is in processed form. There is also good potential for plantain varieties. An agri-export zone covering 9 districts in Kerala should be set up for developing production, processing and export of tropical fruits from Kerala.
- Meat and fish products: There is great scope for production and export of value added meat and fish products. Fishery export from Kerala contributes 18percent of India's export and currently export of value added products constitute only a fraction of the total exports.

The strategy for promoting agribusiness and agricultural trade should comprise:

- Clear policy support and a time bound holistic action plan
- Reducing yield gaps through productivity enhancement
- Enhancing price competitiveness through cost reduction by enhancing input use efficiency and by providing assured support systems
- Provision of effective risk management support
- Diversification and value addition

- Quality assurance and harmonisation of quality standards
- Promoting agribusiness and trade facilitating systems
- Ensuring needed forward and backward linkages
- Dependable infrastructural and logistics support
- Knowledge empowerment in technology, markets and products.
- Participatory scaling up mechanism for reducing cost and ensuring enduring supply of primary products
- Identifying and developing niche markets for selected agribusiness products.
- Developing supply chain management
- Inter-agency coordination for greater effectiveness
- Forging of partnership between public and private agencies
- Developing an appropriate farmer friendly market intelligence and information system.
- Developing and modernisation of village markets
- Tackling the negative impact of trade policies such as high tariff protection of importing countries,
- Addressing issue of high Sanitary and Phytosanitary (SPS) standards acting as a trade barrier,
- Tackling restrictions on interregional movement of goods.
- Controlling rising imports under FTAs which depress prices
- Providing timely credit and other support systems through cooperative, producer companies and other financial Institutions by developing farmer friendly lending and recovery policies.
- Encouragement of group farming and group marketing activities.
- Identifying and promoting schemes to attract agricultural labour to take up commercially viable agribusinesses.

7.4.10 Building a Sustainable Agricultural Trade Security System

The destiny of more than 80 percent of Kerala's agricultural commodities and products is dependent on home and international trade. Government of Kerala should take the following steps to build a Sustainable Trade Security System for the state's products.

- Launch a productivity, quality and value-addition movement for all agricultural crops
- Launch a Quality Literacy movement both for products intended for domestic consumption as well as for export
- Introduce appropriate *aquarian reforms* to safeguard the livelihoods of fisher communities
- Establish a *herbal biovalley* and herbal sanctuaries.
- Organise a Consortium of Innovative Farmers for Kerala's Agricultural Transformation
- Establish a Virtual University for Agricultural Trade.

The need for revitalizing and reorganizing the Kerala State Land Use Board to offer proactive advice to farmers on land use during the southwest and northeast monsoon periods was emphasized by the Dr. M.S. Swaminathan Committee. Their important recommendations are contained in the report titled 'Building a Sustainable Agricultural Trade Security System for Kerala' submitted to the state government by the Commission on WTO concerns in Agriculture'. (p.139)

Kerala Agriculture has to be reorganised to adapt to the global environment. The state has to concentrate on viable crops and effectively subsidise non-viable crops if they are to be conserved.

7.4.11 Establishment of a Virtual University for Trade

There is need in Kerala for a large cadre of trained youth as well as media personnel well-versed in the following areas.

- WTO Regulation and post-Doha negotiations
- National Trade scenario: Opportunities and challenges
- Patents, Intellectual Property Rights, Geographical Indication, Union for the Protection of New Varieties of Crops (UPOV), World Intellectual Property Rights Organization (WIPO), Trade-related Intellectual Property Rights (TRIPS)

- Kerala's Trade opportunities and constraints
- Media Resource Centre

The proposed Virtual University for Trade should be operated by a consortium of public and private sector agencies with modest financial investment.

7.4.12 Biodiversity and Intellectual Property Rights

The Kerala State Biodiversity Board was constituted in 2005 with the vision of conservation of biodiversity and its sustainable utilization for human benefit.

It is strongly recommended that the State Biodiversity Board be energised immediately to oversee

- Conservation of Biodiversity
- Sustainable use of biodiversity including agro-biodiversity
- Equitable sharing of benefits

7.4.13 Horticulture Development

The state is blessed with its unique topography of hills, hinterlands, valleys, mountains and favourable monsoon patterns and is suited for cultivation of a wide variety of tropical and subtropical horticultural plants like Orchids, Anthuriums, Bromeloids and Jasmines apart from a variety of medicinal and aromatic plants. The agroclimatic conditions of Kerala are similar to that of Sri Lanka, Malaysia and Thailand where horticulture / floriculture has developed into a major industry. The rich soil and the varying ecological zones foster a prolific and diverse flora including Begonias, Ferns, Commelinas and Orchids most of which are promising ornamentals. High quality manpower is available and can be augmented. With full back-up support and orientation, horticulture should be developed into a highly successful industry in the state.

7.3.14 Cultivation of medicinal plants and production of herbal drugs and cosmetics – Herbal Biovalley

State has thousands of years of glorious heritage in Ayurveda and medicinal plants and it is only logical that Kerala grows medicinal plants intensively which will benefit the growers and processors and create downstream employment. Infrastructure for medicinal plant cultivation needs to be created. Both conservation and cultivation, and validation of claims and labelling and certification have to be facilitated. Tribal development should be made an integral part of the infrastructure for the promotion medicinal plants, as

traditionally tribal communities are the conservers and preservers of medicinal plants and biodiversity. Particularly, gene banks for conservation, seed banks for promotion and propagation, and organising self-help groups (SHGs) for production should become integral part of the infrastructure.

Silent Valley to Wayanad where some of the rare medicinal plants and medicinal rice are grown, may be developed into a Kerala Biovalley. The infrastructure necessary for seed multiplication including tissue culture facilities, establishment of nurseries of elite material, validation and certification and producer-oriented marketing and other centralised facilities to promote efficient decentralised production, will have to be provided in the proposed Herbal Biovalley.

Institutions like Indian Council of Agricultural Research (ICAR), Council of Scientific & Industrial Research (CSIR) laboratories mainly Regional Research Laboratories (RRLs) at Jammu and Jorhat, National Botanical Research Institute (NBRI), Central Institute of Medicinal and Aromatic Plants (CIMAP), Tamil Nadu Agricultural University (TNAU), Kerala Agricultural University (KAU), Gujarat Agricultural University, International Institute of Ayurveda, Indian Institute of Horticultural Research, Tropical Botanical Garden and Research Institute (TBGRI), and some private Ayurveda drug houses like Aryavaidya Pharmacy, Kottakkal, International Institute of Ayurveda, Coimbatore are actively engaged in research on medicinal plants and their cultivation. In addition to the above centres there are about 165 small medicinal and aromatic plant gardens maintained by ayurvedic drug houses, ayurvedic colleges, traditional *vaidyas* or physicians and botany departments of various universities and colleges in the country.

Formation of societies at different levels involving representatives of ayurvedic medicine manufacturers, farmers, NGOs, cultivation experts, professional raw drug collectors etc, will facilitate demand-based cultivation with a buyback arrangement. The Society should take care of imparting technical know-how to the cultivators, supplying genuine planting materials, establishing nurseries and seed banks for propagation, collecting requirements from various pharmaceutical companies and marketing the produce at reasonable price.

Medicinal Plants Growers' Associations, each covering about 100 ha, should be formed on the model of Self help Groups. Capacity building in the areas of cultivation and marketing can be organised. Such Growers' Associations can enter to a Memorandum of Understanding with companies with regard to sourcing of raw material for drugs. Herbal Estates could also be promoted for bringing about an end-to-end approach in relation to

the cultivation, processing, packaging and marketing of medicinal plants and herbal medicines.

7.4.15 Cultivation of aromatic plants and production of value added products

Since most of the important spices and plants yielding essential oils used in perfumery and cosmetics are of tropical origin, Kerala can profitably cultivate most of these and can produce value added products. At TBGRI both short term and long term conservation measures including cryo-preservation of most endangered medicinal and aromatic plants are being envisaged. TBGRI is also initiating a comprehensive programme of bio-prospecting, DNA mapping and finger printing of medicinal, aromatic and cosmetic plants of tropical origin. This offers great scope for states like Kerala to develop medicinal and aromatic plants cultivation and to manufacture value added products as a highly profitable horticulture industry.

7.4.16 Cultivation of ornamental plants (Floriculture)

Floriculture is yet another field of great opportunity to the people of Kerala. The rising demand for cut-flowers in the metros ensure their demand in the domestic market. Moreover, the international cut-flower market is one that is growing fast and is shifting towards more exotic high value items like Orchids, Anthuriums, Phelodendroms, Carnation, Chrysanthemums and Tulips. The prospects of an export oriented business especially to the middle-east are excellent if flower production and marketing can be organised on industrial lines.

The Ministry of Agriculture, Government of India has recently identified Thiruvananthapuram as a potential zone for floriculture development. Since Thiruvananthapuram has an international airport, the perishables can be easily transported and delivered at any international destination within 24 hours. The scientists of TBGRI have explored the Western Ghats region of Kerala and collected nearly 300 wild ornamental plants for further evaluation and selection. The present facilities and expertise need to be augmented to realise industrial level applications and consequently to generate non-traditional employment opportunities for the rural poor and for the farming community.

With the availability of skilled labour and good communication facilities, Kerala can also develop international markets for hybrid vegetable and flower seeds and micro propagated plants.

7.4.17 National Institute for Organic Agriculture

Kerala is a national leader in the production and marketing of organic spices, tea, pineapples, banana, medicinal plants and other farm commodities. It is also proposed to undertake the production of organic rubber specially for the manufacture of condoms for use in the fight against HIV / AIDS.

Kerala is an ideal location for the proposed National Institute for Organic Agriculture and the associated certification agency. 2000 hectares of land for this Institute is available with the Kerala Agriculture University at Thiruvazankunnu, Palakkad district. The institute will help to strengthen the organic farming movement in Kerala and help farmers to produce health foods and value-added farm products for internal and international consumption.

7.4.18 Protection of Bio-diversity through the Appropriation of TRIPs

In bio-resources and the knowledge of their use value, Kerala is relatively rich. Now transnational agribusinesses like Cargil and Monsanto are taking keen interest in the State's agriculture and natural resources for patenting them. The state should appropriate such opportunities for the benefits of the farmers. The patenting of 'Arogya Pacha' in favour of the Kani tribe of Kerala is a positive step in this direction.

The Central Legislation on GI (The Geographical Indications of Goods – Registration and Protection Act, 1999) offers wide scope for establishing the unique qualities for some of our traditional products.

- **Malabar Pepper:** The pepper from Kerala was known several centuries ago as Malabar pepper and was greatly valued for its medicinal and culinary properties. It can therefore have the GI Malabar.
- **Ayurveda:** The traditional herbal drugs from Kerala can be given the GI. Ayurveda, since it is in Kerala that the Ayurveda heritage has been preserved in its pristine purity.

7.4.19 Restoration and Rationalisation of Subsidies

When the 'farm-firms' of the first world are protected by various types of subsidies, there is no reason why Indian/Kerala farmers be denied of it. In a state like Kerala where agriculture is exposed to the vagaries of the world market forces, the sector requires rational subsidization assistance and other government support for stable development.

7.5. Animal Husbandry

According to livestock census reports of Kerala there has been significant reduction in livestock population particularly in cattle and buffalo from a total of 46.41 lakhs in 1966 to 35.87 lakhs in 2007. Out of the 55 lakhs households of the state, about 32 lakhs depend on livestock farming for supplementary income. The total milk output of the state had increased from 0.22 million tonnes in 1964 to 28.11 million tonnes by 2010-11 (Economic Review 2011). However while the index of milk production all India rose from a base of 100.00 in 1984-85 to 287.15 in 2010-2011 in Kerala it rose only to 216.54 (Animal husbandry survey and economic survey 2011). The per capita availability of milk in Kerala in 2009-10 was only 205 gm/ day as against the national average of 276 gm/day.

The fall of area under rice has led to drastic reduction in the availability of straw for feeding cattle. It is estimated that the state produces only 60 percent of the roughage requirement for cattle in Kerala. Special focus has been given to fodder and feed production in Kerala to overcome the situation during Twelfth Plan period. Popularization of high yielding fodder varieties like CO₃ and large scale intercropping in coconut holdings should be taken up with the support of local governments. The preparation of block level fodder plans have to be initiated for augmenting supply. Kerala farmers have adjusted to the fodder scarcity by restricting the number of cattle and concentrating on high yielding cross breeds. This is evident from the steady increase in the proportion of crossbred animals in Kerala during the last three decades.

The agro ecological zone and agro ecological unit based approach for the development of livestock sector should also be followed for augmenting income of farmers. Projects to raise milk and egg production by 50 percent should be launched through a convergence approach with the schemes of local government.

The primary focus in livestock development should be on enhancing seed production, particularly in respect of pigs, goats, rabbits and ducks, where there is a marked shortage in availability. Fodder production should be raised through large scale dairy co-operative based fodder development projects and by encouraging intercropping. Cattle feed production capacity should be enhanced both by setting up new plants and raising capacity of existing ones. The dairy co-operatives should be strengthened through expanded infrastructure including better cold chains.

Other thrust areas would be :

- The livestock sector must be made attractive to youth for full time self-employment and livelihood security of their families. All the modern management techniques should be introduced to transform traditional livestock farmers to modern livestock entrepreneurs.
- A Panchayath level program to identify and utilize available rural resources for development of livestock sector must be implemented.
- Effective farm waste management system through biogas technology, vermicomposting and organic fertilizer manufacturing must be developed.

7.6 Dairying

For the period 2006–07 to end of 2009–10 a recovery has been achieved in milk production of Kerala with a compound growth rate of 6.18 percent, the highest rate in recent years compared to 3.69 at all India level. The procurement of milk by Kerala Co-operative Milk Marketing Federation (KCMMF) stood at 2718 lakh litres against the sale of 3640 lakh litres during 2009 showing a wide gap between procurement and supply.

Recommendations for restructuring and positioning of Dairy Industry in Kerala are:

- Strengthen the milk production and long standing productivity improvement of crossbred animals.
- The milk shed areas in the state like Idukki, Wayanad, Palakkad, Kannur and others may be declared as “Special milk production zones” (SMPZ) and animal husbandry and milk processing activities strengthened in these zones.
- Include all the female calves in the state under the calf subsidy scheme.
- Make special production zones, where it is possible to rear animals with high exotic inheritance.
- The breeding policy should be modified indicating the choice of breeds, indigenous/crossbred with high milk production potential, which are more suited for individual farmers.
- Legislation for rigorous quality control on the feed manufactured.
- Establish a livestock products testing laboratory.
- Modernization of all milk processing plants with the latest technologies. A model Ultra High Temperature (UHT) plant should be set up to process milk with extended shelf life.

- Target self-sufficiency in milk production by 2020 with 10 percent annual growth rate with provision of livelihood security to the poor and landless.
- Rigourously oversee progress of implementation

7.7 Poultry Development

The trend in poultry population in Kerala over the census periods from 1982 to 2007 was negative with a fall from 151.81 lakhs in 1982 to 127.14 lakhs in 2007. Contrary to this earlier adverse trend however, the state achieved a compound growth rate of 10.85 percent in egg production during the 2006–2007 to 2009-2010 period (Economic Review 2011). But, Kerala compares unfavourably in egg production in all India – the Kerala index with 100 in base year 1984-85 reaching only 128.48 in 2010-11 as against the all India rise to 441.87 in the same period.

The scope for integrated rural poultry production is high in Kerala rural homesteads as a large majority of them fall are of marginal or landless farmers having less than 0.02 hectares of land. In the year 1996, 27.7 lakhs of house holdings were rearing poultry with an average of 9.7 birds per holding. Initiatives should include:

- New varieties of improved poultry have to be introduced for organic and backyard rearing.
- The state should establish a major institute – the Kerala Institute of Poultry Technology and Development for furthering research in poultry science and technology.

7.8 Forests – Conservation and Development

Kerala has a total forest area assessed at 11309 sk.kms amounting to 29 percent of the total geographic area of the state. The forests of Kerala are extremely rich in flora and fauna and they form part of the Biodiversity Hotspot declared by International Union for Conservation of Nature (IUCN). They are well renowned for their rare and endangered flora and fauna as well as for endemism. The rich biodiversity is the repository of invaluable genetic resources.

7.8.1 Forest Management Programmes

The strategies adopted for the development of forests envisage maintenance of environmental stability are preservation and reduction of degraded forests, conservation of bio-diversity, increasing productivity of forests, increasing the forest cover substantially through massive afforestation and developing participatory forest management. A

comprehensive State Forest Policy to address the specific problems and issues related to the conservation of forest and biodiversity of the state as well as the livelihood needs of the forest dependent communities had been formulated during 2007. The policy encompassed technology improvement, biodiversity conservation and development of partnership with the forest dependent communities and fringe dwellers. Special thrust was also given for protecting the species of plants and animals.

The latest Kerala Forest Policy, 2009 emphasizes the mitigation measures to be adopted to address global warming, climate change and depletion of biodiversity. It also elaborates the strategies and action plans for conservation of forest resources of the state with active participation of the people, especially the tribals and other forest dependent communities.

- In view of the importance of conservation of biodiversity, soil and water in the Western Ghats, 28.6 percent of forest lands in Kerala have been brought under a protected area network of 22 sanctuaries and national parks. This works out to 8.26 percent of the geographic area of the state, which is almost double the national figure.
- The management practices in the forest ecosystems have to be devised for long term viability.
- Large extents of forest lands had been leased out for cultivation of cash crops and other agricultural crops by the erstwhile Rajas of Cochin and Travancore on very liberal terms which allowed cutting and removal of timber on payment of a negligible lease rent. A total of 8538 hectares of forest lands are under such leases or grants. As per the provisions in the Forest (Conservation) Act, 1980 renewal of lease is a fresh lease and therefore will require clearance from Government of India. When the lease period expires, such lands should be resumed and gradually reverted to forests and maintained by the Forest Department.
- Eco Restoration Works

There are several natural forest areas and forest plantations, which have become degraded and under-stocked due to forest fires, defective management practices, excessive extraction during selection felling in the past etc. Such areas may be taken up for eco restoration works, under schemes such as assisted natural regeneration (ANR) and restoration of degraded forests (RDF). Seedlings of medicinally valuable trees can be planted to enrich regeneration in degraded forest areas.

Natural Forests

Presently the state has more than 8 percent of the geographical area and more than 28 percent of the forest area under sanctuaries and national parks. The India Eco-development Project implemented in Periyar Tiger Reserve has got wide recognition nationally. Towards the end of the last decade, the state has adopted the strategy that livelihood improvement of the forest dependent communities including the tribal population provides the best opportunity for ensuring biodiversity conservation.

National Afforestation Programme (NAP)

NAP is a 100 percent Centrally Sponsored Scheme which started in the state from 2002-03. The activities under the scheme include planting of different species in the degraded forests. Bamboos and medicinal plants are the thrust area under the scheme.

Afforestation Outside Forest Areas

The objective of the programme is to increase tree cover in non-forest areas to achieve the ideal target of 33.33 percent of forest cover. The department has embarked on a large afforestation programme outside forest areas since 2007 with novel ideas. The programmes launched are 'Entemaram', 'Nammude maram', 'Vazhiyora theeram', 'Haritha theeram' and 'Haritha Keralam'. All these programmes have to be implemented with maximum vigour to conserve and properly manage the forest resources and potential of the state.

The tribals and other traditional forest dwellers are part and parcel of the forest ecosystem. As per the 2001 census, there are 364189 persons belonging to 35 tribal communities, out of which 73492 are living in the forests. Government of India have enacted The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act in 2005 with a view to improving the socio-economic status of the tribals and the other poor people who were living in the forest areas for generations and to enlisting their co-operation in conservation of the forests and wildlife. Kerala has implemented this law fairly successfully. The forests in the state are repositories of non-timber forest produce, formerly known as minor forest produce (MFP), which include the invaluable medicinal plants. Scientific development and judicious as well as sustainable use of these resources are absolutely essential for providing means of livelihood to the forest dwelling tribals and for the sustenance of ayurvedic industries. More scientific

inputs and long term planning are required in this area, in tune with the provisions of the Forest Rights Act.

The major problems facing the management of natural forests are the eviction of the post 1-1-1977 encroachments, degradation and fragmentation. They may lead to various social and environmental issues which have to be managed carefully with the co-operation of all the stakeholders. Forest Department has changed the strategy of conservation of these invaluable natural resources from policing with the help of laws and rules to joint forest management with the active participation of the tribals and other rural communities living in and around forests. The policy makers, administrators, forest protection force, the tribals and other rural communities as well as the Local Self Government Institutions should be properly trained to manage this change of strategy effectively and successfully.

Landscape level planning, judicious land use, management on watershed basis, effective eco-restoration works in degraded forests, optimization of productivity of forest plantations by more scientific management, sustainable management of non-timber forest produce, effective soil and water conservation works, special projects for conservation of mangroves, wetlands and sacred groves, use of modern techniques such as remote sensing and information technology, intensive training to forest personnel and extensive awareness programmes are the effective steps required to improve the conservation of the forest and wildlife resources of the state.

7.8.2 Agro Forestry

In the light of environmental degradation and the need for climate change mitigation, a paradigm shift in the state's land management is imperative. Agroforestry, which aims at optimizing productivity and above all, sustainability, has the potential to provide many resources for which the people have traditionally depended on forests (fuel, fodder, green manure and timber). Agroforests if established on degraded lands will not only reduce the anthropogenic pressure on existing forest resources but also will enhance the sink potential of CO₂.

Excessive clearing of forests and the loss of structural integrity, may lead to a severe erosion of biological diversity. Western Ghats, one of the "biodiversity hotspots" in the world (Myers, 1988) is particularly vulnerable in this respect. There are about 1272 known species of endemic angiosperms (out of the 3800 species) occurring in the Kerala

part of the Western Ghats Furthermore, of the 300 rare, endangered or threatened plant species in the entire Western Ghats, 159 occur in Kerala.ⁱⁱⁱ

One of the challenges of biodiversity conservation in Kerala is to locate areas of high concentration of endemic species so that critical endemic plant sites can get priority for conservation. In the light of continuing environmental degradation, there is growing consensus that integrated tree-crop production systems such as agroforestry is the way to manage tropical agro ecosystems in general and the fragile ecosystems in particular (Nair, 1993). This approach to land management considers not only the productivity of commercial trees and field crops, but also focuses on the underlying web of complex interactions among the organisms that are critical to ecosystem structure and functioning. Despite the above clear advantages, agroforestry as a land management strategy has not received adequate attention in Kerala from the decision makers. This should be rectified.

7.9 Irrigation

Certain features of the investment in irrigation in the state are:

- (a) Bulk of the investment has been for constructing medium and large-scale irrigation projects.
- (b) There have been long time-over runs in the completion of the projects leading to significant escalation of costs.
- (c) Even for the projects completed, the area irrigated is seen to be far less than the targeted command area.

The model of large-scale irrigation projects for paddy needs to be questioned in the light of the agro climatic specificities of Kerala. Along with introduction of new technologies of rice production and implementing new structures and efficiency in water management in the state there is need to refurbish the existing irrigation system. Imperative are the consolidation of holdings and re-drawing field boundaries in accordance with the lay out of the land to facilitate the construction of channels and drains for the best use of water. Actual implementation of this policy would, of course, require a strong political will. It is unfortunate that the institutional reforms which are essential for realising the best out of the irrigation projects have been neglected in the state.

In many blocks of rice fields, in the absence of field boothies, water is let into the natural drainage channels with all its attendant evils. Field to field irrigation is finalised in the

ⁱⁱⁱ For more details see the official web portal of Kerala Government's Forest Department, <http://www.keralaforest.org>.

absence of field irrigation channels. Careful planning has not been adopted for regulating the waters of the completed irrigation projects. The lethargy of the irrigation bureaucracy and the lack of strong farmer's organizations seem to be responsible for this sorry state of affairs. The high cost of irrigation projects and the low responses to irrigation is attributed to the topographical features peculiar to Kerala and to non-adoption of scientific water management practices (Narayana and Narayanan Nair, 1983).

In sum, for deriving optimum benefits from the projects completed and under construction, a comprehensive water storage regulation plan has to be evolved. Further, for the best use of the financial resources it may be best to think in terms of different methods of irrigation. The management of irrigation projects has to be made more efficient and simultaneously the management of agricultural land has to be significantly improved if irrigation projects are to substantially increase agricultural productivity in the state.

A master plan should be prepared for the development of local water resources. It was proposed to increase gross area under irrigation by 30 percent from the base level by the end of the 12th plan period. The technologies for water management and enhancing water use efficiency, including micro irrigation, should be supported with appropriate institutional and support mechanisms. Long pending infrastructure projects should be rationalised and implemented with appropriate strategy for optimum use of investment.

7.10 Industry

Industrialisation – Full Utilisation of Resources & Possibilities

The relentless passion with which other states are designing successful strategies for industrialisation in the post-liberalisation era was woefully absent in Kerala. Kerala was lost in cheap populism while the real issues tended to get submerged.

The immediate task before the government is to build an environment that is conducive for rapid industrial growth by:

- (a) improving the infrastructure facilities (particularly the availability of quality power and land);
- (b) ensuring stability in industrial policy;
- (c) improving industrial relations and law and order situation and
- (d) avoiding unwarranted delays in the clearance of investment proposals.

It is necessary to identify industries that are suitable for Kerala in order to direct state intervention in a concerted manner to promote them. Kerala offers scope for the growth of small and medium enterprises in food processing, textiles and garments, ayurvedic pharmaceuticals and electrical goods. In a survey of 100 popular branded goods manufactured in Kerala, (Dhanam, 1999), it was found that most of them are small and medium enterprises run by young, educated entrepreneurs who have introduced modern technology and marketing strategies.

The principles underlying state policy in the selection of industries for promotion should be based on their low land use, low or no pollution, high knowledge or skill intensity and generation of regular employment. In addition, the past policy of spreading the location of industries all around the state should be done away with in favour of creating a critical mass in suitable locations (a cluster approach). Industry-specific policies need to be formulated for a select number of industries.

Kerala's position relative to other states in net value added by manufacturing industries has declined: it ranked 13 in 1991-92 and 14 in 1997-98. In terms of sectoral contribution to total state domestic product, the contribution of industry was a low 17.43 percent for the period 1981-82 to 1990-91, and declined to 11.68 percent for the period 1991-92 to 1996-97 (Subramanyan and Azeez, 2000). Available empirical evidence suggests that the ongoing reforms have not stimulated growth in Kerala's manufacturing industry in any significant way. Besides, with the removal of the protection afforded in the pre-liberalisation phase, the products of many industries in Kerala (e.g. chemical and rubber-based industries) are unable to meet the stiff competition presented by imports at reduced tariffs. This is compounded by the failure to invest in plant modernisation, technology upgradation and product diversification. The slow growth rates of manufacturing industries in the post-reform period may also have stemmed from the failure to set up new technology based industries.

The traditional industries are Handloom, Cashew, Coir, Beedi and Handicrafts where the majority of the persons employed are from weaker sections of the community. Other important industries are rubber, tea, ceramics, electric and electronic appliances, telephone cables, transformers, bricks and tiles, drugs and chemicals, general engineering, plywood splints and veneers, cigar, soaps & oils, fertilizers and khadi and village industry products. There are a number of manufacturing units for production of precision instruments, machine tools, petroleum products, paints, pulp, paper, newsprint,

glass and non-ferrous metals. Principal export products are cashew nut, tea, coffee, spices, lemon grass oil, seafood, rose wood and coir.

There is a crying need of a campaign for consensus building for inclusive all round industrial development of the state. This should be a joint effort of government, political parties, corporates, chambers of commerce, trade unions, NGOs and citizen groups. At the same time the industrial promotion mechanism should be streamlined so that investors can feel the change and adverse impressions get dispelled.

The industrial policy should thus be built on creating a congenial investment climate for the state, massive investment resulting therefrom in all viable investment areas, conditioned by the reality of high wages, conservation of the environment and full utilisation of the natural resources and manpower. The traditional industries, which employ majority of the labour force have to be protected and promoted to the maximum possible extent with modernisation, diversification, aggressive marketing and subsidisation by government.

An industrialisation strategy focusing on private sector investment in areas of comparative advantage needs to be operationalised. There should be an effort to promote the state as a “Technology Centre for Industry” by building up a good base of highly qualified human resources in specialised fields like IT, Bio-technology, high value agriculture etc.

To a large extent the process of movement of labour away from economically non-viable sectors is happening as the economic realities cannot be circumvented forever by state intervention one can witness the scarcity of agricultural labour, coconut tree climbers and the movement of previous traditional industry workers and their children to knowledge and service industries. Government should understand and accept this process and facilitate this transition to modernisation of Kerala Industry with the least pain and unemployment for the existing work force.

The shift from non viable industry to viable and sustainable industry should be buttressed by the policies and proactive measures of government.

There are many companies located in Kerala by expatriate entrepreneurs who continue to work overseas but are focusing on Kerala as a base. This section has to be strengthened.

A major issue that has received the attention of industrial policy planners has been the non-availability of affordable land for industrial use, due to high density of population and high opportunity cost of land. Kerala Industrial Infrastructure Development Corporation (KINFRA) was formed in the early 1990s to develop industrial infrastructure, especially industrial parks, townships and zones so that units would be integrated in terms of inter-firm, inter-scale and inter-product dependence which would bring economies of scale and scope.

The long term policy for the government should be to ease restrictions which prevent companies and investors from buying adequate land on their own. Land acquisition should be limited to public good (including infrastructure) projects carried out by public or private agencies (or through PPP) where connected stretch of land is necessary, and when the transaction costs of negotiated purchase is very high. Another point on which industrial policy needs to be careful is with regard to the concessions offered. It is much better to offer across the board concessions, and avoid specific design of concessions which not only causes corruption and rent seeking, but can also give uncertain signals to potential investors.

The law and order machinery is not adequately responding to conflicts between industry and local people. The state has to minimize the negative impact of forced close downs like '*hartals*'. Though the labour legislations have lost much of their teeth, a plethora of inspections can scare off investors, and they may reduce future investments, given the ample opportunities for investments in nearby states with many more concessions and fewer hassles.

There are institutional rigidities that prevent the optimal use of resources of Kerala. Examples include the restriction on leasing land, institutional problems that discourage the use of water and mineral resources, unwanted restrictions on the use of land in plantations for other commercial uses and so on. Urgent reforms are required to effectively tackle these issues and efficiently utilize the resources of the state.

Private industrial parks with SEZ status should be allowed. Give the comparative disadvantages that Kerala has in terms of manufacturing, parks established in the state may have to use a greater part of their space for residential, commercial, entertainment uses and other service oriented activities. State government should take a facilitating role towards this investment. In the manufacturing sector there is hardly any sign of dynamism in organized manufacturing and a large number of industrial investment

proposals remain not acted upon. What is more, while FDI inflows into the country has increased manifold to reach nearly 3 percent of Gross Domestic Capital Formation (GDCF), the share of Kerala has been only about 0.34 percent – only one tenth of its population share.

7.11 Mineral Development

7.11.1 Mineral Reserves of Kerala and Strategy for their Utilisation

Kerala possesses one of the world class deposits of mineral sands in the coastal tracts between Neendakara and Kayamkulam. National level R&D efforts were initiated for the utilisation of the country's beach sands in view of their strategic importance. These rare earths are used in special steels and alloys, electronic devices and catalysts. Titanium metal is used as alloy in aerospace industry and specialised heat exchanger tubes and so on. Whereas the national approach was for meeting strategic and advanced uses including export, the state efforts were tuned for products of commercial use such as paints.

The clays of Kerala are as good as those of Cornwall in UK and Georgia of USA. Kerala contributes only 14percent tonnage in production at national level but 65percent in terms of value. With proper beneficiation and size separation, premium quality paper coating clays can be made in Kerala at international standards.

Clay can be used for speciality fillers for plastics, extenders for paints, catalysts for a number of chemical reactions and clay based zeolites for detergent builders. The time has come for the establishment of a scientific and technology intensive Kerala Mineral Development Authority for undertaking such promotional tasks.

7.11.2 Marine Mineral Resources Development

In addition to the placer deposits presently partly exploited, Kerala can develop offshore mineral resources with sustained and imaginative programmes. It is time to enter into the area of offshore mining on a commercial scale. The ongoing studies by Centre for Economic and Social Studies (CESS) on the placer mineral sorting, transport and geochemistry and by Department of Ocean Development (DOD) on the mining aspects establish the economics of offshore placer mining.

Quartz grade sand has great demand in the construction industry. Present-day source for this is the streams and occasionally sand dunes and beaches. In view of the environmental impact of sand mining, the alternate source is offshore from the inner to outer shelf (about 50 to 120 m depth) where large sand deposits have been reported (Sengupta, *et al*,

1989). South of Neendakara, the entire shelf is sandy (Prakash, *et al*, 1991). Between Alappuzha and Kollam, a calcareous gravel zone is found to occur within the sandy horizon extending for more than 80km. This zone occurs at the shelf break at 120m (Sengupta, *et al*, 1989). It has been estimated that offshore aggregate mining accounts for 60 percent of the value of the world mineral production from marine sediments (Wang and Mekelvey, 1976).

Cochin being the major Indian port closest these potential mining sites in the Indian Ocean and Kerala being one of the pioneers in the marine mineral processing (rare earths) industry. The state can utilise of this opportunity to mine and process these minerals and supply to the rest of the country and also develop exports.

7.11.3 River Sand

- Immediate steps are to be taken for finding suitable, low cost and easily available alternative to river sand.
- Alternative building technologies with low sand / no sand content should be developed.
- Part of the revenue collected from sand mining should be used for protecting the river environment.
- Controlled bar skimming can be allowed in Kerala rivers. The pit excavation method followed in Kerala rivers must be banned.
- The Kerala River Bank Protection and Sand Mining regulation Act, (2001) should be strictly enforced.
- R & D activities should be strengthened for updating resource database, technologies & management.

7.11.4 Titanium Initiative

The grand prospect and urgent need for a Titanium initiative by India has been detailed in “Titanium - from Seas and to Space” (2007) by N. Vedachalam of the Indian Space Research Organisation. The major beneficiary of this national initiative will be Kerala in terms of industrial and economic growth and creation of employment.

India needs around 60,000 Metric Tons of pigment grade Titanium Dioxide annually, out of which 42,000 Metric Tons is supplied by Indian industries and the balance is imported. It is noted with distress that India continues to export illuminite and rutile ore since 1922

to Titanium starved countries and they use 96 percent of it for white paint, plastics etc catering to the consumption of developed countries. It is clear as crystal that the export of this valuable raw material must be curbed and the resources utilised for production of value added Titanium Dioxide, Titanium sponge, Titanium metal and alloys. It is a paradox that India imports the entire requirement of Titanium sponge for aerospace and non aerospace end use.

The Kerala Minerals & Metals Ltd., Kollam has necessary know-how for processing of Ilmenite ore to titanium tetra chloride. Defence Metallurgical Research Laboratory (DMRL), Hyderabad and Indian Space Research Organisation have the technologies for production of titanium sponge through the KROLL process.

The finished Titanium sponge cost per kilogram will only be 10 to 20 US\$, half of the international market price.

7.11.5 Action Points in Titanium Road Map

- A nationally agreed policy for Titanium and related products has to be evolved through a National Titanium Mission. Central and state governments should utilise both public and the private sector for optimum conversion of ilmenite ore to Titanium value added products within socio-ecological constraints.
- The National Titanium Mission must set a target to enhance the throughput from the current 1.0percent to 10percent of global production of 4.5 million metric tons of pigment grade TiO₂ and 5000 metric tons of Titanium sponge per annum.
- From import of Titanium sponge, we must target towards export of finished Titanium aerospace products in near-net shape collaborating with the world leaders in Titanium metal processing for brand identity and market penetration.
- Progressively curb and then stop the export of ilmenite ore and conserve it for our own value added products and future wealth.
- Research and development on Magnesium metal extraction as the country is totally relying on import. Magnesium and chlorine can be reclaimed in the Kroll process for Titanium sponge production.

Material scientists in association with academic institutions must develop computer aided modelling and simulation of Titanium metallurgy.

7.12 Investment

7.12.1 Global Investment drive

Kerala ranks first among the Indian states in many indices of infrastructure, and of social development. But neither industry nor agriculture has been developing to its potential on this solid foundation. The flow of foreign investments, collaborations, and technology in the wake of liberalization in the country are virtually by-passing the state.

Economic reforms in India removed a number of minor and major constraints on investment and import of technology and raw materials providing a far more favourable climate for investment, given the availability of investible resources in the state. But Kerala was unlucky in not launching initiatives in the large-scale industrial sector, in the face of her image problem as an ‘investor unfriendly state’. But in the small and medium-scale industrial sector, a newly emerging class of entrepreneurs, with superior educational skills and exposure to the global markets, were able to take on the challenges posed by the economic liberalisation. Through them there is a marginal revival in the two productive sectors of the economy, though the revival in the tertiary sector was predominant.

Small and medium industries witnessed a spurt in the number of factories reported by the Annual Survey, 2008-09^{iv} of Industries increasing from 3484 to 4853, a 40 percent increase from 1990 to 2000. These units included state owned, co-operatives, partnerships and single management enterprises. Imported technologies were adapted to local conditions, as in the case of food products, and where human capital is of importance information technology (IT) has been a major activity. Diversification has been high in food processing units and development of the Middle East/Gulf market has helped this segment raise financial resources and technical know-how.

The state’s share in all-India industrial investment proposals continues to be one of the lowest.

The proactive interventions imperatively required to remedy the situation are:

- Removal of obstacles to investment
- Continuous government & industry led global campaign for inflow of investment

^{iv} For Details See, Annual Survey of Industries, 2008-09, Ministry of Statistics and Programme Implementation, Government of India, Available From:
http://mospi.nic.in/mospi_new/upload/asi/annual_survey_of_industries_2008-09__vol._i_.pdf

- Preparation of viable projects in all potential economic areas
- Use of professional / technical agencies for project formulation and assistance.
- Global and regional investor meets and effective follow up
- Putting in place all the ingredients of a successful system of investment promotion – facilitation – single window system – empowered committees.
- Land + infrastructure + power + quick sanctions + incentives through the above mechanism
- Investment promotion to spread across all departments / agencies of government – not merely industries department.
- Setting up rural business hubs – bestowing attention to micro entrepreneurship and enterprises

That Kerala today has been unable to convert the savings in the economy (available in the form of loanable funds) into productive investment is demonstrated by a persistently low credit-deposit ratio of around 40 percent for the past decade. There is however a recent improvement in the CD ratio mainly due to advances in housing, education and services.

The state level public enterprises could not attract sufficient funds due to their low efficiency. The state has to create favourable conditions for enhancing investment both in public and private sectors. There is also the need to enhance the quality and efficiency of such critical infrastructure as power, transportation and environmental sanitation. The state has three international airports, a major seaport and a number of minor ports, good road and telephone densities, education and health care facilities and an intelligent labour force. Labour problems, a major hindrance, are diminishing and are confined to a few sections of the workforce. The solution is attracting high value adding activities. That the small and medium scale industries have been performing better than the large ones is an indication of the emerging scenario (Subrahmanian and Azeez, 2000).

The emigrants' entrepreneurial leadership qualities are still out there abroad in tenured jobs or engaged in secure business activities. A determined effort is required to harness this resource and to utilise Kerala's Gulf connection for the economic resurgence of the state. Though in rhetoric, private investments are being promoted, there are still several hurdles including institutional rigidities of land and labour, infrastructural constraints, social attitudes and archaic procedures and poor systems of project administration.

Removing these hurdles cannot be delayed. A network of industry incubators in different industries has to be established with strong scientific support to enable young entrepreneurs to develop concepts into commercially viable projects.

7.12.2 Kerala-Investment Climate-Mobilisation - Total Campaign, Systems

Though the Global Investment Meet of 2003 claimed fresh investment of around Rs 6846 crores the state was not able to implement the schemes fully or sustainably. Kerala share of central investment over time has decreased from 3.06 percent in 1970 to 2.41 and 2.39 percent in 2008 and 2009. In the all India investment, Kerala is ranked as 18.

Conversion of Kerala into an investment friendly destination was the vision of the Industrial & Commercial Policies announced by the Government in 2007. The Industrial Policy, IT Policy, establishment of INKEL (Infrastructures Kerala Limited) are all intended towards the enhancement of investment in the state especially in the industrial sector creating more income and employment. But there is still unfortunately a mental block for potential investors including Keralites, NRKs, other Indians and foreign entities to invest in the state as a result of perceived labour militancy and poor and un-coordinated industrial promotional machinery. The state is still suffering from frequent *bandhs* called by political parties, and still not controlled reprehensible labour activities such as '*attimary*' and '*nookku kooli*'.

Also while the conservation of the pristine natural environment of the state should be an anchor stone of the state's policies, non-genuine fringe groups are active obstructing every single development project in the state in the name of environment. The state's divisive and disruptive politics paint virtually every government decision with the corruption brush making decision making slow and cumbersome and undermining the morale of the civil service.

To present and showcase Kerala, create awareness amongst all stakeholders and to facilitate the transformation of Kerala into a business hub and preferred investment destination, Government of Kerala has recently organised the global investment meet '*Emerging Kerala 2012*'. Twenty six identified major areas of investment such as infrastructure, tourism, medium and small industries and health services were showcased and new draft policies for labour, industry and investment as well as IT were circulated at the meet. Well publicised and widely attended, the meet is expected to bring a fresh investment of Rs. 45000 crores – according to the government. The key, of course, lies in

implementation, especially transparent and fast decision making and follow through on the assurances made to the investors by the government.

7.12.3 Effective Industrial and Investment Promotion Mechanism

Systems of industrial and investment promotion in the major investment friendly states comprise mainly of a Single Window Agency and empowered committees having power to clear projects both the District and State level. Kerala should upgrade and streamline its present system to deliver efficiently the following services.

- A centralised Documentation and Clearance Centre which helps entrepreneurs to take all clearances through one consolidated application.
- The CDCC should maintain data pertaining to the Industrial Entrepreneurs like Memorandum, Letters of Intent, Export Oriented Unit registration and COB, from the date of receiving the application until the industrial unit commences commercial production.
- Suggest suitable locations as per the industrial policies of the State and the Government of India.
- Sanction of Land/Sheds/Building for the project
- Organisation of means of Finance indicating loans from State Financial Institutions as well subsidies, equity contribution etc.
- Sanction of infrastructure facilities such as Electric Power, Water, etc.
- Site and Building Plan approval
- Land use reclassification (if applicable)
- Health clearance
- Fire service clearance.
- Monitoring of progress of implementation by each industrial unit and dealing with industry / unit specific issues.
- Allocation of controlled raw materials
- Assistance for technology upgradation and improving product quality
- R & D support.
- Function as Central Store and Purchase Organization for different Government departments/offices of state government thereby providing marketing assistance to SSI units.
- Assistance in Rehabilitation of Sick Units

- Environmental clearance from State Pollution Control Board
- Registration with Inspector of Factories under Factories Act
- Registration under Boilers Act
- Sales Tax & CST Registration
- Safety Certification from Chief Electrical Inspector
- NOC for using ground water
- Centralised approval of incentives under the State incentive schemes.
- Providing information and research-supporting infrastructure.

The State level Investment Promotion Board (SIPB) should function under the Chairmanship of the Chief Minister with key Ministers and top functionaries of state bodies. It should clear, monitor and expedite all major projects exceeding investment at a stipulated level.

Project Approvals Authority (PAA) should be under the Chairmanship of Chief Secretary to government to clear, monitor and hasten projects with investment less than the stipulated level.

Both the committees should meet once a month to accord clearances and to closely monitor and ensure time bound implementation.

7.12.4 Rehabilitation of Return Migrants through enterprises creation

At a State level convention held on 18 December 2001 at Thiruvananthapuram, the government announced a series of measures for the welfare and rehabilitation of return emigrants. They included:

- Formation of a databank of emigrants and return emigrants.
- Establishment of a welfare corporation for NRKs.
- Assistance and counselling to return emigrants to launch self-employment projects.
- Exemption of import duty to bring tools and equipment worth up to Rs. 10 lakhs for setting up enterprises.
- Educational assistance to children of NRKs and return emigrants.

The Non-Residents Keralites Welfare Agency was renamed as ROOTS NRK Development Initiative in 2001. A main objective of ROOTS is industrial development of the state by channelizing the NRKs' resources and expertise and helping them to set up

projects, ventures and enterprises in Kerala. A specific objective is the welfare, rehabilitation and development of return emigrants through investment programmes. These efforts have to be strengthened and accelerated for making Kerala a paradise for investment and the foremost among Indian States as an investment destination.

The 33 million strong population of Kerala with relatively high consumer spending is a potentially large market for all types of industrial goods and services. Average household per-capita consumption expenditure in Kerala is the highest among all Indian States. The spatial configuration of Kerala transcends rural-urban boundaries, and, therefore, economic and industrial activities using new technologies can be pursued extensively in rural areas of the state. Wage rates of skilled workers including engineers, doctors and nurses are generally lower in Kerala than the corresponding wage rates in major metropolitan cities in India. Kerala has a large educated workforce, and the state is an excellent location for skill-based and knowledge-intensive industries, particularly IT, health services and biotechnology.

7.12.5 Public-Private Participation-comprehensive programme

Kerala should overcome the obsolete ideological and other prejudices against the private sector and recognise that major investments in the State and majority of jobs have to come through the private enterprises. The State should launch an all out programme for public-private partnership and non-governmental participation in investment and enterprise creation. The benefits of synergy between government and private sector will give a great boost to the state in its economic growth. Kerala has already witnessed success stories such as Techno Park and the Cochin International Airport both in the government and the public-private domain.

The state requires massive investments for infrastructure. Public investments alone are grossly inadequate and public-private partnership (PPP) can make infrastructural investment more effective and efficient through better management and technologies. PPP in infrastructure can be fruitful only if long standing cost and benefit sharing agreements (or contracts) could be arrived at between the state and private investors, and the state provides clear signals that such contracts will not be subjected to political tussle and administrative corruption. At present, there are serious limitations in the administrative and political space of Kerala that discourages the shaping of mutually beneficial contracts and their enforcement. These have to be addressed.

More private investments are also needed in the provision of services such as water and electricity and waste management. It may be examined whether as part of the PPP effort inefficiently used non-forest land owned by the government can be made available to private investors at competitive rates. There are many other possibilities. KSRTC owns and runs several bus stations in the hearts of cities. They are badly maintained with poor passenger facilities. They can be converted into modern city / transport centres with private partnership in the pattern of our new private Metro Rail stations and Airports. There may be significant demand for multi-storied parking lots, entertainment complexes including multiplexes, and shopping malls in the major and small cities and towns of Kerala. Some parts of the government land can also be developed through PPP models for housing in urban and municipal areas as part of the schemes to provide 'houses for all' in Kerala. There are also small pieces of land - like where a single story government office is located under the government which can be better utilised. Sizable properties lying unused by public sector units that are unviable and loss making can also be used for such development. These steps may not require any investments from the government and the local bodies, but can become sustainable sources of income for them.

7.12.5.1 A Massive Campaign Needed for PPP

A workable model for PPP can be developed in which customers get the advantage of government sponsorship and private sector led modernisation and efficiency. Government can thereby harness additional revenues which will help stabilise the financial position of semi-sick enterprises like KSRTC or KSEB.

Every dept/ PSU should therefore be directed to formulate such schemes for full utilisation of idle resources for creation of new wealth and employment. All project procedures should be transparent – a policy and master plan with clear guidelines should be promulgated for PPP schemes. The programme should be overseen by a cabinet sub committee assisted by a senior officials panel. These PPP schemes will be an avenue for investment by local and NRI groups as well as the national private sector.

The concept should be fully implemented wherever advantageous in all infrastructure schemes – roads, waterways, city development schemes, markets, public facilities where usage charges can be levied, civic facilities like slaughter houses, electric crematoria, sports stadia, waste management and disposal, tourism infrastructure, selected bridges and any other area where government have no ability to implement projects for many years due to fund constraints. Examples are:

- Projects for revival, conservation, upgradation of local water resources and traditional systems of water management.
- Rain water harvesting through convergence approach including the support of LSGs and NGOs.
- Infrastructure master plan in all major tourism areas.
- Waste management schemes and zero waste campaign
- Feeder canal improvement projects

7.12.5.2 Sizeable Projects for PPP Model

- Ship repair and ship building in Kochi
- Desalination plants in selected coastal Panchayats to address drinking water problems.
- Upgradation of minor/intermediate ports to high quality standards
- Upgradation of Thiruvananthapuram and Kozhikkode Airports
- Establishment of Kannur Airport
- Construction of the Kochi Metro Rail System
- Completion of Dream City, Smart City, and Techno City projects
- Establishment of a minimum of five Special Economic Zones
- Construction of the State Inland Waterway Network

7.12.5.3 The PPP programme for local self Governments

The PPP should be universalised to include grassroots projects under the LSG. The thousand LSG administration units should be authorised and mandated to fully utilise all possible opportunities including unutilised or sub optimally utilised land, infrastructure and other resources for development of public services through the PPP. This will open up hundreds of opportunities for investment by NRKs, and local entrepreneurs for developing secure businesses simultaneously benefiting their local areas and communities. The leadership and patronage of government will help the potential entrepreneurs overcome the psychological inhibition and resistance to investing in the State. If each LSG can identify say 10 micro, small and medium projects for PPP in their jurisdiction this program can generate ten thousand productive PPP enterprises in Kerala – and make a quantum contribution to investment in public services and employment.

7.13 Public Sector undertakings – Revival, Rationalisation

In terms of employment, public sector enterprises now dominate Kerala's industry, providing 40 percent of the total employment generated. The state has for several decades been investing in public sector enterprises, despite limited fiscal resources.

The State Planning Board in 1991 highlighted the need to make a realistic appraisal of public sector units and to take firm decisions regarding their future. To quote — ‘the notion that public sector units once established should be maintained irrespective of social cost is counterproductive and has no economic rationale. Whenever the units are found to be unviable or ill conceived there may be no option but to close them down or merge them with other public or private sector units after a due process of techno-evaluation of alternatives. Existing public sector units, operating in commercial segments must become fully self-sufficient. They must expand or diversify by using their own internal resources, or by borrowing from the market. New public sector units in the State will be established ordinarily only in critical areas like infrastructure development or in strategic industries, otherwise the emphasis will be on the joint or private sector.

Even today the government has not evolved an effective mechanism for monitoring and evolving strategies for development, rehabilitation or liquidation of public sector enterprises. A pragmatic policy of winding up absolutely nonviable enterprises which bleed the exchequer, reviving the revivable loss making PSUs, and starting new PSUs and expanding existing PSUs in strategic areas like mineral development has to be vigorously implemented.

The accumulated loss of 31 State PSUs stood at 67 percent of the gross investment in all such units in the State as on 31 March 1990.

PSUs confront with excess, less productive and high-cost manpower lacking in professionalism. This adds fuel to the operational inefficiency and cost-disadvantage of state PSUs.

The obvious strategies for good PSU performance are:

- Professionalizing Management
- One time settlement (OTS)
- Monitoring of Performance

- Annual Budgeting
- Strengthening of Auditing
- Harnessing synergy - government initiated special steps to harness the synergy of PSUs and organize their operations on terms of mutual benefits.
- Budgetary support
- Recognizing performance.
- Business collaboration with the central PSUs/Government
- Merger and amalgamation – merger of companies with similar lines of production will harness synergy, reduce overhead expenses and yield dividends in technology, manpower, marketing and finance.
- Re – opening of closed units and regaining of assets

It is however gratifying that there has been a marginal improvement in the performance of SLPEs in recent years. The annual loss of Rs. 69.4 crores in 2005-06 for 45 undertakings was transformed into profit Rs. 239.75 crores in 2009-10 (Bureau of Public Enterprises, Government of Kerala 2009). Four SLPEs have also entered into strategic tie ups with successful central PSUs. The efforts of government for successful management and functioning of the state PSUs should be sustained, strengthened and accelerated.

7.14 Land Acquisition speeding up – LA Rehabilitation Corporation

Making available the primary requirement of land for development projects has become a great obstacle in project implementation in the state. The process is arduous and cumbersome and almost every project is quagmired in controversy and unconscionable delays. One fundamental reason for this is of course the high population density of the state and scarcity of govt or public land readily available for development compared to other states. This issue has to be effectively and pragmatically tackled if development is at all to be dynamic and scarce development outlays are to be effectively utilised to achieve a higher growth rate for the state. The action plan should include:

- a) A comprehensive legislation for strengthening and streamlining land acquisition for public purpose to ensure speedy acquisition.
- b) Better compensation closer to the market prices so that those affected will accept the compensation and vacate rather than litigate.

- c) A mechanism for transparent and corruption free settlement of LA cases such as empowered committees at different levels of projects.
- d) Provision for effective dialogue between the displaced families and the administration.
- e) Notified acceptable pricing of land all over the State.
- f) The administration for resettlement and rehabilitation in each district should be headed by the District Collector with adequate supporting personnel under a resettlement section.
- g) Advance planned action to acquire private land for planned development and creating a public land bank under government auspices. Adequate land for resettling the families should be acquired in advance. Waste lands and any other suitable land available with government should also be utilised for rehabilitation.
- h) Establishment of 'The Kerala Project Affected Families Settlement Corporation'. The corporation will acquire alternate land in planned project areas and, prepare house sites and build different categories of apartments/commercial space which can be readily allotted to evictees who can choose from different options available.
- i) The cost of rehabilitation and resettlement should be an integral part of the cost of the Project for which the land is being acquired and the entire expenditure borne by the requiring body. The project authorities will allot the rehabilitation funds in advance to the Corporation before the land acquisition for the project is initiated. The Corporation can also mobilise resources from lending institutions on a commercially viable basis for their operations public-private joint management of the Corporation can also be contemplated.
- j) In the case of acquisition of land under emergency clause each project affected family (paf) should be provided with transit accommodation pending resettlement and rehabilitation.
- k) The pafs of scheduled tribes and weaker sections should be specially protected.
- l) Tribal pafs should be re-settled close to their natural habitat so that they can retain their ethnic, linguistic and cultural identity.

The main focus should be on evolving innovative ways of rehabilitation, prompt compensation and timely implementation

7.15 Environment – Balance with Development

Kerala is facing a constant struggle between lobbies standing for environment and development. ‘Development schemes are badly delayed or discarded as a result while simultaneously environmental degradation is going on unabated’ (Rajendran, 2002). It is essential to develop a clear understanding of the inter relationship between environment and society for the formulation and implementation of any development strategy. Kerala’s unique traditions attach great importance to the preservation of environment. Its art, culture and architecture extolled the positive role that nature plays in furthering the welfare of the individual and society. Families having large areas of land, maintained lush mini forests called *Kaavu* (sacred groves) which were abodes for numerous endemic species of plants and animals and helped recharge the water sources of the locality. While there were thousands of such *kaavu* at the turn of the 20 century, at the start of the new millennium their number dwindled to just 175.

The environment movement in the state has many noted successes. The eventual close down of the Grasim Industries which polluted the Chaliyar River and the fight against the Hindustan Cococola’s plant at Plachimada in Palakkad District are indicative of growing awareness of the people on environment (Kothari, 1996). Mainstream concepts of sustainable development suggest a potentially positive relationship between socioeconomic development and environmental sustainability. Indeed, the discourse of the 1980s and 1990s has been about how development and environment can be reconciled and how sustainable development can be achieved (Lele, 1991). This stands in contrast to environmentalists of the 1960s and 1970s who drew attention to contradictions between development and environmental protection, and to “deep ecology” that fundamentally rejects the compatibility of the modernistic project of development with environmental preservation (Sessions, 1995).

The consensus emerging from the United Nations Conference on Environment and Development in Rio in 1992 recommended a community-based strategy (Leach and Scoones, 1997). Sustainable environmental management can only occur where active local-level support and participation exist. For the last three decades NGOs and development agencies have implemented watershed management projects with the aim of increasing agricultural productivity and reducing poverty (Economic Review, 2010). Local communities are regarded as appropriate units to restore and manage their local environment. But the pursuit of community-based sustainable development requires “a political system that secures effective citizen participation in decision making” (WCED,

1987). Decentralization is the available instrument for providing this appropriate political system. It has been suggested that Kerala comes 'closest to the sustainable development ideal in practice' (Parayil, 1996).

7.16 River, Backwaters, Aqua System, Management

7.16.1 Rivers and Wetlands of Kerala

Kerala is unique in its extensive network of rivers and backwaters and this magnificent gift of nature has to be scientifically managed for effective human use with environmental conservation. The wetlands in Kerala cover an area of 6.5 lakh ha.

7.16.2 Utilization of Surface Water – Major Issues

The important problems associated with water resources development and management in Kerala are:

- Because of the peculiar topography, drainage pattern and rainfall characteristics, the region experiences frequent floods and droughts
- The intensive rainfall, changes in land use and deforestation have been mainly responsible for high rate of sedimentation and frequent landslides /mudflows
- The salinity intrusion into the estuaries is a major problem in the coastal belt.
- Due to reduced flows there is concentration of pollutants in the downstream reaches of rivers;
- Sea erosion in the coastal belt especially during the monsoon month.

7.16.3 Management Strategies

Integrated river basin planning based on system study and co-ordination of all relevant agencies is already overdue. It is recommended that a Water Policy of the state be promulgated and a Kerala River and Water Bodies Control and Development Authority is established for achieving integrated development and management of the water eco system.

The action plan for the Kerala wetland ecosystem recommended by the National Wetland Management Committee include: (i) survey and documentation; (ii) weed control; (iii) notification of the wetland as an ecosystem selected for conservation and development; (iv) erosion control - catchment area treatment, check-dam construction, limited dredging, regulation of inflows and outflows; (v) control of pollution from habitats, industry and agriculture; (vi) limiting the fish catch; and (vii) awareness programmes.

The River and Water bodies authority should implement cleaning up all the 33 rivers and 44 'kayals' – of the state along with side bunding, beautification, bathing ghats, promenades etc with full public, private participation.

The largest backwater system of the Vembanad, has been facing ecological problems due to the construction of Thannermukkom barrage and the subsequent problems associated with lack of flushing, concentration of chemicals used in agriculture, weed growth, etc.

The coastal wetlands are considerably polluted by the coir retting activity. One example is the Kadalundy estuary which is a haven for a variety of birds. An alternative to the present retting practice will have to be introduced. The protection of the mangroves in the coastal belt must get priority for stabilizing the shoreline and providing breeding ground for fish. The excessive pollution in the Periyar and Beypore estuaries is a threat to the flora and fauna as well as the public who depend on the water supply schemes from these water bodies. The freshwater wetland of Sasthamcotta, Periyar and Pookot are also facing a number of problems, including eutrophication trends. An integrated plan for conserving these water bodies is called for. Completion of Phase I and II of Pampa Action Plan should also be a high priority for the Authority.

7.16.4 Soil and Water Conservation

A scientific programme should be launched for direct land surface and roof collection of rain water, lining of ponds and canals, impounding through checkdams, protecting and improving soil structure, recycling of water, reducing wastage and awareness campaigns.

7.17 Total Integrated Physical Master Plan

Kerala is blessed by the physical development and population distribution pattern of a rural urban continuum. There is no pronounced urbanisation with its deleterious by products of severe strain on civic services and slum formation. The three major cities of Thiruvananthapuram, Kochi and Kozhikode are roughly 200 km apart interspersed with district towns which are also more or less equidistant at 60 km apart. The towns are interspersed with Municipalities and Panchayats which are also urban or semi-urban with comparatively well developed infrastructure and civic services. The strategy should be to strengthen the infrastructure in each local area, develop the state's total multiple infrastructure and streamline connectivity with mass rapid transport systems. Kerala can then become a single garden metropolis with world class infrastructure and civic

facilities. Kerala's physical planning mechanism, mainly handled by the Town Planning Department, has to be strengthened with the best expertise and streamlined.

The regional, city and rural area physical plans should be integrated into an ideal master plan for the whole state with clear planning for infrastructure, zoning for different land uses, habitation pattern and preservation of the state's pristine natural environment. Some of the best professional brains of city and country planning should be involved in this planning process. High rises are mushrooming haphazardly and construction industry has become the most prominent wealth and employment creating activity in the state. The plan and its enforcement machinery should ensure strict conservation of public spaces, proper layouts and building norms and departures and violations which have been a curse of the past should become impossible by law, taking away the discretionary power of the Executive.

7.18 Regional Planning

7.18.1 Regional Urban Development Authorities

The State has now three regional urban development authorities – The Greater Cochin Development Authority (GCDA)^v. The Thiruvananthapuram Development Authority and the Kozhikode Development Authority.

There is confusion in the thinking of the state government on such Development Authorities. The misgivings are misplaced. It is true that as per the Bill passed by Kerala Legislative Assembly based on the 73rd and 74th Constitutional Amendments town planning functions have been transferred to the local bodies. But only regional planning authorities can formulate regional plans which transcend the boundaries of individual local bodies. Also planning large scale schemes, organisation of funding and implementation can only be achieved by higher Authorities which can organise the necessary professional expertise. The GCDA particularly has performed well in this regard. Successful examples in India are the Delhi Development Authority, the City And Industrial Development Corporation of Maharashtra, the Haryana Urban Development Authority etc. The local bodies can be entrusted with the sanctions and control of

^v **Note** – The researcher was Founder Chairman of the GCDA from 1976 to 1980. GCDA is acknowledgeably the most successful urban development authority in the State with a large number of projects to its credit in the Greater Cochin area.

buildings etc within their jurisdictions within the regional town planning schemes developed by the regional authorities.

Especially based on the actual experience of the researcher it is strongly recommended that the existing three metropolitan development authorities in Kerala should be developed to their full potential. Also urban development authorities should be progressively established for the district capitals including in their jurisdiction the adjacent panchayats for initiating major schemes and orderly regional development.

7.19 Clean Kerala Mission - Total waste management

The mission should be launched for a waste free clean Kerala and preservation of its environment. This programme for cleanliness and beautification should be an integral part of budgets and development outlays at all levels including the LSGs. Voluntary agencies and corporate sector should be involved in the mission along with the state government.

Illegal activities like encroachment, unauthorised sand mining, polluting activities and waste disposal in the water bodies etc should be prevented with an iron hand. Modern scientific systems and technologies for waste disposal – landfills, incineration, conversion of waste into manure, energy etc. should be implemented throughout the state.

The rapid urbanisation and change in life style has increased the waste load and thereby pollution loads on the urban environment to unmanageable and alarming proportions. The existing waste dumping sites are full beyond capacity and under un-sanitary conditions leading to pollution of water sources, proliferation of vectors of communicable diseases, foul smell, release of toxic metabolites, anaesthetic ambience etc. It is difficult to get new dumping yards and open dumping is prohibited by law. This is particularly true for Kerala, with severe constraints of land availability, dense population, environmental fragility and expectations (Varma, 2010).

Antisocial activities like putting waste into drainage channels, rivers, obstructing footpaths through encroachment, storage of construction material, leaving debris after public and private construction work etc should be strictly prohibited and cleanliness enforced by local revenue, police and civic administration. Residential associations and individual householders should be motivated and empowered to keep colonies and precincts of each house clean, hygienic and well manicured with greenery. This may be

made mandatory as in other countries where civic laws enforce proper maintenance of house and institutional precincts.

Rough estimates reveal that the quality of waste generated from the towns in the state comes to 2,800 – 3,000 tonnes per day. It is estimated that only 50 percent of the waste generated is collected for disposal. Every day about 1,500 tonnes of waste is left to decompose on road margins, drains, canals, water bodies and open space. An analysis of various technological options, their salient features, environmental implications, cost norms and suitability to the biophysical environment of Kerala has been carried out. It indicates that windrow-composting, vermy-composting and bioethanation (anaerobic composting for biogas) are the most appropriate techniques for the state. It is pointed out that the efficiency of the above methods depends on the characteristics of waste. The choice of the technology has to be judicious.

Another threat is posed by bio-medical waste in the wake of diseases like AIDS and hepatitis. The solid and liquid waste generated per hospital bed is about 1.3 to 2 kg and 450 litres, 15 percent of which is infectious and toxic. With an ineffective safe disposal mechanism, these have become a major health hazard. The wastes are often dumped in the hospital backyards and along the nearby road margins. The Kerala State Pollution Control Board is the prescribed authority to ensure that hospital waste disposal is done as per the Bio-medical Waste (Management and Handling) Rules, 1998; but there has hardly ever been an instance of intervention or prosecution against any erring hospital, another instance of bad governance.

While Local Bodies are charged with the responsibility of environmental sanitation, they are not backed by adequate support in terms of resources, technical assistance and political will. Apart from its close connection with the quality of human development, environmental sanitation is also an important factor in Kerala's ability to pursue a sustainable growth strategy that is compatible with the preservation and augmentation of its ecosystem which is one of its major 'assets'.

7.20 Conclusion

As Kerala stands at the crossroads of history the shortfall in development especially in the primary and secondary sectors, chronic unemployment and the general feeling that the state has largely missed the green, industrial and information revolutions stare Keralites starkly in the face. There is no rationale for the state with the highest human

development in the country to lag behind on the development front. This is the question which needs answers and actions. This chapter has attempted to highlight some of critical measures which can be taken across the entire spectrum of development for the state to achieve comprehensive sustainable growth. The emphasis is on concentration in areas of inherent strength and sustaining through specific policy measures developmental areas where the state is unavoidably disadvantaged. Kerala has to embrace 'the highroad to development'. These measures implemented with popular consensus and political will can take the state to the highest levels of economic development in the country.

CHAPTER - VIII

TOWARDS FULL EMPLOYMENT

8.1 Introduction

Unemployment is perhaps the most crucial issue in the contemporary socio-economic scenario of the state. Increase in the proportion of the educated class, government's limited resources and lack of proactive measures led the state into the enigma of chronic unemployment. The structural transformation in employment away from agriculture, poor investment, stagnation in organised sector employment and the paucity of skills and employability of the work force generated by the education system are key reasons for Kerala experiencing the worst employment rate in the country. Other contributory factors are paucity of entrepreneurship, predilection of youth for government jobs, quality deterioration in the education system, self imposed obstacles to enterprise development and only high wage / non-manual employment being desired by Keralites. This chapter provides some policy recommendations for a concentrated effort to achieve the aim of full employment, highlighting actions in the key areas most relevant to employment creation in the state.

8.2 Full Employment Drive

A scientific programme for employment generation in the state should include massive skill building, vocational programmes, active employment assistance/facilitation by government /organisation - systems, scientific manpower planning and maximum mobilisation - for jobs within the country and abroad and training and placement. Each of the government departments should evolve a policy framework and programmes for creation of maximum productive employment. Kerala has to become a global destination in several professions / activities resulting in additional employment opportunities. Support should be extended to all organisations contributing to increase in employment and an incentive system created for employment creation. This has to be a key factor in governmental assistance, promotion, concessions and subsidies.

The target for additional employment creation through the upgraded model for the KMD in the next 10 years may be 50 lakhs with a broad possible break-up as follows if the proposals in this thesis are implemented.

Table 8.1
Projected Employment Creation during 12th and 13th Five Year Plans

	Estimated in lakhs
Agriculture and allied activities	3.0
Agro processing & value added agro-industries	3.0
Industries – selected, Kerala specific, viable	2.0
Tourism development	2.0
Information Technology, IT enabled services	3.0
Bio-Technology	0.5
Housing Construction including affordable housing drive	3.0
Infrastructure – all segments and major schemes	2.0
Health care including nursing, paramedical etc	5.0
Ayurveda Global Mission	5.0
Overseas Employment - Global Employment Mission	5.0
Skill Development for Self Employment drive	2.0
Pravasi Malayali Enterprises	1.0
PPP schemes – state wide movement	3.0
Destination Higher Education	2.0
Mineral Development	2.0
Rural Development	3.0
Other Services sector enterprises	2.0
Miscellaneous and Residual	1.5
	50.0

Source: Estimated by the researcher. Detailed and realistic operational plans to achieve these targets can be worked out on the basis of the proposals in this Thesis.

Much of the economic, social and political tensions in the state could be relieved through a progressive reduction in unemployment. The prevalence of unemployment among the uneducated is a dimension that has to be consciously factored into the formulation of economic policies especially in industrial and service sector development. The imperative for enhancing all round productivity through technological upgradation should be appreciated if the higher wages in the state are to be sustained.

8.3 Kerala Manpower Global Mission

The findings of the Kerala Migration study, (Zachariah, *et.al.*, 2002) emphasise need of policies to ensure continuation of migration from the state. The critical follow-up actions

recommended are development of (1) education and training programmes, and (2) a migration monitoring and promotional system.

Kerala should launch a Mission with the objective of training manpower in large numbers for placement across entire spectrum of job opportunities in every possible country - in line with era of globalisation and to enhance wealth creation, remittances by expatriates and reduce the level of unemployment in the state.

Steps for Enhancing Overseas Employment

- Information about the distribution of Keralite employees / workers abroad
- List out and focus on countries where opportunities exist
- Collect from embassies / other sources details of job opportunities where Keralites could fit in
- Knowledge of procedures of each country for immigrant workers/employees
- Average emoluments expected abroad – benefits for different categories
- Qualifications – theoretical and practical experience required for each job
- Institutional frame work for manpower development and exports
- Resource mobilisation – financial framework – Government, FIs, Corporates
- List of institutions – courses – to be developed
- Collect and make available to core groups information/material available in-house
- Liaison with Government of India and state governments for policy and financial assistance
- Interaction with Ministry of External Affairs (MEA) and Indian Missions abroad and relevant international agencies
- Laws for protection of expatriate employees
- Tie up with existing authentic manpower exporting agencies as in Philippines – networking to advantage
- Insurance against job seekers being cheated by agents or employers abroad.
- Training in G.O.I. rules and regulations relevant to the project.

- Time schedule and job charts for project conceptualisation and implementation to be prepared.
- Study work and procedure of MONRI affairs and dovetail Kerala Mission to the activities of the Ministry

8.3.1 The Philippines Model

To compete globally, Kerala needs world-class manpower.

A model worth emulating is the Philippines Overseas Employment Assistance (POEA) Missionⁱ which ensures decent and quality employment for overseas Filipino workers. The number of overseas jobs filled up by Philipinos has steadily increased at an average growth rate of 5 percent yearly. Of the country's 76.5 million population, about 10 percent is at work outside the country. During 2001, more than 800,000 people headed out on a commute to Italy, Saudi Arabia, Canada, Singapore, Uzbekistan, Mongolia and Equatorial Guinea. Philipinos toil as domestic helpers, engineers, nurses, bricklayers, teachers, farmers, seafarers, stenographers, hairdressers, crane operators, cooks, and entertainers. Using technology to stay involved in family life back home, Filipino global commuters constitute one of the biggest sources of stability for the economy of the country. The money they electronically send back to their families, account for 8.2 percent of the nation's gross national product, stabilizing its peso, improving foreign currency reserves, shoring up consumption, and making more than a dent in the unemployment rate.

As per World Bank Statistics, 2011, Philippines ranked fourth in non-resident remittance. Overseas Filipino workers sent home \$23 billion a year. The global market for contract migrant work is growing. The statistics says, "worldwide remittance flows in 2010 are estimated to have exceeded \$440 billion. From that amount, developing countries received \$325 billion, which represents an increase of 6 percent from the 2009 level' (World Bank, 2011).

Other nations are also avidly encouraging overseas employment - 12,00,000 Malaysians commute daily to Singapore, for instance; some 200,000 Thai nationals, or about a third of a percent, leave home to work elsewhere each year. In an example of socioeconomic engineering on an unprecedented scale, the Philippine leadership is embracing its role as

ⁱ The POEA is an agency attached to the Department of Labour Employment, Government of Philippines, to deal with emigration affairs. It has operating officers and a support group that systematically deliver service for the recruitment and deployment of Filipino workers.

an employment agency to the world and accordingly structuring it as a political “business plan”. Although the ratio of remittances to GNP in nations like El Salvador and Cape Verde tops Philippines, no other government maintains so sprawling a network of workers (Diamond, 2010).

8.3.2 What should Kerala Do?

In line with the process and demands of globalisation, Kerala—with rich human resources—can contribute to the rest of the world. The billions of dollars in foreign currency deposits will go a long way toward underwriting Kerala’s own development. What Kerala needs is greater focus on marketing and how to ensure that the deployment of its workers can be done faster, better, and at the least cost to them. The state ought to set the ground rules for being able to meet market demands very quickly.

The target may be increase in total overseas jobs of say 10 percent every year. This requires,

- Increase in the level of productivity and efficiency and a lowering of the cost of deployment.
- Accreditation with land and sea based principal employers and the opening of new labour markets
- Speedy processing of documents
- Establishment of a Quality Management System to ensure transparency, lesser documentary requirements and shorter process cycle time of transactions.
- Increased vigilance in monitoring the operations of recruitment agencies through surveillance, on-the-spot inspections and routine inspections of existing agencies in collaboration with MOIA
- Strict enforcement of rules on the erring licensed agencies.

(i) Labour Market Information

A significant aspect of job facilitation is the effective dissemination of relevant and reliable labour market information for applicants, agencies and the general public using multi-media and the internet. Factual information on various countries and labour

markets should be periodically updated and released in the form of advisories, market updates and executive summaries.

(ii) Overseas Employment Enhancement

Workers education programme should be organised by NORKA.

(iii) Labour Diplomacy

In the international/regional sphere, Kerala should participate in conferences on migration. These intimations' are essential to the exchange of information on trends and issues on overseas employment and discussion of recommendations on bilateral and multilateral cooperation.

(iv) Mission objective for 10 years: Overseas Employment drive to facilitate a half million additional overseas jobs.

The principal obstacles in the way of continued smooth migration in the coming years would be:

- The structural changes in the economy of the Gulf countries. The construction phase of the Gulf countries is largely over. The demand for the Kerala unskilled labour has virtually vanished.
- Failure to upgrade the technical skill of the Kerala workers to keep abreast with the types and levels of technical skills needed for employment in the receiving countries;
- The improved supply of local workers within the Gulf countries; and
- The competition from workers from other Asian countries who are better trained than Kerala workers.

Action plan with comprise:

- Program intervention by quick response team members
- Aggressive marketing in the overseas employment programme
- Rationalised issuance of overseas employment certificates
- Establishment of a one-stop Overseas Kerala Worker (OKW) documentation centre
- Improvement in processing time of OKW documents
- Rationalised implementation of government-to-government recruitment programme.

- Institutionalisation of multi-sector pre-employment orientation.
- Local Area Networking to include the labour assistance centres.
- Foreign workers can rely on a variety of Web services for not only staying in touch with their hometowns but also for utilising their savings effectively for the development of their home state.
- An independent agency for migrants can effectively intervene in the labour market from both the supply and demand sides. On the demands side, such an agency may facilitate overseas employment information gathering and on the demand side, this information may be fed into a recruiting network. This will enable the government to monitor the terms and conditions of overseas employment and assure better living conditions abroad. Such involvement may also facilitate the management of remittances.
- In giving orientation to the training programmes, areas such as training of teachers, nurses, mechanics etc. suggest themselves as they would offer expanding scope for exports to countries like Africa and Middle East.

Skill enhancement should include language training (Chinese, Japanese, etc.) and finishing schools for potential employees in software industry. The need is for a two fold approach—with long term and short-term perspectives. In the short-run, the need is to improve the jobs skills of the prospective emigrant workers. This is better achieved through ad-hoc training programmes focused on the job markets abroad. In the long-run, the need is to revamp the educational system to dovetail it with employment opportunities within the country and abroad.

A joint study by Zachariah, Prakash, and Rajan (2002) on Kerala emigrants in UAE identified that the largest proportion (36 percent) of workers was engaged in unskilled, semiskilled and skilled categories in construction, production and transport activities. Nearly one-fifth were in professional and technical work. The other major categories were clerical, sales and service activities. More than three-fourths of the workers were employed in regular employment drawing monthly salaries.

The general consensus is that the following categories would be in demand in the future:

- engineers, medical and paramedical staff such as physicians and surgeons, nurses and laboratory technicians, production executives, managers and supervisors, accountants and teachers of all categories, salesmen, shop assistants and sales representatives. Under other service categories, the demand would be for hotel workers, housekeepers, stewards,

cooks and waiters. Skilled workers required would be miners, metal processors, chemical processors, mechanists, fitters, precision instrument makers, electricians, plumbers, welders and sheet metal workers, skilled construction workers, heavy equipment operators and transport equipment operators.

There are reports that Kerala carpenters, masons and other artisans have not been able to compete with those coming from the Philippines, Thailand and South Korea, and that the gap between Kerala migrants and the other expatriates in technical competence is increasing. For example, the new generation of carpenters should not only be competent in the use of modern tools, but also in their maintenance on a day-to-day basis. There is an urgent need to upgrade the technical competence of our artisans through the needed training on a continuous basis.

8.3.3 Return Migrants – Rehabilitation and Employment

The proportion of return emigrants to the total number of emigrants from Kerala to the Gulf countries was 23.5 per cent (Nair, 1994). In 1992-3, another survey conducted by the government noted that the number of return migrants was 125,000 (Government of Kerala, 1994). The magnitude of return flows increased during the 1990s particularly after the Kuwait war. The number of return emigrants in Kerala in 1998 was estimated at 7,39,000. For every 100 households there were 11.6 return emigrants and for every 100 persons there were 2.36 return emigrants (Zachariah, Mathew and Rajan, 1999).

A small proportion of return emigrants would require special help through social security and welfare programmes (Prakash, 1998; Zachariah, Kannan and Rajan, 2002). The investment and enterprises creation programme for the return migrants should be grounded on: (a) specific market assessment of their skill sets; (b) business development services of a high quality; (c) appropriate financial intermediation; (d) the lowest possible transactions cost to business; (e) appropriate legal and institutional structures.

A growth fund by mobilizing long-term deposits offering rates of interest higher than the market rate from NRKs should also be created for starting enterprises for employment of returnees. Panchayat level labour contract societies can be formed of return migrants for various projects. It has been suggested that seed money for all these schemes should be provided by the commercial banks of Kerala, since they have derived maximum benefit from the workers' remittances.

8.4 Destination Tourism

8.4.1 General

The state has become the most acclaimed tourist destination in the country in the recent past. The percentage share of Kerala in foreign tourist arrival is 10.9 percent in the country during 2008-09. The total revenue generated in the economy due to tourism is assessed at Rs. 13231 crores during 2008-09 contributing 7.8 percent to the state's GDP. In the ten years from 2001, domestic tourists arrivals in Kerala increased by an average annual rate of more than 18 percent, while arrivals from abroad rose by 12 percent per annum. 'We will target an annual average growth rate of 7percent for the next decade that will bring 180 lakhs domestic tourists by 2021' (Kerala Tourism Policy, 2011).ⁱⁱ These growth rates are well above the world averages and corroborate the findings of the World Travel and Tourism Council (WTTC) and Oxford Economic Forecasting (OEF) research. In the ten years from 1991 to 2001, the time during which India's international tourist arrivals doubled, Kerala's more than tripled.

The state should launch an all out effort for further sustainable tourism development – perhaps the most important USP for Kerala and contribution to employment generation. Initiatives should include:

- Investment in tourism infrastructure.
- Formation of Kerala Tourism Infrastructure Development Corporation as a Public-Private partnership
- Laws such as Excise to be amended to become tourism friendly especially in designated tourism areas. For example, beer and wine could be de-linked from hard liquor and subject to more liberal rules as has been done in Karnataka and Madhya Pradesh.
- Establishment of tourist facilitation centres
- Establish an International Institute of Hospitality Management
- Improving Air, Sea, Canal, Rail, Road Transport connectivity
- Massive campaign for medical and ayurvedic tourism
- Participation of local population – live in – paying-guest tourism – assistance for tourist guest rooms in tourist host houses and – guest houses

ⁱⁱ For more details, See, Kerala Tourism Policy, 2011 (Draft) (Version-1), URL: <http://www.keralatourism.org/Keralapercent20Tourismpercent20Policypercent202011.pdf>.

- Plantation Tourism – Forest and Adventure tourism
- HRD in tourism – guides – trained tour operators – special drivers – assistants etc
- Establish a special contingent of tourism police
- Religious tourism – special programmes
- Handicraft villages for tourists
- Massive augmentation of tourist facilities including hotels, lodges, dormitories etc
- Credit linkage for tourism enterprises
- Promotion of tourist friendly culture among entire Kerala population through motivational campaigns
- Strict vigilance and enforcement against exploitation of taxi drivers, touts etc and antisocial elements at tourism areas like beaches etc.
- The tourism and hospitality functions of the Department of Tourism may be separated. The Tourism Department may be made more professional with special training for the staff as well as lateral entry of qualified professionals at the top and middle management level.

(i) Coastal Cruises

Luxury cruise boats would ensure the development of coastal travel, eventually linking Kerala's beaches and inland water destinations to the Lakshadweep and Maldives islands, as well as to Sri Lanka and other parts of Southeast Asia.

(ii) Water Sports

Private investment in water sports facilities should be encouraged.

(iii) Improved Airline Access

In international airports of Kerala, foreign airlines are also restricted in terms of seat capacity as determined by the national carriers. A much more liberal approach is necessary to tap the full potential of these gateways to Kerala.

(iv), Channellise Private Sector Investment

Special schemes could be devised incorporating tax incentives and other assistance, whereby NRK money could flow to capital investment in hotels, motels, restaurants and tourism transport facilities.

There is an urgent requirement for different kinds of tourism transport – luxury coaches, air-conditioned cars, luxury boats, yachts and speed boats. A drastic lowering of import duty and other incentives would help to attract funds to the development of these productive tourism assets.

Particular attention has to be paid to a coordinated approach to internet marketing to optimize Kerala's visibility.

The success that Kerala enjoys today in tourism is the end result of continued efforts by many innovative entrepreneurs from the late 1980s. The state should continue to encourage small and medium tourism entrepreneurs, and promote eco-sensitive tourism.

8.4.2 Eco-Tourism

Kerala has 12 wildlife sanctuaries and 2 national parks, which can be a base for ecotourism activities. The state has 14 existing and 12 new ecotourism destinations. There is scope for a variety of ecotourism activities such as mountaineering, trekking and bird-watching. Thenmala ecotourism is regarded as India's first planned ecotourism destination.

(i) Conserving biological diversity

The state has to develop criteria and indicators of ecotourism and a protocol for its monitoring. Environmental Impact Assessment (EIA) and Carrying Capacity Studies (CCS) are a must for the success of ecotourism. In Sabarimala, forming part of the Periyar Tiger Reserve in Kerala, pilgrimage tourism has exceeded the carrying capacity and has been detrimental to the composition of species composition and structure of flora and distribution of fauna. Traces of plastics deposited by the pilgrims were commonly detected in the droppings of wildlife (Animon, 2002).

Zonation is necessary in protected areas in Kerala for better planning and implementation of different components of ecotourism. Site-specific action plan has to be formulated for ecotourism development.

In order to meet the demand of manpower for the private sector, B.Sc. Forestry graduates have to be trained in ecotourism. Through resource and visitor management techniques, ecotourism can result in development of Kerala as an "ecotourism hub" where the B.Sc. and M.Sc. Forestry graduates can play a leading role.

8.4.3 Medical Tourism

Medical tourism can be broadly defined as provision of ‘cost effective’ private medical care in collaboration with the tourism industry for patients needing surgical and other forms of specialized treatment. Exorbitant costs of healthcare in industrialized nations, ease and affordability of international travel, favourable currency exchange rates in the global economy, rapidly improving technology and standards of care in many countries of the world, and most importantly proven safety of healthcare in select foreign nations have all led to the rise of medical tourism.

Kerala is attracting tourists seeking affordable but world-class medicare especially for cosmetic/plastic surgery, cosmetic dentistry and ophthalmologic surgeries and implants. Health Tourism in Kerala provides a gamut of services ranging from “the art of living” to the most authentic forms of yoga, meditation and Ayurveda, in the ambience of the ocean and the backdrop of lush forests. Health Tourism would be a strategic pull for the health conscious affluent from the west towards Kerala.

According to a study by McKinsey and the Confederation of Indian Industry (2005), India has a potential to attract 1 million health tourists per annum, which could contribute \$5 billion to the economy. The Indian government predicts that India’s \$17-billion-a-year health-care industry could grow 13 percent in each of the next six years, boosted by medical tourism, which industry watchers say is growing at 30 percent annually.

According to the Insurance Regulatory and Development Authority, the Indian healthcare industry has the potential to reproduce the same exponential growth that the software and pharmaceutical industries have shown in the past decade. Only 10 percent of the market potential has been tapped so far.

Over the next few years, insurance firms are expected to provide a fillip to the medical travel business. Most insurance companies in the US and the UK have already accredited hospitals world over where visitors can seek emergency medical treatment. With over 3000 dentists and 1200 dental clinics Kerala has a distinct advantage in dental tourism. According to industry sources the cost of dental treatment in the state is less than one fifth of that in the gulf and the west. Government should proactively promote medical tourism as a wealth and employment creating mission. A special agency may be created to support and coordinate the thrust.

Government needs to actively formulate and implement cogent policies dealing with the insurance sector, standards in the medical industry, the airline sector and the tourism sector. The Insurance sector is one where key changes in policy have to be specially implemented.

It would be advisable to follow a Private-Public-Partnership Model (PPP) in promoting medical tourism. The central government could also help popularise medical tourism through embassies and through Health Ministries in various foreign countries. More financial and fiscal concessions need to be offered to this sector which has great potential for generating employment and foreign exchange.

8.5 Ayurveda and Holistic Health – A Global Mission

Kerala's unique and authentic tradition of Ayurveda is one of the major USPs of the state especially in the context of global tourism. The state's equable climate, natural abundance of forests with a wealth of herbs and medical plants are a key to the success of Ayurveda in Kerala. Along with *Charaka Samhitha* and *Sushruta Smhita*, *Ashtanga Hridaya* and *Ashtanga Sangraha* written by Vagbhata are used by the practitioners of Ayurveda in Kerala. But a number of treatment methods which cannot be seen in the *Samhitas* were developed and followed in Kerala by its famous traditional 'Ashta Vaidyans'.

Ayurveda is slowly growing as a global medicinal system and many countries like Sweden, France, Russia, Germany, Austria, U.K. and U.S.A. are considering it as an alternate system of medicine. The Russian government has recognized the Ayurvedic system. To quote industry sources - "Nearly fifteen percent of our bookings are for spas or some kind of Ayurvedic treatment, the sector is booming. 78.9 percent of the tourists are visiting Ayurvedic centers for the purpose of rejuvenation while 15.8 percent are for cure from diseases." 89.5 per cent of the tourists are interested in visiting the Ayurvedic centers again showing the efficacy of Ayurvedic treatments (Joseph, 2012)

There is need for a strong mechanism for monitoring the quality of herbal medicines. If the manufacturing company is registered, the products do not require separate licence. In the case of Ayurvedic medicines, the manufactures are asked to register with the drugs controller and acquire Good Manufacturing Practice (GMP) certification which is a mark of standardized procedures to ensure cleanliness and appropriate ingredients. Many of the herbal products have managed to evade such restrictions.

Unavailability and depletion of herbal resources will offer a new opportunity and challenges for its organised cultivation. Ayurveda as a tourism product is generating substantial growth in state income in the last decade. Its cautious and proper development will contribute substantially to the state's all round economic development.

The government should launch a Kerala Ayurveda Global Mission to make the state a global destination for Ayurveda and Kerala to promote Ayurveda centers all over the globe. The mission spearheaded by government with full participation of the private sector and the traditional Ayurveda practitioners community should undertake.

- a) Preparing the pharmacopeia and ensuring the technical authenticity of various Ayurveda medicines and procedures.
- b) Promoting the cultivation of medicinal plants on a massive scale
- c) Making available genuine and pure raw material for Ayurvedic preparations.
- d) Safe and authentic manufacturing practices
- e) Training of all categories of personnel for the industry
- f) Establishment of an international level Kerala Ayurveda Global University in the state.
- g) Massive training and deployment of Ayurvedic certified masseurs all over the world.
- h) Enforcing strict regulations for quality control and authenticity
- i) Promoting large scale network of Ayurvedic spas and treatment centres for indigenous and national population and build a world clientele as part of Ayurvedic tourism.
- j) Collaboration and synergy with voluntary and private organisations doing good work in Ayurvedic services in India and abroad.
- k) Establish a national level Research Institute for R & D in Ayurveda
- l) Brand promotion of Kerala Ayurveda
- m) Upgrading facilities in the Ayurvedic hospitals and dispensaries

The Ayurveda Global Mission may envisage the generation of a minimum additional half a million jobs for Kerala youth in the next 10 years.

8.6 Revamping Education

Though the state performs well in country's educational statistics, its education system falls far behind international standards. In its development and employment strategy the state has to concentrate on knowledge intensive industries and services. One of the prerequisites of such a strategy of development will be the development of a modern, diversified educational sector (George and Kumar, 1999).

8.6.1 School Education: From Quantity to Quality

With 12,644 schools (2010-2011), covered by one lower primary school for every km., and one high school (HS) for every 4 km., enrolling 50 lakh students, catering to both urban and rural areas, school education in Kerala has been enormously successful and productive compare to any other state in India. As indicated by the sixth NCERT survey, 90 per cent of the population are beneficiaries of LPS alone, laying the foundation for human development. But there has been serious concern over the quality of the school education in the state.

There is an urgent need to enforce minimum standards without any dilution or compromise. Modernization of syllabi, examination reforms and greater attention to the issues of governance cannot be delayed. More and more parents are viewing private unaided schools as a better alternative to government and 'private aided' schools even though these are much more expensive than the latter. Clearly these parents are willing to pay for quality. But if quality education were available only at a high price, the vast majority of students would be deprived of it. There is a strong case for the government to reduce the direct and indirect cost of quality schooling. Kerala has to ensure that all children, irrespective of the educational or economic status of their parents, get a level playing field. They should be able to receive all the learning experience that the curriculum prescribes in the classroom itself. Private tuition should become unnecessary.

Any child ought to be able to take any examination, including common entrance examination (CEE), and display her/his full potential based purely on the strength of classroom learning experience. This can be attained by reforming the curriculum, by strengthening the public schools, and by training and empowering the teachers. Decentralisation and the emergence of panchayati raj institutions offer an opportunity and a challenge. There was a time when schools were started as societal enterprises, with even the most humble chipping in with a handful of rice or a basketful of coconuts. This social consciousness has to be revived.

8.6.2 Higher Education

There were nine universities, 190 arts and science colleges, 119 engineering colleges, in the state in 2010.

Of late, the higher education sector in the state has marginally improved with the establishment of speciality universities like the Medical University in Trissur, Veterinary and Fisheries Universities at Kochi, and a number of medical and engineering institutions both in the public and private sector, apart from speciality institutions for professional education. The establishment of a Central University, the public sector Management Institutions like the Indian Institute of Science, Education and Research (IISER), Indian Institute of Information Technology (IIIT) and a number of speciality research institutions under the Kerala Council for Science, Technology and Environment (KCSTE) have been welcome developments.

But there is much improvement still needed, both at the level of policies, and programme implementation, in terms of evolving human resources not only for local and national development. A clear cut road map has to be prepared on the streams of knowledge building, preceded by continuous assessment of development needs and of the growth process. Simultaneously the state should mobilize fresh private investment in higher education and rationalize policy and procedures to ensure transparency and accountability.

Financing policies in higher education have to help in, quantitative expansion, as well as safeguarding of quality consideration. The state must play a much more important role in financing higher education.

Indeed, the challenge is to fashion a higher education system, which will provide access, ensure equity and maintain excellence. Soft skills of collaboration, teamwork, entrepreneurship and communication should be an internal part of the curriculum. Kerala state should explore earning while learning by students as in developed countries.

The main features of state's higher education policy should be:

- to create knowledgeable and employable human resources,
- promote and creative thinking and quality research output and
- to promote entrepreneurship

Promoting of Autonomous clusters of colleges should be prioritized and distance education strengthened.

The outlay during the 11th plan period for higher education was Rs 39,804 crore. The outlay finalized by the Planning Commission for higher education sector is at 1,10,700 crore, an increase of 178 per cent in the 12th plan period. The state should fully utilize this advantage to reform its higher education in such a way that it matches the highest standards in the world.

8.6.2.1 Diploma and Certificate-Level Vocational Education

There are 49 polytechnics in Kerala in 2011ⁱⁱⁱ, which impart technical education at the diploma level, mostly in the government sector (43), with a few self-financing institutions. The total intake at the diploma level is of 10,367 students, of which 1,617 students are inducted by the self-financing sector. Some courses, like hotel management and catering technology are offered almost exclusively on a self-financing basis. About 37 percent of the students enrolled in the polytechnics are girls. The proportion of girls in engineering colleges is also roughly at the same level (Economic Review, 2011).

Besides the polytechnics, there are almost 575 ITIs/ ITCs (71 industrial training institutes owned by the government and 504 industrial training centres which are privately owned) imparting craft/technical training to class X pass and fail students, as also those with a plus-two level of education for superior trades like computer and DTP courses. Government of India has upgraded 12 ITIs in the state into 'Centres of Excellence' with World Bank assistance and domestic funding and 18 ITIs under the scheme of public private partnership.

8.6.3 Higher Technical Education

The states' engineering curriculum must be broadened to include training modules for the development of team and communication skills with thrusts one:

- Learner rather than teacher centricity
- Leadership skills development.
- Behavioural etiquettes, professional ethics and holistic thinking.
- A system perspective with multidisciplinary dimension.
- Text book to industry orientation
- An understanding and appreciation of diversity.
- Kindling professionalism

ⁱⁱⁱ See, Kerala Economic Review 2011, p.330.

- An appreciation of different cultures and business practices.
- A commitment to quality, timeliness and continuous improvement and
- An understanding of the societal, economic and environmental impacts of engineering decisions.

Quality in turn requires good infrastructure, governance, and faculty. The establishment of institutions of higher technical education by Industrial Houses under Industry-Institution collaboration could be a practical solution.

8.6.4 Establishment of New Institutions

The centre has already agreed, in principle, to establish an IIT in Kerala in the 12th plan. The proposed Malayalam University and Open University should also be established as soon as possible.

The state should build a number of World class institutions and universities as model institutions and pace setters. Private sector universities should be liberally encouraged with foreign university partnership or sponsorship and linkages. Technology upgradation programmes have to be promoted in all colleges. All schools and colleges need to be connected to the internet. Kerala should become a world destination for education synergising with its natural congenial environment, and collateral status as one of world's preferred tourism destinations.

The task of sustaining India's major competitive advantage-English speaking, skilled, tech savvy and young manpower - call for the industry's active participation in improving the quality of education. Kerala should aspire for more IITs and a host of other centres of excellence. The task is daunting but not impossible. A bold and strategic intervention would require vision, resources, and an efficacious model of public-private partnership. Further, three knowledge cities can be established in the state. The state should increase public investment in higher education through increased central and external assistance and establish maximum possible new public sector higher education institutions. Evidence from across the globe shows that no country could achieve dynamic economic growth if the enrolment ratio in higher education is less than 20 percent.

The importance of higher education further increases in the era of international competition and globalization. International experience shows that it is only those

countries that had built up high quality human capital stocks, through good higher education systems, could reap the benefits of globalization (e.g., East Asian economies), and countries that do not have stocks of quality human capital suffered the most from the policies of globalization and structural adjustment (e.g. countries in sub-Saharan Africa).

While there is a strong case for rapid expansion of higher education in Kerala, it is important to see that new universities or colleges are set up after careful consideration of the needs and more importantly after ensuring adequate resource support. The expansion should help in improving the quality of higher education.

8.6.4.1 Aggressive Development of Nursing Education for Employment

Kerala has long been reputed for the nursing profession with almost 70 per cent of the entire nursing personnel in the country being Keralites. However, the role of the state government in nursing education has unfortunately been minimal. The neglect of the Nursing Education and Training (NET) under the state government is evidenced by there being only 5 Nursing Schools under the Directorate of Health Services and they provide only a three year General Nursing course. 10 nursing schools are functioning under the state plan schemes. Every year only 385 students are being admitted for the General Nursing course. The infrastructure facilities of these institutions are far below the standards set by the Indian Nursing Council.

Out of the 47 nursing colleges in the state 89 percent are in the self-financing stream. The vast majority of aspiring nursing students are forced to study in other states suffering privations and incurring additional costs which flow to the economy of those states.

There are hundreds of thousands of job opportunities for nurses trained in different medical disciplines in the USA, gulf and other regions of the world. But the state is yet to devise policies and programmes to fully utilise this unique opportunity and resource for creating maximum employment.

Considering that a quarter of all healthcare institutions of the country are in Kerala with only three percent of the national population there is scope for building a massive infrastructure of nursing institutions from the general course to the post graduate level for all medical disciplines including geriatric nursing dovetailed with the state and private medical / hospital infrastructure. It is recommended that to avail of the potential of nursing employment in India and abroad a 'Kerala mission for nursing education, training

and placement' be launched by the state. The mission should train to professional excellence at least ten thousand additional nursing personnel a year through expanded infrastructure maintaining the highest world class quality standards of instruction, training and experience.

Kerala is also the ideal location for the establishment of an 'International Nursing University' as a Public Private Enterprise involving NRK investment for all nursing related disciplines. The state government should promote this concept as a priority project.

8.6.4.2 Issues of Quality and Quantity

Technical Education Quality Improvement Programme (TEQUIP) initiated by the Ministry of Human Resources Development (MHRD) is operative in the state. Curriculum development for engineering education must be a continuous and regular affair due to fast obsolescence of subjects. According to National Association of Software and Service Companies (NASSCOM) only a small percentage of the available engineering graduates in the country is employable. With the increase in number of engineering colleges, Kerala is emerging as one of the potential sources for qualified manpower for corporate houses. But the major problem is the deficiency in employability.

(i), Quality of Infrastructure

Most private managements are under pressure to repay their loans and to show returns on equity within a reasonable time. It is not unexpected that they try to skim and cut corners, not only in equipment and facilities, but even in staff salaries and operations. It is inevitable that all this will adversely affect the quality of instruction and eventually, the reputation and credibility of the institutions. The government-sponsored self-financing colleges were started with the admirable intention of combining the positive aspects of both public and private institutions. They were supposed to possess the social commitment, transparency and accountability of public institutions, as also the autonomy and flexibility which private institutions enjoy in resource mobilisation and management.

(ii), Industry-Institute Linkage

Partnership between industries and institutions should be recognized as the basis for the development of market-responsive, demand-driven institutions that are firmly linked to the national economy and should be encouraged and promoted. Such partnership

includes industry and stake-holder-led governing councils for the colleges, industry-driven curriculum committees etc.

The government of Maharashtra has created a new directorate of industry-institute partnership. Germany was the first country in the world to move towards capitalization of knowledge and accordingly it developed well adapted educational institutions and research establishments. U.K. has a unique scheme known as the Teaching Company scheme in which a scholar does innovation under the joint supervision of an expert from industry and a guide from the University. He is paid scholarship by the industry and the government pays for equipments (Naik, 2000).

(iii), Inter-Institutional Linkage

The bulk of the engineering graduates are not industry ready finished products and they need to be further processed or refined in order to sharpen their skills. The term employability refers to the presence of certain competencies among the candidates required by the employers which are often grouped and termed as “soft skills”. They include technical and presentation skills, fluency in English, career orientation, domain expertise, leadership qualities and team skills. The concept of ‘finishing schools’ has come up in the context of these extreme demands for the development of soft skills among our graduates.

(iv), Need for Industry Collaboration for Teaching, Training and Placement

Many industrial organizations in the country such as L & T, TATA have made a leap in maintaining continual relations with academic institutions. There must be planned efforts from the side of the government and the educational institutions to develop healthy and effective Industry-Institute collaboration for strengthening the infrastructure, developing quality instructional resources, and providing an excellent learning environment. The resource requirement for increasing the output of quality engineers is indeed quite modest for India’s Rs. 100,000 crore – and growing IT industry. Clearly, the industry needs to pitch in for its own good. For example the biotech industry, had the potential to generate revenues worth \$5 billion and create one million jobs by 2010, according to Department of Biotechnology (DBT) estimates. Kerala can get a fair share of such potential through intelligent policy initiatives & programmes. DBT’s national strategy draft raises concerns about the inconsistent quality of students entering the workforce and suggests a comprehensive review and improvement of curricula in consultation with the industry and government-funded research institutes.

8.7 Thrust for Sports Development

Sports are a way of life for Keralites and with an imaginative and scientific effort Kerala can aspire to become the leading sports state in the country. Programmes should be launched for creation of adequate sports infrastructure; promotion of rural games; synergizing and interlinking Sports and the Education Departments, and provision of adequate incentives. They should meet the basic needs of the athlete – good boarding and lodging, modern state-of-the-art training methods and equipment, expert coaches, constant exposure to competitions including provisions for training abroad; incentives recognising achievement; career opportunities and insurance coverage. An outreach, bottom-up approach and internationally accepted practices should be adopted.

A welcome step is the planned establishment of the Kerala State Physical Fitness Mission, the first of its kind in the country. All schools in the state should have sports and physical education as a regular activity by 2014-15 as part of the integration of sports into the educational curriculum. Sports Academies are being planned in each district. For meritorious sports persons credits on a graded scale should be integrated with the academic evaluation system. A Kerala Sports University along with a sports Museum and a sports Library may be set up having international competition level playing surfaces and residential facilities.

A state Sports Development Fund should be constituted. The Fund should be supported by grants from the Union and state government, contributions from national & international organisations, public and private corporates, trusts, societies and individuals. The Kerala Sports Act 2000 was the first such Act to be enacted by a state in the country; it needs to be suitably amended to include the new policy initiatives.

8.8 Youth Empowerment

Through Kerala initiates and implements development programmes in sports it lags behind in formulating a comprehensive mechanism/policy for shaping the future of youth. As discussed by Gale and Fahey, (2005), youth in Asia Pacific region are somewhat ignorant about the challenges and opportunities which emanate from the globalised market economy. In Kerala, youth are embroiled in a complex web of successive governments' dysfunctional policy exercises. Programmes should be launched for entrepreneurship development as also weaning youth away from excessive affinity to

government jobs and instilling in them the dignity of work. A host of job opportunities in Kerala are going abegging now due to disconnect of youth from vocational and manual work.

8.9 Information and Communication Technology (ICT)

ICT is a vehicle for transforming Kerala into a knowledge-based, economically vibrant, democratic and inclusive society. Kerala can make a large contribution towards ICT development in the country, especially with its high quality of, human resources. The emphasis should be on horizontal growth of the IT sector, to promote development of IT all over the state in keeping with its history of social advancement. The high quality of manpower available can be leveraged not only for attracting IT investments into the major IT hubs of the state, but also to small towns of its rural-urban continuum. The concept of a hub-model is innovative; Technopark-Thiruvananthapuram, Infopark-Kochi and Cyber-park-Kozhikode are the hubs while seven satellite centres are being developed at neighbouring locations to serve as the spokes. Kerala has the highest density of science and technology personnel in the country, with its engineering colleges producing more than 23,000 qualified engineers each year.

Kerala is one of the best-networked states in the country in terms of telecom and datacom. The state's tele-density is double the national average and all the telephone exchanges are digital. VSNL's International Communication Gateway, with 2 high speed submarine cable landings (SEA-ME-WE-3 and SAFE) offering 15 Gbps bandwidth, with links to US, Europe and the Far East is in Kochi. Recently VSNL inaugurated the SAT-3/WASC/SAFE submarine cable station in Kochi, one among its 16 landing points across the world. The new cable system has a capacity of 120 Gbps, which is powerful enough to transmit a total of 5.8 million telephone channels simultaneously. VSNL offers global connectivity to units in Kochi SEZ at cheap rates. Given all these, sourcing bandwidth from Kochi is cheaper than from most other locations in the country. Optical Fibre connectivity down to the grass-root level makes high quality, reliable bandwidth available in any part of the state at relatively cheap rates.

Kerala also enjoys advantage in costs. The startup and operational costs are less than 50 percent and the rentals/real estate costs less than 60 percent of those in other major IT locations in the country. The power and water tariff and the lower cost of living mean lower cost to company per employee.

The state government encouraged by the success of Techno Park, Thiruvananthapuram, and Infopark, Kochi, is replicating this success story by creating more IT infrastructure across the state, with a view to creating about two lakh new employment opportunities in the IT/ITES industry by end 2012.

Technocity at Trivandrum spread over 433 acres of land is a self dependent satellite city that will have an integrated township, encompassing IT and IT-enabled services, biotechnology, nanotechnology, R&D, infrastructure, residential, apartments, shopping malls, hospitals, hotels, educational institutions and other support facilities. The project, an PPP model entails capital outlay of Rs. 5,000-8,000 crore, spread over five to eight years.

In the 1990s, Kerala initiated an information technology policy. The total investment that has moved into software so far and the value of output produced clearly indicates that Kerala's performance has been poor as compared to both its potential and the performance of its neighbours. Some general constraints are: a lack of proper integration between hardware and software; an imbalance between domestic and export demand; underdevelopment of the domestic market; under-investment in domestic R&D; lack of an original technology package for packaged software products; and a lack of indigenous finance and capital (Subrahmanian and Azeez, 2000).

Although Kerala has abundant educated and technically qualified personnel, the state is not able to retain them. This is because of the absence of metropolitan social infrastructure. In order to reap the full potential of the IT industry, Kerala needs to adopt an IT industry facilitation policy, improve the quality of physical infrastructure, and achieve quality in educational capabilities. The National Association of Software & Service Companies (NASSCOM) has rated Thiruvananthapuram and Kochi as leading tier 2 cities with IT focus. It is also predicted that they by offering quality life with good infrastructure and educational institutions can attract more IT/ITES businesses than existing leading locations like Bangalore, Hyderabad and Chennai.

Part of the strategy should be to further strengthen the presence in Japanese and South East Asian market and explore the new emerging markets like the Middle East, China and others. For this providing training foreign languages like Japanese and Chinese would be essential.

ICT should be used to improve efficiency and transparency in the working of the Government, including local self government. The state should structure its e-governance

projects based on the National e-Governance Plan and suggestions given by the National Knowledge Commission, in addition to locally relevant factors. Taking the Right to Information Act in its true spirit, the government can take up ICT enabled programmes for efficient flow of information between the citizen and the government.

8.9.1 Smart City in Kochi

The Smart City in Kochi will provide critical infrastructure for IT services and IT-enabled service companies. The expected cost of the project is Rs.1500 crores. This project is to create 33,000 jobs directly and 100,000 jobs indirectly.

8.9.2 Animation Industry

According to India's National Association of Software and Services Companies (NASSCOM), revenues from the global animation industry had touched \$50-70 billion by the end of 2005. India has become a favourite destination for outsourcing of animation jobs. Thiruvananthapuram and Kochi in Kerala can emerge as major centres for the production of animation and interactive media in India. The presence of an English-speaking workforce, high-quality software engineers, a large pool of creative talent, good studios, and low costs are the factors that can attract animation firms to these cities.

A beginning has been made with a 25-acre Special Export Zone (SEZ) being set up in Thiruvananthapuram exclusively for the animation industry.

8.9.3 ICT perspective for Kerala

The ICT sector should open up opportunities in the state towards technology, investments and employment for the educated work seekers. Kerala's advantages are better human development, availability of low-cost professionals at the entry level, excellent connectivity and significantly lower operational costs compared to other states. The weaknesses include shortage of middle and senior-level professionals, inadequate quality of power supply, and continued perception of the state as a poor investment destination.

The current status of the ICT industry in Kerala is not at all enviable. In comparison with the neighbouring states, total sales revenue in the ICT industry in the state as a share of India is only 2.5 percent. This state of affairs has to change drastically.

A comprehensive ICT strategy should further focus on:

- a. building up substantial strengths in service segments; including infotainment and content.
- b. capitalising on existing strengths in the manufacturing segment, as growth in this segment will have a bearing on the rest of the segments;
- c. improving the performance and quality of the micro and small industry base and broadening this base further through appropriate forward and backward linkages.
- d. accelerating the incorporation of ICT technologies in the production and delivery systems e-governance, Information Technology Enabled Services (ITES), Business Process Outsourcing (BPO) etc.
- e. moving more rapidly towards universal e-literacy which would create an overall environment for diffusion and sustaining local ICT growth.

In order to sustain the growth of the ICT industry, the state needs a regular supply of fresh stock of human resources with varied skills, experience and exposure. This stock includes entry-level engineering graduates, software engineers, developers, trainers, project leaders, project managers, domain specialists, technical writers and marketing executives. To start with, the target should be to ensure adequate supply of entry-level professionals. Improving the quality of training in both the formal and informal sectors is a priority requirement. BPO and ITES sectors have the potential to absorb large number of graduates, and even matriculates and diploma holders. Promoting ITES would require abundant supply of human resources with strengths in spoken English, good accent and domain specific skills such as payroll processing, insurance processing, medical transcription etc.

8.10 Bio-technology

A major knowledge intensive area that would be natural for Kerala to focus on is biotechnology and pharmaceuticals research and their application in commercial ventures. A comprehensive Bio-Technology policy should be declared.

(i), Biotechnology, Health and Medical Sciences

Areas in which biotechnology can contribute the state's development are:

- i. Value creation in spices, plantation crops, sea foods and marine resources and protection of spices, plantation and forest crops from biotic and abiotic stresses;
- ii. New and internationally competitive products and applications in rubber, coconut, and tuber crops;

- iii. Help in exploiting the state's forest, animal and marine resources in a sustainable and eco-friendly manner;
- iv. Ayurveda — herbal and traditional medicines; and
- v. Research on diseases such as cancer, diabetes, cardio-vascular diseases, and physiological disorders.

Apart from developing the institutions presently organised in Biotech such as - Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Centre for Plant Biotechnology and Molecular Biology, and Kerala Agricultural University, Thrissur. Kerala should set up a Kerala Biotechnology Board for infrastructure, policy and implementation

8.11 Towards an Entrepreneurial Society

It is estimated that jobs in the government and public sector undertakings are not more than 15 percent of total job opportunities in the state. It is obvious that Kerala should develop entrepreneurship capabilities of its people to meet the challenges of massive enterprise development. The state should undertake:

- A comprehensive project for entrepreneurship development from grassroot level
- Entrepreneurship courses in Colleges
- Special institutes with Govt - Academy – Industry three way collaboration
- Collection of research data on entrepreneurship and investment in Kerala
- Create culture of entrepreneurship – as against propensity for salaried jobs – among youth
- Empowerment and glorification of entrepreneurship through promotional campaigns
- Department / Agency for entrepreneurship promotion
- Support to voluntary agencies in entrepreneurship development

The state should also establish a full fledged Academy or University for Entrepreneurship Development as a combined organisation of the Government, Corporates, Small Scale Industries and academic institutions. The potential entrepreneurs, who enter this academy, will receive coordinated training and facilitation under one roof combining theory and practice and graduate as full fledged entrepreneurs. Identification of the business enterprise, preparation of project reports, loan syndication, market survey, marketing etc will be facilitated during the course itself. The Kerala Institute for Entrepreneurship Development (KIED) should be strengthened and upgraded to the Kerala University of Entrepreneurship Development.

8.11.1 Need for Entrepreneurship Education

The relevance of introduction of entrepreneurship at all levels of education needs to be highlighted. In order to develop entrepreneurial zeal among our youth we need to treat entrepreneurship as a discipline like engineering or medicine rather than as part of a subject. We need to integrate entrepreneurship in the curriculum of the entire stream of education in general and technical education in particular and introduce entrepreneurship as an additional subject in our technical and engineering colleges.

A silver lining is the good response to Entrepreneurship Development Clubs (EDC) started by the state department of industries.

Business development services, which is a vital link not only for enterprise creation, but also for their sustainability, need to evolve as a market initiative, in which, the government can perform a supportive role. The recognition that regional economies need stimulation from knowledge-based companies has led to many universities establishing science parks or company incubator units on or adjoining their campuses. Setting up a separate department for entrepreneurship development is essential in this regard.

8.11.2 Setting up a separate department for Entrepreneurship Development

The State Directorate of Technical Education should create a separate department to be called “Dept of Entrepreneurship and Management Development”.

8.11.3 Directory of Resource Persons

The department should prepare a directory of well known resource persons in the field of entrepreneurship and management for expert lectures and engage many among them to run the entrepreneurship courses. The entrepreneurship training courses need highly motivated, competent and committed trainer-motivators and they have to be sourced and made available.

8.12 Conclusion

Aggressive policies and programmes to tackle the problem of unemployment should become a major focus of the state government. In the formulation of all projects and schemes of the government employment creation should be a vital objective consistent with economic viability. If the measures indicated in this chapter, as well as others which can be thought of, are implemented it is quite feasible to create 50 lakh additional jobs in Kerala in the next decade taking Kerala to the historic milestone of zero unemployment.

CHAPTER – IX

FINANCES AND GOVERNANCE

Financial management and good and efficient governance are crucial to the development and implementation of the new KMD. The chapter analyses the present situation in Kerala in these segments and suggests concrete steps for improvement.

9.1 Fiscal Health of Kerala

Mobilisation, Conservation and optimal use of resources

9.1.1 Fiscal Position

The Kerala Fiscal Responsibility Act which came into force on 5th December 2003 aimed at elimination of revenue deficit as well as reduction of fiscal deficit to 3 percent of Gross states Domestic Product (SDP) by the end of 2006-07. These targets could not be achieved. They were further diluted and finally the 12th Finance Commission envisaged the elimination of revenue deficit and reduction of fiscal deficit to 3 percent of SDP by 31st March 2009. Following the recession in Indian economy in 2008-09 and 2009-10 the fiscal deficit to SDP ratio was pegged up to 4 percent in 2009-10. Similar relaxation was made in the revenue deficit to SDP ratio. Despite this relaxation, the revenue deficit and fiscal deficit worsened. From Rs.2638 crores in 2006-07 the revenue deficit of Kerala increased to Rs. 3785 crores and Rs.3712 crores in 2007-08 and 2008-09 respectively. It went up further to Rs.5023 crores in 2009-10. The fiscal deficit also shot up from Rs.3822 crores in 2006-07 to Rs.6100 crores and Rs.6347 crores in 2007-08 and 2008-09 respectively. It further went upto Rs.7872 crores in 2009-10. Kerala's performance is far below the targets which were specified. The state's fiscal position was much worse than the average of all the states in India. In fact, the 13th Finance Commission found Kerala to be one of the three states in fiscal distress as indicated by the continuing revenue deficit to SDP ratio. All other states had been able to carve out a revenue surplus.

The comparative position of key indicators of fiscal performance prescribed by the Thirteenth Finance Commission (TFC) shows that while the neighbouring states of

Karnataka and Tamil Nadu have achieved / surpassed the targets, Kerala was left far behind. The position is indicated below:

Table 9.1
Comparative Position of Key Indicators-2008-09

	Targets / Norms prescribed under Twelfth Finance Commission	Tamil Nadu	Karnataka	Kerala
Capital Outlay / GSDP Ratio	3 percent to be achieved by 2009-10	2.70%	4.37%	1%
Interest Payment/RR Ratio	To be between 15% by 2009-10	12.80%	11%	18%
Revenue Deficit/GSDP Ratio	To be eliminated by 2009-10	Revenue Surplus (4545 crore)	Surplus	2.50%
Fiscal Deficit/GSDP Ratio	3 percent by 2007-08	1.30%	2.50%	4.10%
Debt/ GSDP Ratio	3.8 percent by 2008-09	25.40%	30%	44%

Source: Economic Review, 2009.

As a result of the continual fiscal deficit, the total liabilities of the state as a percentage of SDP was 35.6 at the end of 2008-09. The TFC stipulates a progressive reduction of the debt to SDP ratio to 29.8 percent by 2014-15.

The reason for the continuing fiscal and revenue deficits beyond the targets fixed by the finance commission are pretty obvious. The revenue receipts increased from Rs.10634 crores in 2002-03 to 26109 crores in 2009-10, showing a growth rate of 11 percent. Revenue expenditure increased from Rs.11809 crores to Rs.31132 crores in 2009-10 indicating a growth rate of 19.2 percent.

9.1.2 Revenue Mobilisation

An analysis of the two major components of state's own revenue shows that the share of state's Own Tax Revenue (OTR) in total revenue has been increasing steadily in Kerala. The ratio for Kerala was higher than for all states during all recent years. Just the opposite trends are seen in the case of state's Own Non Tax Revenue (ONTR), the share of which is not increasing at all. Besides, the ratio for Kerala has been much less than that of all states. Kerala depends more on taxation than on Own Non Tax Revenue for its resource mobilization. All states rely much more on Own Non Tax Revenue than Kerala.

9.1.2.1 Tax Revenue

Despite the relative importance of tax revenue in the state's budget, the buoyancy of tax revenue has come down from 2.4 percent in 2000-01 to 1.1 percent in 2008-09 which was

only marginally higher than the average of all states. The gap between Kerala and all states average was much higher in 2000-01.

Additional resource mobilisation by tapping the tax revenue sources more effectively is both necessary and feasible as Kerala economy has been growing at high rates. In fact, the per capita income and the per capita consumption expenditure of the state has been the highest among states. There is scope for additional revenue realisation by curtailing the widespread tax evasion and aggressively collecting the substantial tax arrears. At the end of 2007-08, the arrears of taxes, amounted to Rs.10,000 crores of which arrears of commercial taxes accounted for 45 percent and taxes on duties on electricity 27 percent. Despite the mounting arrears, no effective action plan has been initiated for recovery or settlement.

9.1.2.2 Non-Tax Revenue

The Comptroller & Auditor General of India (CAG) in his letter dated 28 July 2009 to the Chief Minister of Kerala emphasised the rising fiscal liabilities of the state. He pointed out the negligible rate of return on investments as also inadequate interest recovery on loans and advances made by the state.

As on 31st March 2008, the state had 113 Public Sector Undertakings (PSUs) comprising 108 Companies and 5 Corporations. Out of the 108 Companies, only 83 were working. The total investment in working PSUs was Rs.7500/- crores and in non working PSUs Rs 165 crores. The accounts of the 69 working Companies and two Corporations were in arrears for periods ranging from 1 to 13 years. 13 out of 25 non working Companies were under liquidation and the remaining 12 defunct Companies were in arrears of accounts for periods ranging from 2 to 18 years. Out of the 14 working Companies which finalized the accounts for 2007-08, 11 Companies earned an aggregate profit of Rs. 66 crores. Of the loss making Companies, 28 Companies had accumulated losses amounting to Rs.1600 crores which far exceeded their paid up capital of Rs. 450 crores. KSRTC's accumulated loss is ten times its paid up capital of Rs. 140 crores. The return on investment to government is a meager 1.2 percent. All this indicates utter lack of discipline in PSU management.

Another major component of non-tax revenue is the interest receipts from the state's loans to others, mostly public sector units, statutory corporations and cooperatives. There has been poor recovery of interest not to mention of the principal. As George and Krishnakumar had pointed out in their earlier study in 2003, the interest receipts as a

percentage of outstanding loans of the government was only 1.04 percent and the revenue earned from cumulative capital outlay was only 5.04 percent in 2000-01.

The Thirteenth Finance Commission had found that Kerala's recovery rate from irrigation in 2009-10 was only 3.34 percent as against the average of 26.8 percent for non special category states and 23.9 percent for all states. In fact, it was the second lowest after Bihar.

9.1.3 Central Government Funds

The central transfers in both Kerala's revenue and revenue expenditure was not only much smaller than the average for all states but also there has been a steady decline from the nineties. In the share of grants from the centre too, there was a sharp decrease in the last decade. The share of central revenue transfers in the total revenue of the state decreased from 35.5 percent in 1991 to 27.7 percent in 2009-10. The share of total central revenue transfers in the state's revenue expenditure came down from 30.2 percent in 1990-01 to 24.0 percent in 2009-10. In respect of the share of aggregate Central transfers in both the revenue and expenditure, Kerala lagged behind all other states.

Central transfers in relation to GDP for Kerala was lower than that of all states. In fact, Kerala's position was fifth lowest during 2005-08 and sixth lowest in 2008-09.

Table 9.2

**Share of Revenue transferred from the centre in states'
Total Revenue and Expenditure (Figures in Percentages)**

Year	Share in Total Revenue						Share in Revenue Expenditure	
	Central Taxes Devolved		Grants from the Centre		Total Central Revenue Transfers			
	Kerala	All States+	Kerala	All States	Kerala	All States	Kerala	All States
2000-01	18.2	21.3	7.1	15.9	25.2	37.2	18.5	30.4
2001-02	17.8	20.4	10.8	16.9	28.6	37.3	22.2	30.3
2002-03	16.1	20.2	8.8	16.3	25.0	36.5	18.0	30.5
2003-04	17.0	21.2	7.7	16.2	24.7	37.4	18.8	31.4
2004-05	17.8	21.1	9.7	15.3	27.5	36.4	21.7	33.1
2005-06	16.5	21.8	13.5	17.8	29.9	39.6	24.9	39.0
2006-07	17.7	22.7	11.5	17.8	29.2	40.5	25.5	42.5
2007-08*	18.6	23.6	11.3	19.8	29.8	43.4	24.5	45.0

+ All States referred to in all tables all the states covered by the RBI study on State Finances unless otherwise stated. * Revised Estimates.

Source: K.K George and K.K. Krishnakumar (2009) computed from State Finances, Reserve Bank of India (RBI), for various years for the paper 'Kerala's Development Experience: Its Implications for Finance Commissions', Centre for Socio-economic & Environmental Studies

The allocation of central taxes to the state of Kerala varied between 3.50 percent of the total shareable taxes recommended by the Tenth Finance Commission to 3.06 percent as per 11th Finance Commission. It declined further to 2.67 percent and 2.0 percent according to the subsequent Finance Commissions' recommendations. Kerala whose service sector contributes a much larger share in state domestic product than that of all states had received only a share of 2.4 percent in total revenue from service tax in the country under the award of the 13th Finance Commission.

The share of total grants to Kerala has also been coming down. It came down from 2.5 percent under the 10th Commission's award to 1.4 percent under the 11th Commission. The share went up to 2.3 percent under the 12th Commission and 2.5 percent under the 13th Commission.

The main reason for the low revenue transfers to Kerala is the refusal of successive Finance Commissions to recognise the higher burden of recurring expenditure on the state due to its earlier emphasis on social sectors. The central government has also made the state government bear the burden of subsidy reduction in sectors like public distribution. Higher levels of education and health care have become other handicaps for the state to receive both the shares in central taxes and grants allotted under the criteria of social and economic backwardness. Furthermore, Kerala's fiscal problems are increasingly compounded by some of its very successes, creating second-generation problems the most serious problems being the ageing population and unemployment especially of the educated.

9.1.4 Revenue Expenditure

The share of developmental expenditure (social and economic services) declined from 65.2 percent in 2000-01 to 51 percent in 2008-09. Correspondingly, the share of non developmental expenditure increased from 34.8 percent in 2000-01 to 49.9 percent in 2008-09. At the same time, the share of state's expenditure on social services, particularly on education is being curtailed drastically. The ability of the state to sustain its much acclaimed social outlays is already being severely compromised. The share of education in state's expenditure has come down from 35.1 percent in 1960-61 to 22.5 percent in 2001-02. The present share is lower than the share of education in the budget of erstwhile Travancore Cochin State in 1954-55 (Salim and Nair, 2002). This has led to commercialization of education limiting access to the rich. This is also happening in the healthcare sector which in 2008-09 counted for just 4.7 percent of the total expenditure.

The share of expenditure from wages and salaries accounted for 37.2 percent of the revenue receipts and 32.4 percent of the total revenue expenditure. These ratios were considerably more than the average of all states.

More than two-thirds of the state's salary bill was on account of social services. About one-tenth of the salary expenditure was on economic services. Among the social services, Education accounted for 52 percent of the wage bill. The wage bill of aided educational institutions alone accounted for one-third of the wage bill of the state. Health and Family Welfare accounted for about 10.3 percent of the total salary bill. Among the economic services, agriculture and allied activities accounted for the single largest share in salary bill, i.e., 5.2 percent. Together with irrigation and flood control (1.4 percent), the agricultural sector claimed 6.71 percent of the government's salary bill. Industry accounted for just 0.38 percent of the wage bill.

The share of pensions in Kerala is almost double that of all states. The amount of annual pensions is considerably more than the annual revenue expenditure on all administrative services put together. The high pension commitment of the state is due to a combination of factors like the high life expectancy, early age of retirement and liberal commutation provisions.

9.1.5 Capital Expenditure

While the quantum of expenditure has increased, resulting in huge deficits and debt, the component of capital expenditure is shrinking. Capital expenditure as percentage of total expenditure was only 13 percent in 2008-09 as against 22.7 the average for all states. Nearly three fifth of the borrowings of Kerala were used to finance the revenue deficit.

The capital outlay in per capita terms was always lower for Kerala than the average of all states. The per capita outlay of Kerala was only 49 percent of the average of all states during the five year period of 2000 - 05. It came down to 35.9 percent during the period 2005-10.

9.1.6 Debt Burden

As a result of inefficient fiscal management, the total fiscal liabilities of the state which was Rs. 39,000 crores in 2003-04 increased to Rs.58, 000 cores and Rs.66, 000 crores in 2007-08 and 2008-09 respectively. The total debt of Kerala as a percentage of GSDP is a whopping 44 percent compared to 25 percent of Tamil Nadu. The upper limit prescribed

by the 12th Finance Commission is 30 percent. The state is inexorably drifting into a debt trap crying for corrective action.

9.1.7 Imperative of Fiscal Correction and Reforms

The precarious fiscal position of the state calls for bold and decisive policy measures. A lasting solution lies in the growth of the economy; rationalization or winding up of loss making public sector units and targeting concessions and benefits of social welfare schemes to only people below poverty line. Efficiency audit of government expenditure has to be implemented.

There are institutional rigidities which prevent the optimal use of resources including the human capital of Kerala. One can cite many examples: restriction on leasing land, discouragement of the use of water and mineral resources, unwanted restrictions on the use of land in plantations for other commercial uses, inability to sort out the conflicts between industry and local people, and so on. Urgent reforms are needed in each of these areas to effectively and efficiently utilize the resources of the state.

The revenue expenditure of the state has continued to be greater than 90 percent of the state's total expenditure. Moreover, the non-plan revenue expenditure, i.e., the state's committed expenditure, at Rs.22, 615 crore during 2007-2008 is greater (107 percent) than the total revenue receipts of the state.

Reducing revenue expenditures in Kerala is difficult since some 75 percent of the expenditures are committed for payment of salary, pension and interest (Jeromi 2003 and I&PRD, 2010). This also means that the state has little left for capital investments, which have been declining in recent years.

Kerala has a very narrow revenue base, as there is no tax on agriculture, services and, of course, on remittances. Kerala's record of reforms to address these issues and rationalise its fiscal management in the post-liberalisation period has, at best, been half-hearted and sluggish.

Such an approach is no longer possible as the 13th Finance Commission had fixed definite targets as may be seen from the table below. Any deviation from the targets will also be attracting penalties, which are also laid down by the Commission.

Table 9.3**Revenue and Fiscal Deficits, Debt and Interest Payments: 13th Finance Commission's Targets for Kerala**

Year	13 FC's Targets							
	RD/GSDP		FD/GSDP		Debt/GSDP		Interest Payments/Revenue Receipts	
	Kerala	All States	Kerala	All States	Kerala	All States	Kerala	All States
2011-12	1.4	0.2	3.5	3.1	32.3	26.1	24.5	N.A.
2012-13	0.9	0.2	3.5	3.1	31.7	25.5	24.2	N.A.
2013-14	0.5	0.1	3.0	3.0	30.7	24.9	23.6	N.A.
2014-15	0.0	0.0	3.0	3.0	29.8	24.3	23.0	N.A.

Source: Report of the 13th Finance Commission (2010-2015)

Ultimately, if the competing demands on the state's revenue most of which are quite legitimate are to be met there is a need for expanding the fiscal space of the state government. The space can be widened in a number of ways such as increasing tax rates, strengthening tax administration, cutting down low priority expenditure, implementing expenditure programmes efficiently and acquiring higher transfers from the Central Government.

9.1.8 Need for Expenditure Management

The expenditure management of the state government had been mostly ad hoc, leading to across the board cuts in expenditure.

“...what is called for is planned expenditure reduction, redefining the role of the state government, and in the light of this redefinition, expenditure priorities will have to be determined afresh and some of the unproductive activities have to be abandoned. This is necessary to strengthen the state's capacity to perform its core functions including regulatory functions. The state certainly will have to play a role in economic services. But it has to be restricted to such areas where private sector is unlikely to enter or is less efficient or its activity is harmful to the public. But just the opposite seems to be happening in the state as may be seen from the increasing share of economic services in the expenditure budget. The state's involvement in loss making PSUs is not coming down.

Fiscal reforms is an area where public finance and public administration meet. We cannot have fiscal reforms without reengineering the government and implementing budgetary and administrative reforms. There are a large number of restrictive labour practices in the government. The government machinery is creaking and the systems and procedures are archaic. This has led to the low productivity of staff and the poor quality of public services.”

(George and Krishnakumar – 2003)

Implementation of pension reforms as suggested by the recent finance commissions is long overdue in Kerala. One reason for the higher share of pensions lie in the lowest

retirement age in Kerala as against the highest life expectancy in the state. The share of persons above 55 years in Kerala in 2001 was 14 percent against 10.1 percent for India. It is likely that many people will be drawing more years of pension than salaries. According to the projections of the 13th Finance Commission, pensions in Kerala will be almost the same as salary in 2014-15 (Salary: Rs.8, 099 cr.; Pension: Rs.8, 054 cr.).

9.1.9 Mopping up Unearned Income

The Finance Development should have a mechanism for research and identification of unearned income which should be reasonably taxed for augmenting government revenues.

Some examples of new sources which can be tapped are

- i) Unearned increase in value of land as a result of government projects such as major roads, and other infrastructure.
- ii) Increase in Gold prices and jewellers making windfall profits.
- iii) Luxury buildings and other conspicuous consumption expenditure.
- iv) Auctioning of river sand for construction purposes but as per approved and legal schemes.

9.1.9.1 Tax Mobilisation and Compliance

The political climate in the state and weakness, inefficiency and corruption in the politico-administrative system facilitate tax evasion. The failure to modernize tax administration and strengthen the information network has also contributed to tax evasion. In Kerala, the tax resistance is building up in recent years. The state-wide merchants' union is not hesitant to use militant tactics to prevent inspection of their premises by sales tax officers.

All tax leakages should be plugged and designated taxes should be fully realised through a full proof tax enforcement and monitoring machinery. Implementation of the Kerala Value Added Tax Information System (KVATIS) has helped the state Commercial Taxes Department to facilitate better tax compliance and earn higher tax income.

9.1.10 Attracting Investment Funds

An amount of Rs. 23378.47 crores has been projected as the central sector investment in Kerala as on the end of March 2009, as against total central investment of Rs 977802.96 crores. This constitutes 2.39 percent.

It is imperative that Kerala mount a mechanism and drive for achieving the maximum central fund allocations. Availing of full benefits of funding not only from Government of India, but also quasi-government agencies and international aid organisations should become a focussed priority task of government. As against 3 percent population share Kerala is able to harness only less than 1 percent of the totality of national and international capital in the country. This is a reflection of poor project formulation, and follow up – a clear political and administrative failure.

There should be a professionally manned cell under an Additional Chief Secretary – supported by able consultants – for anticipating and identifying all possibilities of project funding of GOI and public sector agencies and international sources, preparation of projects, timely submission, systematic follow up, getting sanctions and monitoring flow of funds to the state. States like Andhra Pradesh, Maharashtra and Gujarat, have already such systems in place which has resulted in a disproportionate – share of national and international funding flowing to these states.

9.1.11 International funding

The state should mount efforts for mobilisation and full utilisation of all possible loans and assistance from World Bank, Asian Development Bank and other International lending agencies for project finance for the state across the entire spectrum of development.

9.1.12 Channelisation of NRK funds

No substantial efforts have so far been made to channelise NRK remittances for focussed planned development of the state. Due to the absence of a proactive policy, direction and system as well as an adverse investment climate the bulk of this unique revenue of Kerala is flowing into land (thereby pushing up land prices), luxury buildings, gold and conspicuous consumption (Veblen, 2007). Government should have a pragmatic policy and an organisational system for channelisation, and utilisation of this resource for priority sectors of development. If proper projects are made available and a system of public – private participation with adequate safeguards is put in place – this segment will constitute a critical source of development funds for the state

There are more than 20 lakh NRKs globally. Out of this say 2 lakh high net worth individuals can definitely invest a minimum of Rs. 30 lakh in a business enterprise which in turn can leverage a Rs. 1 cr. outlay with institutional finance, Indian and foreign. If atleast half of these potential investors are identified and pursued systematically Rs. 1 lakh crore can be mobilised from NRKs for investment. This should be one of the tasks of the KIPB (Kerala Investment Promotion Board).

Table 9.4
Trends in NRI deposits in Kerala (Rs. in Crores)

Year	NRI Deposits	Increment in NRI Deposits
2000	18724	
2001	21431	2707
2002	24534	3103
2003	28696	4162
2004	30100	1404
2005	29121	-980
2006	30671	1550
2007	33304	2632
2008	29889	-3415
2009	37019	7139

Source: State Level Banker's Committee (2009)

Nearly half of the remittances have been found to go for construction activities, mainly residential buildings. Except labour and certain locally produced materials all other building requirements are met through imports from outside the state. Hence, the forward linkage effect of such expenditure is registered in other states, and no corresponding value added activities take place within the state. The leverage effect of foreign remittances has been thus to promote 'leakages than linkages'. The high marginal propensity to consume and the high income elasticity of demand for consumer goods have thus failed to generate a multiplier effect within the state to enable generation of more employment opportunities.

According to the state Level Bankers Committee (SLBC), the deposits from expatriates received by Kerala banks during the 12 month period in 2008 was 34,649 crore, which was higher than the previous year. The annual remittances received by Kerala were much higher than what Kerala Government received from the Central Government as budgetary support.

Emigrants seem to have little faith that the government or public sector enterprises will do a good job with their money and provide them with a steady and reasonable return. NRIs could be persuaded to invest, if the right projects with proper institutional framework are promoted as evidenced by the Nedumbassery Airport experience. Identification of development projects in which the emigrants have a stake and assurance of a reasonable return could be the key to the success of the utilization of NRI funds and savings of returnee migrants for the development of the state.

9.1.13 Government Subsidy Policy

Any imperative economic activity which is loss making or unviable but which has to be sustained in the state's interests must obviously be subsidized by Government. Examples will be paddy cultivation, public transportation and traditional industries. Higher cross subsidisation will be possible when high wealth creation is achieved through pragmatic development policies and government revenues from taxes and non tax avenues are augmented by an enlightened policy of mopping up unearned and surplus private income

9.1.14 Twelfth Plan Outlay of State

Investment of Plan resources in the 12th Plan will be so targeted as to act as catalyst for attracting more resources, be it private or external, including funds from banking and financial institutions so that the sum total of investment is far greater than the amount of Government Plan investment.

Table 9.5

The Original Approved Outlays of the Last Five 5 Year Plans

Plan	Approved Outlay (Rs. Crore)
7 th Plan	2100
8 th Plan	5460
9 th Plan	16100
10 th Plan	24000
11 th Plan	40422

Source: 12th Five Year Plan (2012-17), Draft Outlines of Approach Paper, State Planning Board, p.31.

Based on assumptions of real GSDP growth, inflation, expected changes in balance from Current Revenue, growth of state's Own Tax Revenue and Non-Tax Revenue, Non-Plan Grants at the same level as provided in the 13th Finance Commission Report; growth in Non-Plan Expenditure, expected growth rate of Plan grants; and borrowings at the level

prescribed in the revised roadmap for fiscal consolidation, it was projected that the state can sustain a plan size of between Rs. 1,00, 000 crore and Rs. 1,05, 000 crore during the 12th Plan period. The official request of the state government is for a plan size of 1,02,000 crores now pending finalisation.

9.1.15 Dynamic Thrust Forward

The state has to move from stagnation of investment and development – poor government finances situation through a paradigm shift to total development – massive investment and wealth and employment creation – high government finances situation through an appropriate mix of policies and proactive measures.

A plethora of BOT and build and operate projects should be launched. The state should generate a massive thrust for development of infrastructure such as roads, railways, inland waterways, telecommunication, IT band width and connectivity, ports, airports, water supply, drainage and sewerage-making full use of state's resources, national and international funding and aggressive private sector investment including that of NRKs.

9.1.16 Conclusion

The researcher endorses the view expressed by George and Krishnakumar (2003) that:

“the *status quo* cannot continue any further and fiscal reforms brook no delay. Fiscal reforms must target both expenditure management and resource mobilisation simultaneously. It appears that fiscal reforms in Kerala are caught between two antique ideological positions. Ideological blinkers of those who argue implicitly for the status quo make them equate socialism with public sector and across the board subsidisation of public services with a Welfare State.... Pitted against the *status quoists* are the new champions of fiscal reforms who appear to have a delusion of going back to the vintage model of *laissez faire* and seem to be unaware of the large role of the state even in a market driven economy. The objective of reform is not to undermine the interest of large sections of the population by pricing them out of public services as well as the services of public utilities, but to sustain their interest in such services by improving their quality and reducing the hidden transaction costs. Fiscal reforms should not lead to undermining of achievements of Kerala Model of Development. In our view, the Kerala Model and its achievements are still laudable. Fiscal reforms should aim at sustaining the Kerala Model and should not lead to throwing the baby out with the bath water”.

The state has to improve revenue mobilisation, tax and non-tax, avail of maximum funds from the central government and quasi government agencies, manage expenditure,

rationalise subsidies, reduce the debt burden and the fiscal deficit through a strong time bound programme of bold and imperative policy measures. It should discard institutional rigidities which inhibit effective use of its physical as well as human resources, attract maximum investment, channelise NRK funds and make Kerala an entrepreneurial paradise. The wealth creation and its beneficial effect on government finance will help the state to achieve sustainable fiscal health and security in turn improving the Kerala experience to higher limits of social justice and economic development.

9.2 GOVERNANCE AND PROJECT IMPLEMENTATION

9.2.1 Improving Governance

The 7th Pay Revision Committee in its report observes:

“In our state little qualitative change in the bureaucracy and mode of its functioning has taken place and professionalism is still beyond general acceptance which stands in the way of simplification of procedures, pruning of staff size and cutting departments to reasonable size and make government functionaries people friendly.”

Several commissions and committees have examined the issues in governance in the state but they remain, by and large, unimplemented. A concerted effort is now in progress in the form of Modernisation of Government Programme (MGP) that is in effect a summation of several of the earlier recommendations. A time-bound implementation of the MGP will go a long way in addressing the many issues in governance, especially in areas relating to the delivery of public services. This will also reinforce the virtuous cycle of growth that appears to have come about as a result of the high level of human development achieved by Kerala.

A major modernization initiative for service delivery should be launched covering modernization of District Collectorates, village offices, *Krishi Bhavans*, and other key government offices with streamlined procedures, increased delegation and extensive use of ICT to improve faster delivery of services. E-administration is the right tool for introducing transparency and accountability in administration for rendering pro-poor services. Government has already proposed to introduce a service delivery bill for ensuring service delivery by government officials within given time frames. Whenever any project is placed for approval of competent authority, it shall include an implementation schedule, indicating the activities involved, the time frames, the cost and approximate date of completion. Any extension beyond the date of completion or any cost over-run will entail explanation of reasons for delay and fresh approval of competent authority.

Kerala's economic governance has been instrumental in undermining entrepreneurship, restricting open markets, encouraging forms of rent-seeking, promoting bureaucratically (mis)managed and perennially loss-making public sector enterprises, and institutionalising an unsustainable fiscal policy (Dreze and Sen, 2002).

The new Kerala Model of Development requires effective state support and an enlightened fiscal policy, but this can be successful only when the government and its administrative mechanisms are quick, responsive, efficient and effective. Lack of project management capacity at the administrative level has worked against developing viable proposals which can be funded by external sources and through PPP models. Often trained and capable people are underutilized, where as the burden of project management falls on the not so capable or trained. The system works against the timely completion of projects which attained financial closure through the funding by multilateral and central government agencies. Recent track record of some projects funded by the Asian Development Bank, World Bank, and JNNURM, etc. is testimony to this weakness. Mechanisms to minimize corruption in public projects too seem to be woefully inadequate. Administrative reforms and capacity building aimed at enhancing quality of project planning and implementation is a most important step to solve the infrastructure problems of the state. There should be more transparent, speedier and effective mechanisms to hire quality consultants to prepare projects and monitor their implementation.

Despite having an educated public and achieving higher levels of social development, the nature and technology of governance in the state of Kerala is fairly rudimentary. This is true even when we take into account the achievements of decentralization. The use of ICT for governance is yet to achieve a significant dent in the process of governance. Most attempts for changes in the administrative procedures to enable speedy decision making have been stalled on the way. With regard to the responsiveness of the administrative machinery, and quickness of decision making, Kerala is behind some other Indian states which have lower levels of social development. Revamping the administration of the state and the widespread and deeper use of e-governance should not be further delayed.

It is high time that coordination mechanisms at the level of different ministries like industry, revenue, finance, water, power, local government, etc. are established, and made functional. Such mechanisms exist in Government of India and most other states.

The 'empowered' group of ministers and top officials should meet once or twice a month to take decisions and also to review and to take corrective measures, if required, for effective project implementation. All investment proposals for a stipulated level should be considered by empowered committees. Decisions should be taken within a specific period, and once decisions are taken lower level functionaries of any other department should not be allowed to block implementation.

9.2.2 Upgradation of Quality across the board

To advance the process of economic development in the context of globalisation, Kerala needs to focus on a shift from quantity to quality. This is because the quantitative achievements in many areas of development are impressive and the objective conditions have become ripe for a shift to quality which alone will give a further impetus to the state's quest for fast development. This paradigm shift in focus, should embrace three major areas: (a) economy- wide technological change and innovation to enhance all round productivity, irrespective of sectors (agriculture/non-agriculture) or ownership (private/public); (b) enhancing the quality of infrastructure, and (c) enhancing the quality of governance.

One of the continuing challenges of economic development in Kerala is the need to formulate a policy on technological change. While Kerala is increasingly becoming non-agrarian in its economic structure, the productivity levels in all sectors of the economy and especially in industry is quite low in relation to its potential. Consensus has been eluding in the case of technological changes that are badly needed in agriculture, construction, and the many labour-intensive industries in Kerala such as coir processing, tile manufacturing and wood processing.

9.2.3 Administrative Reforms

Several recommendations of the Kerala Administrative Reforms Committees have been accepted by the state government and orders issued for implementation. Prominent among them relate to enforcement of office discipline in the secretariat, decentralisation, delegation of powers at various levels, health services delivery, accountability and autonomy of public sector undertakings, planning and implementation of public works, transparency and right to information and public grievances redressal. A new law envisaged by the present UDF government is a citizens' right to public services which includes penalties on public servants responsible for unduly delaying or denying such

services. Administrative reforms is an ongoing process and the key lies in effective implementation and enforcement. Thus process is often bedevilled in the Kerala milieu with multiple unions of all categories of employees and the practical inability and unwillingness of the political executive to disturb the tenuous political equilibrium of the state by any strict enforcement.

The Kerala Administrative Reforms Committee has given 15 reports and its selected recommendations should be rigorously implemented.

Some of the reforms which can be initiated immediately are:

- a) Use of Information Technology in offices having interface with citizens including e-grievance redressal.
- b) Publish citizen's Charters
- c) Right to information
- d) Desk Officer System and reducing levels in file processing to three.
- e) A massive capacity building plan for government staff especially those dealing with the public.

9.2.4 Restructuring, Retraining and Redeployment

The state should reorganize, strengthen and streamline its secretariat and departmental structures in order to handle the priorities of the new KMD. Departments and agencies which are presently small but have great potential and larger tasks to perform like tourism, IT, Ayurveda, manpower exports, skill building etc have to be upgraded and wherever necessary professional expertise has to be inducted through lateral entry or consultancy. There should be a serious effort for retraining and interdepartmental redeployment of personnel for judiciously controlling expenditure. Those who are deployed to new agencies or departments should be given the option of accepting and also given incentives like automatic promotion to the next level on new placements.

9.2.5 New Paradigm for local development

As already emphasized, Kerala has a proven record of democratic decentralization from 1956 onwards. The state had carried out pioneering reforms and set out on the path of rapid and wide-ranging decentralization. As we stand now, Panchayati Raj has grown into a viable system capable of addressing the developmental and administrative issues of the state.

The state has 978 village panchayats, 152 Block Panchayats and 14 District Panchayats in the rural areas and 60 Municipalities and five corporations in urban areas. Almost all village panchayats in the state have primary health centres, veterinary hospitals, *Krishi Bhawans*, Schools etc. There has been a continuing process of devolving the functions and resources of the state to facilitate greater direct participation by the citizens in governance including fixing of local priorities, identification of feasible schemes, selection of beneficiaries, monitoring of implementation etc.

The Panchayat/Municipality/Corporation has a tenure of five years and by providing 33 percent reservation for women at all levels of local bodies, decentralisation has provided a political space of considerable size for women in the state. Kerala is perhaps the only state which carved out the functional domain of different local governments with a great deal of precision. The functions have been divided into mandatory, general and sector-wise. Grama Sabhas and *urban ward sabhas* have been given clear rights and responsibilities with absolute powers for identification of functionaries, wide powers for social audit and strong advisory powers for prioritizing developmental needs.

The elected heads of the local governments have been declared as the executive authority. The local governments have full administrative control including powers of disciplinary action over their own staff as well as staff transferred to it. Local Governments are empowered to issue administrative sanction for all schemes subject only to their budgetary allocations. Similarly technical advisory groups set up by the District Planning Committees accord technical sanction for public works. Thus the local governments do not have to go to an outside authority for discharging their development functions.

The hallmark of Kerala's administrative decentralization is the transfer of public service delivery institutions to local governments. The important institutions transferred are:

- (i) Primary, secondary and higher secondary schools.
- (ii) Dispensaries, primary health centres, community health centres, taluk hospitals under the three streams of medicine, namely; Allopathy, Ayurveda and Homeopathy.
- (iii) *Anganwadis*
- (iv) District Farms – Agriculture and Animal Husbandry
- (v) All veterinary institutions at the district level and below
- (vi) Prematric Hostels for students from the Schedules Castes.

In the case of infrastructure, barring highways and major district roads connectivity has become an exclusive local government responsibility. Sanitation including solid and liquid waste management is now totally under local governments. Rural water supply is substantially under the LGs.

In the agriculture and allied sectors, the following have become de facto and de jure local government functions.

- i) Agricultural extension including farmer oriented support for increasing production and productivity
- ii) Watershed management and minor irrigation
- iii) Dairy development
- iv) Animal Husbandry including veterinary care
- v) Inland fisheries

The Integrated Child Development Services (ICDS) is fully implemented by village panchayats and urban local bodies. In respect of social justice 50 percent of Tribal Sub Plan and 2/3rds of special Component Plan are totally planned and implemented by local governments. In the area of poverty alleviation local governments play the predominant role especially in partnership with *Kudumbashree* which is a unique poverty alleviation mission. In the education sector local governments have responsibilities upto the higher secondary level. All welfare pensions are administered by local governments – including selection of beneficiaries and disbursement of pensions.

A fairly substantial own tax domain was carved out in Kerala for Village Panchayats long before the 73rd Constitutional Amendment. Property tax, profession tax and entertainment tax have been traditionally assessed and collected by village panchayats. Fiscal transfers to local governments from government were also done in a systematic manner. Further, there are seventeen specific purpose grants relating to items like water supply, street lighting, establishment, level crossing etc.

A statutory framework for borrowing by local governments has also been provided.

The funds devolved to the panchayats in Kerala during the last eight years have made them the most endowed local bodies in the country. After the people's plan campaign the devolution of funds from the state government to the village Panchayats increased nearly ten times. The apportionment of funds to the local bodies is based on objective criteria and has been incorporated into the state's annual budget. This makes it possible for Panchayats to know the quantum of grants they are entitled to get at the beginning of the

financial year itself and also make reasonably good estimates of their entitlement during the ensuing year.

One of the progressive features is the introduction of three Component Plans of which two, namely Special Component Plan (SCP) for SCs and Tribal Sub Plan (TSP) are included in the state budget itself. Ten percent of the Panchayat funds are to be set apart for women under the women's component plan (WCP) by all the three tiers. It is for the first time in the country that such special plans for marginalized groups have been envisaged at the local level. It has ensured regular fund flow for these sections.

The years of decentralisation experience in Kerala have led to a quantum jump in infrastructure projects. The Panchayats spend roughly 25 percent of their plan funds on infrastructure, particularly roads. This has led to greater rural connectivity. But the maintenance of these roads will be a heavy burden on these Panchayats in the coming years. The dispersed nature of settlements that exists in Kerala makes the provision of infrastructure, communicational facilities, water supply and electricity costlier than elsewhere in the country. While many transferred institutions such as schools, public health centres and anganwadis have secured buildings, equipment and other physical facilities, not much progress has been registered in improving the quality of services. The decentralisation experiment has led to construction or renovation of thousands of houses, of several kilometres of roads, besides bridges, latrines, cattle sheds etc as never before. There has been a spurt in the number of rural drinking water supply schemes, many of which are currently maintained by the beneficiaries themselves. Highly successful community based drinking water supply systems now exist in 220 out of the 978 village panchayats and this programme can be up-scaled to cover the entire state. A similar model for waste management needs be developed focusing on recycling and reuse, as near to the place of waste generation as possible.

The decentralisation campaign has brought out certain specific features which need to be further strengthened:

- An attitudinal change among the key players of decentralization
- A sense of confidence among the people at large to address development issues
- A programme to address the stagnation of the commodity producing sectors
- Public health and the potential of decentralized planning to address issues related to it.

- A new experience of the politics of development in the framework of democratic decentralization
- Though the local governments of Kerala at all levels are sharply political reflecting the political composition of the State, surprisingly, in their day-to-day functioning there is not much of adversarial politics. This has given rise to hopes about a new politics of development.

The project formulation and implementation mechanism has to be strengthened with greater professionalism – economic, technical, and managerial. The institutionalization issues especially focusing on management need to be implemented for office, personnel, institutions, finance, works and projects.

Appropriate rules in these areas and instructional manuals have to be developed.

The accountability mechanisms need a re-look. The Ombudsman could become a three member body with a Judge, Civil Servant and an Activist, enabling a process of triangulation. Similarly the social audit system needs a revamp with an independent social audit unit leading the process. The mandatory disclosure regime which is in operation in urban local governments needs to be extended to rural local governments

Along with greater financial autonomy the anti-corruption mechanism should also be strengthened and made full proof. The SG should properly monitor functioning but LSG should be freed of nitpicking and time wasting beaurocratic interference. The whole system of rules and procedures should be revisited and a fully streamlined system should be put in place so that LSG can fulfil the aspirations of the people with full authority and responsibility and the maximum quotient of development and welfare funds reach the intended beneficiaries and the public. Kerala needs to support and expand micro-enterprises and self-help groups to develop small businesses as a key engine of growth.

With more and more new generation schemes being announced by Government of India in health, education, rural and urban development, water and sanitation sectors there is a great opportunity for convergence at the local level. With the new philosophy of rights-based development being pushed nationally with right to work, right to education, right to food and right to social security, the Local Governments are in a vantage position to operationalise these rights in a meaningful way in view of their closeness to people and the multifarious interfaces they have with the target groups.

The State government needs to address the remaining problems of decentralisation in a time-bound manner. The areas that call for further attention are (a) capacity building in

terms of the Panchayat's ability to design, formulate and implement projects and programmes, and (b) administration of functions, accounting and financial management. The audit system which is done departmentally by the department of Local Fund Audit needs to be converted into an independent institutional arrangement on the lines of the Audit Commission of UK. The planning methodology needs an upgrade. It is time to move on to perspective planning and Five Year planning. GIS based analysis of development patterns and gaps could aid this process. Using these techniques proper planning can be done for road networks, setting up of utilities, infrastructure planning for natural resources management following the watershed concept and poverty mapping.

Though all the officers have been transferred to Local Governments along with the functions there is no position of chief coordinator in local governments with the result that the difficult task of coordination and monitoring has fallen on the elected heads. The absence of a senior and competent civil servant akin to the Chief Secretary at the State level is being strongly felt. A cadre of highly qualified professionals may be developed to function as Chief Executives of Local Governments. The desirability of creating a Panchayat Administrative Service, as was done in Gujarat some time ago, warrants serious consideration.

9.2.6 Total Project and Governance Responsibility Fixation

A common factor in the development of critical infrastructure is the time and cost overruns. A thorough review of the time and cost overruns of all infrastructure projects is called for with a view to developing a system whereby such overruns are eliminated for future projects.

Some of the other steps are:

- (i) Establish and implement quality standards for delivery of public services.
- (ii) Establish FRIENDS counter in all blocks for citizen services. Provide hundred percent staff training for E-governance.
- (iii) Establish E-Governance citizen interaction facility in all Panchayats.
- (iv) Strengthen institutional mechanism for accountability to Public.
- (v) Strengthen implementation of MGP for achieving the targets.
- (vi) Implement steps to improve efficiency of Government services.

9.2.7 Comprehensive e-Governance

E-governance is an area where Kerala can emerge as a model state in the country. Countries like Singapore have gainfully harnessed IT for integrating various citizen services and for improving the transparency and efficiency of Government. The state may establish a Centre for E-governance, which could co-ordinate and spearhead IT induction in Government. The Information Kerala Mission may be supported to complete IT computerisation and networking of local governments.

The present situation in Government service is lack of transparency and red-tapism. Majority of the employees are wasting their lion's share of time for tracking files and circulars from an old and obsolete record keeping system. The lack of transparency in bidding, procurement and service delivery leads to corruption and scams. The present computerization of Government departments simply doubles the workload. The employees have to perform majority of the file works manually and they also have to do the same exercise by entering certain data in computers. This is one of the main reasons for the poor performance of computerization in the public sector.

After implementing full e-governance, each and every citizen should have the facility to access round the clock service from any authority. Sufficient infrastructure and facilities should be provided in the Government offices thereby increasing the self esteem and capacity of employees. It is very important also to choose sufficient and robust softwares. The computer systems should reduce the manual work and demand only minimum interference from the operator. For example, in engineering estimates, Government departments use several software, which demands a lot of data like quantity, length, cross section, diameter etc. Normally the employees design the plan in a CAD software and enter all these values in the relevant software. This is a cumbersome process. There are softwares in the market which read all those measurements from the drawing itself. We have to choose such software which dispense unnecessary data entry.

The state has efficient data centres at Thiruvananthapuram, Kochi and Kozhikode which support the back end of the e-governance project in Kerala. The Kerala State Wide Area Network (KSWAN) also helps to disseminate information throughout various offices in the state. These efforts are supported by good technical teams at Kerala State Information Technology Mission, Information Kerala Mission, Kerala State Electronic Development Corporation (KELTRON), Centre for Development of Imaging Technology (C-DIT) and Centre for Development of Advanced Computing (C-DAC).

As a composite of the application of technology to government, e-governance should encompass.

- a) The automation of government systems and the online delivery of government services;
- b) The wide spread adoption of network – based technologies and the migration of government to the internal environment.
- c) The application of electronic capabilities and practices to government environments to reduce costs and client fraud and increase efficiency.
- d) The use of ICTs to facilitate the conduct of business and foster economic growth.
- e) The fundamental re-engineering and streamlining of the structure of the government and the nature of public administration; and
- f) The use of ICTs to foster new levels of democracy and citizen engagements, from electronic down halls to the online voting booth and new levels of political accountability.

Online Agriculture Marketing Information (AGMARKNET) and DACNET and intranet based e-governance solution have been underway in the state. Hortnet – is a portal to implement e-governance solution in the directorate and field offices of State Horticulture Mission (SHM). The system provides commodity wise best practices for managing crop, pest, nutrient, water etc.

The following B1 models have been developed for various Departments of Government of Kerala:

- i) Expenditure data model for Treasury Department
- ii) Stamp Duty and Registration Fee collection of Registration Department
- iii) Office Expenses model for Civil Supplies Department
- iv) Disease Surveillance model for Health Department
- v) Health Model from Gujarat Database
- vi) Model for AISES (All India School Education Survey)

9.2.8 Revamping laws and procedures

The Government of Kerala in 2007 constituted a “Law Reform Commission” with Justice V.R. Krishna Iyer as its, Chairman. The report of the Commission contains 104 draft

Bills on various subjects. The commission recommended 65 draft bills for new legislation and unification of certain existing acts, 30 Bills for amending existing enactments, 9 draft Bills for amending rules and regulations and listed 107 obsolete laws for repealing. There has been little progress on those recommendations which as usual are bogged down in committees. Urgent steps may be taken for quick examination and implementation of the feasible recommendations so that the statutory framework obtaining in the state is supportive of Kerala's further transformation and advancement in all areas of people's lives.

9.2.9 Consensus Building

Public action can meet the demands of partisan groups or classes, while simultaneously promoting and protecting the long-term interests of the people of Kerala as a whole, and building and maintaining sustainable ecological and social institutions which support both. For this public action has to be subsumed under a higher consensus about fundamental institutions and long-term public interests, and should be rooted in a rational-legal order that puts high value on the rule of law, and high standards of accountability in governance at all levels. There is now a new mood of optimism, and 'reform' is in the air everywhere in Kerala. There is reason to hope that Malayalees will now address the issue of institutional and policy changes needed to put Kerala on the path of more sustainable development and even more human development, but combined with greater economic growth.

9.2.10 Dealing Positively with Globalisation

The Economic Reform Policy initiated by the Government of India on July 24, 1991 has been formulated to provide a competitive stimulus to all sectors for building greater efficiency and growth, consistent with social justice. The reform consists of three main strategies: (a) Liberalisation, (b) Privatisation and (c) Globalisation.

Through these strategies, the main objectives of the Policy are to correct the distortions or weaknesses that may have crept in since independence; to build on the gains already made; to maintain sustained growth with greater efficiency in productivity and gainful employment; and to attain national and international competitiveness. Based on a realistic assessment of its continuing problems, Kerala has to chalk out a strategy for a broad-based growth that is based on its high human development and the recent turnaround in economic growth. In fact, Kerala has reached a critical threshold in its quest for long-term economic development - a threshold inevitably conditioned by the phenomenon of globalisation.

Globalisation has facilitated new technologies and all-round innovation. The enhanced flow of goods and services has opened up opportunities as well as challenges. While Kerala's fight against asymmetrical and detrimental international economic issues should continue, the state has to deal with globalisation in such a way as to enhance its efforts at economic development. The state, despite being a regional economy, has certain special strengths in engaging globalisation and these should be fully utilised.

Kerala has to articulate a comprehensive strategy for further development that will have to address the twin issues of efficiency with equity in the context of globalisation. There is a fear that globalisation may adversely affect the gains in social development because of a possible downsizing of the role of the state. There is also the fear of increasing competition for Kerala's products. In fact, the economy of Kerala has performed well since the late 1980s, resulting in an increase in consumption and savings. But the fears will become a self fulfilling prophecy if the state does not confront globalisation in a creative way and turn its mode of dependence on the rest of the world to one of interdependence.

It was on May 20, 1498 that Vasco Da Gama, in search of a sea route to India came from Europe, for trading in spices and as a navigator, landed at Kappad Beach, 10 km away from Kozhikode. Kerala coast had effective trading transactions with countries from far and wide with outward flow of goods, services and manpower. To talk to Keralites about globalisation and world trade is amusing, like carrying coal to New Castle.

In its most general sense globalisation refers to a process that ensures unfettered cross-national flows of capital, technology and commodities. This presupposes the liberalisation of trade and investment policies, with a minimal role assigned to the state and the key role to the market. Though terminologies like "globalisation" had not been in use, yet in actual practice Kerala coast had since ancient times effective trading transactions with countries from far and wide. To a large extent, the economy of Malayalees was influenced by such world and outworld flow of goods, services and manpower.

Debate has to focus on how to confront and assimilate globalization as a matter of public policy. Large sections of the people of Kerala are already positioned, as a matter of their individual/private strategy, to take advantage of globalization. One is the active presence of our 2 million Keralites in the international labour market especially in the Gulf countries. The other is the increasing trend in the export orientation of many of its

agricultural products as well as those from agro-processing and other industries such as cashew, coir, marine fish and ayurvedic pharmaceuticals. The growth of Kerala in international travel and tourism and the successful factoring of health and ecology attraction into them is yet another example of taking advantage of a global market.

9.2.11 Technological Change and Innovation

Given Kerala's higher 'social wage', the lack of competitiveness in labour-intensive agriculture (e.g. rice cultivation) and many agro-processing industries is the result of the inability to raise labour productivity. Neighbouring states, with much lower level of wages, are able to attract those industries where labour productivity levels are not much different. Hence Kerala requires technological change and other forms of innovation that will enhance the value of its products. But Kerala's political society turned its back on technological change for decades on the myopic consideration of temporary job losses.

Technological change creates new jobs and innovation on a wide front and further contributes to new employment creation and income generation. There is no doubt that people affected by job loss have to be taken care of by a variety of means, including social security and/or retraining. Their employment and employability can become a sustainable reality only through increasing investment in the economy.

Opposing technological change has not resulted in job protection because industries and activities have moved away from the state e.g. coir and cashew processing. In agriculture, the result has been to move towards low labour absorbing crops. Thus, opposing technological change has neither served the immediate purpose of job protection nor the long-term objective of development. Given the fact that the younger generation in general, and the unemployed, in particular, are educated, they desire to work with technology than without it. And also not all technological changes are labour displacing. In fact technological changes such as hydrological (water control), biological (e.g. new and better seeds) and chemical (e.g. fertilisers and pesticides) are labour-augmenting.

Innovation is not only new techniques but also doing things differently, including making new products, finding new sources and organising in new ways. Recent examples of successful innovations in Kerala are in the areas of *ayurveda*, tourism, ICT-based activities, food processing and garments.

The social terrain in Kerala is such that no meaningful and gainful employment will be created for the vast army of educated labour force without a system-wide emphasis on

technological change. Successful technological change along with innovation can address the problems of the 'traded' sector in terms of competition. The ultimate test is one of increasing labour productivity. It is with this strategic understanding that this thesis has discussed the potentialities of ayurveda-based activities, tourism, IT as well as the need for developing state specific small and medium manufacturing activities. Interventions are also needed on the agricultural front, through a similar application of technology and policy planning.

9.2.12 Quality Consciousness & Control

9.2.12.1 Quality Problems

Quality is an issue of serious concern in both the fields of social and economic infrastructure development in Kerala: Roads and transportation, electricity, education, public health, among others. For example, Kerala completed 100 percent rural electrification long back, and even exported energy for quite some time. But since the early 1980s, it has been reeling under severe power famine. Though about 85 percent of the households in Kerala are at present electrified, the reliability of connections is far from satisfactory, with frequent blackouts and brownouts. It can be said that Kerala's electrification is only an 'apparent' capability enhancement. Similarly, Kerala does have a high edge over all-India in connectivity among communities via roads, but most of the roads are in bad condition, with a history of long neglect of upkeep. Combine this with the poorly maintained public transportation, and the common man in Kerala stands to achieve his social contacts at a very high indirect cost — another example of a failed capability enhancement.

Kerala should thus have a long term perspective in development emphasising a shift in focus from quantity to quality in all spheres. Three focus areas should be:

- a) Enhancing quality in education especially that of higher education
- b) Enhancing efficiency in infrastructure such as power, transport, public health
- c) Enhance the quality of governance. This will act as a powerful magnet for attracting private investment.

Quality assurance programmes and Total Quality Management (TQM) should be implemented in all relevant spheres.

9.2.13 Anti-corruption Mechanism

Corruption, a particularly widespread aspect of mis-governance, is more than a matter of unfairness or immorality. It entails heavy social costs. Bad economic policies, weak legal frameworks and regulations, and a lack of professionalism feed corruption. Active civil societies, strong public vigilance and swift correction of policy distortions are therefore crucial.

There are many channels by which corruption can and does weaken economic growth (Mauro, 1998; Kaufmann and Zoido-Lobaton, 1999; Tanzi and Davoodi, 1997). Some examples are: lower overall investment and unproductive public investment, misallocation of human talent (to rent-seeking rather than productive activities), and physical inputs (to bad projects), lower quality of physical infrastructure, a larger unofficial economy, reduced public revenues, and reduced ability to provide for the rule of law. The impact of corruption through the unofficial economy may be especially significant, since it affects both growth and private sector development.

Governmental corruption in Kerala is perceived to be of lower magnitude and pervasiveness, when compared to some of the other states in the country. This is because of a vigilant public, vibrant media and multiple people's organisations who closely monitor all decisions and actions of government.

In fact the anti-corruption vigilantism is so intense that several initiatives for good schemes and projects are tarred with the corruption brush and are delayed or destabilised. Prompt decision making and civil service morale are often the casualties. The Vigilance & Anti-Corruption Bureau is the specialised agency of the government for combating and controlling corruption among public servants. The Bureau conducts Investigation/enquiries into criminal misconduct as defined in Prevention of Corruption Act 1988, dishonest or improper conduct or abuse of power, gross dereliction of duty or negligence, misappropriation of public funds and amassment of wealth disproportionate to the known sources of income.

There are four special courts functioning in the state exclusively for the trial of vigilance cases charge sheeted by the Bureau and Vigilance Tribunals. Kerala *Lokayukta*, which has been functioning well in this state for the last decade has been successful in bringing about positive results by curbing corruption and instances of maladministration. It should be the objective possible as part of the new KMD to buttress

the anti –corruption mechanism to establish Kerala as the most corruption free state in the country.

9.3 ROLE OF NON-GOVERNMENT ENTITIES

9.3.1 Popular Organisations and Movements

A flourishing civil society has been considered as the precondition for the existence of democracy. Liberals like J.S. Mill and Alexis De Tocqueville conceived civil society as a domain of social associations, which would check the excesses of the state. The ‘Kerala model’ of development and sustainability is characterized by public actions carried out through popular mobilization and governmental interventions within a democratic framework. Despite extremely high levels of social mobilization, Kerala has largely been spared the sectarian and caste violence that has often been on the upswing throughout most of India. More importantly, Kerala has a long tradition of social movements not only in political but also in social, cultural and environmental areas. The experience of previous participatory programmes suggests that the success of the new Kerala model will depend on the ability of local planners and popular movements to overcome deep - rooted political and class boundaries by convincing different groups about common productive interests and potential mutual benefits of cooperation.

It was mainly through struggles based upon the growing consciousness of rights among the relatively underprivileged groups, that the access to basic services was made possible to wide sections of the Kerala population (Tharakan, 1998). This process was facilitated initially by Socio-Religious Reform Movements (SRRMs) (Tharakan, 1992) and later by political movements (Sathyamurthy 1985). Dreze and Sen (1995), emphatically pointed out the positive role that political activism and public demand played in the developmental process of Kerala and in promoting people's basic entitlement and capabilities.

But now unfortunately, the state in Kerala has in fact become a very soft state, highly vulnerable to all sorts of pressures from a large number of interest groups, not all of whose demands are conducive to the state's development. The first are the forces unleashed by the social reform movements in different castes and communities which soon consolidated themselves into pressure groups. The second set of forces came from the workers and peasants' movements organized first under the banner of the political left and thereafter virtually under all other political parties. The other set of forces that have

made the state soft are the communal forces that have to be accommodated directly or indirectly in the coalition governments that have become a fixture in Kerala's state system. For some time, as Mathew (1989) has argued, the communal road in the past appeared to lead to secular politics. Now secular parties are travelling the same road, but apparently in the opposite direction.

Excessive politicization is definitely one of the major reasons why development is retarded in Kerala. The state, along with most of its autonomous institutions, has come under its influence. Autonomous movements and intellectual life have not been immune to the influence of narrow party politics. Appointments to the Public Service Commission (the body recruiting government employees), the judiciary, university bodies, and so forth, are made on the basis of party cum religious/caste considerations. Political news dominates the media and is followed by news about literary and artistic events. Serious developmental issues are less raised or discussed. Kerala's fragmented polity stands in the way of the state being able to formulate and articulate its collective goals.

9.3.2 Trade Unions

The role of labour unions have been central in deciding the course of Kerala's economic development. Coming to power of political parties strongly supported by organised labour contributed to emphasis of governments on distribution issues. Much of the energy of the state was directed at mediating disputes between labour and capital and/or labour and state. Leading observers have characterised the state as a 'soft' and 'reactive' institution.

The organised and excessively politicised unions became pressure groups often serving their own group interests. They successfully resisted technological innovation and mechanisation in crucially important traditional industries, and eventually drove away the coir, cashew and handloom industries into the more hospitable neighbouring states.

The militant trade unionism has in the past led to industrial unrest, high labour cost and cost of production, low productivity, comparatively low return on investment, and high "psychic" cost of managing labour relations all of which have discouraged entrepreneurs from making industrial investments in Kerala. The ultimate casualty is the stability and continuity in the state's industrial policy (Subrahmanian and Azeez, 2000).

Labour policy in the state has been by and large focused upon those who are employed and unionized workers in particular. The unemployed have no organized clout and are left to fend for themselves.

The state actively supported trade unions in building and financing labour cooperatives for toddy tappers, *beedi* workers, coir-processing workers, cashew—processing workers and handloom weavers (Kannan, 1992). Minimum wage committees were appointed first for the coir and cashew industries and then gradually was extended to forty five other industries, including the ‘handling and care of elephants’ (Parayil, 2000).

Since 1987, the state legislature has, with political consensus, enacted welfare schemes in all the major unorganized sectors. The Industrial Relations Committees (IRCs) have in recent times have apart from tripartite negotiations helped in the formulation of new industrial and labour policies. For instance, coir manufacturers, coir workers and the state agreed in 1990 to an ambitious restructuring plan involving mechanization, price deregulation, extension of the cooperative sector and job retraining.

This area of creative modification in the tripartite relations of the state, trade unions and capital has to be expanded and buttressed to repair the state’s anti-investment image.

Recent studies suggest that class compromises between entrepreneurs and workers have been achieved through successful mediation by the state (Heller, 2000).

9.3.3 Co-operative Sector

The Co-operative movement in the state has been playing a distinct and significant role in the process of socio-economic development with special focus on rural population and livelihood. It has a solid foundation and impressive track record in terms of financial stability and sound infrastructure to generate adequate funds. There are at present 13478 cooperatives under the control of registrar of co-operative societies of which 10241 are functional.

This wide network of cooperatives are engaged in various promotional activities particularly in agricultural credit, public distribution system, distribution of agricultural commodities, marketing, agro processing, consumer activities, public health, education, housing, insurance, infrastructure development, SC/ST sector, and women development. The proactive involvement of co-operatives should be considered in procurement of farm

produce and establishment of more agro- processing units in the state in the years to come.

During the fiscal 2010-11, Kerala stood first among Indian states, for both sanctions and disbursement of National Cooperative Development Corporation's (NCDC) financial assistance. Both, sanctions and release of NCDC funds to the state of Kerala reached an all time high of Rs 1101 crore and Rs. 1110 crore, respectively during 2010-11, contributing around 18 percent of total sanctions and 24 percent of the total releases made by NCDC, country wide. As on 31-03-2011, NCDC has disbursed a cumulative assistance of Rs. 3520.88 crore for various co-operative development projects in Kerala (Pinaki *et. al.*, 2010).

9.3.3.1 Primary Agricultural Credit Societies (PACS)

Out of the total loan disbursement, major share (72.84 percent) was for short term, followed by medium term (24.16 percent) and long term (3 percent). In the case of loan disbursement, for agricultural purposes alone, there was 32 percent increase in 2010-11 compared to the previous year. 103 percent increase was made in long term agriculture credit disbursement. Credit for non-agricultural purposes of all types has sizeably increased.

9.3.3.2 Deposit Mobilization Campaign

The deposit mobilization by the co-operatives have shown an increasing trend over the years. During 2010-11, the co-operatives could mobilize Rs 2627.33 crore as against the target of Rs 2078.85 crores.

9.3.3.3 Miscellaneous Co-operatives

Miscellaneous types of co-operatives have been organized in the state mainly for generating employment opportunities to the unemployed youth and the weaker sections.

A programme for the overall development of the co-operative movement in the state namely "*Sahakarana Navarathnam Keraleeyam*" was launched during 2007.

A summary survey of the past several decades shows that people from the state have ventured into community based banks, hospitals, educational, and light industrial enterprises. The evidence is in the proliferation of rural and urban cooperative banks, milk producers', vegetable growers, cottage and light industry co-operatives as well as the establishment of cooperative hospitals — built by different social groups all over Kerala. In fact, in terms of cooperative ventures per capita, Kerala state remains

unsurpassed in India (Heller, 2000). Community—based and decentralized development programmes initiated by both non-governmental organizations and the state government thrive in Kerala today (Tornquist, Franke and Chasin, 1993; Véron, 2001 and Parameswaran, 2000).

For further development of the cooperative sector there is need to address excessive politicking and still existent corrupt practices in many cooperatives. Economics of co-operation has in most cases been relegated to the background. If the potential of co-operation has to be harnessed fully for development, there is need to focus on ensuring economic viability of co-operatives.

9.3.4 Mobilisation of support of Religion and Community based Organisations

Kothari (1988) has argued that voluntarism is the essence of Indian civilisation and that the real functioning of the society was enabled by voluntary organisations that are based on caste, religion and commercial interests.

In Kerala's polity the communal and the secular co-exist. Mathew (1989) in his study has ably researched the role of community based organisations in building Kerala's education, health and social infrastructure and their effect in contributing to the secularisation of the state. "A welfare state has to be responsive to communal claims so far as it embodies popular aspirations and demands. In other words, the content of citizenship determines the intensity of communal bargaining, conflicts and competition. The secularization process need not necessarily replace man's identity in terms of religious affinity."

Swami Vivekananda and Sree Narayana Guru had inter alia harnessed religious-community loyalties as instruments to mobilize people and thereby bring about social change on the secular plane.

Christians progressed through organization at the parish level and the dedicated priests and nuns were instruments of progress. The resources for educational institutions were raised by the Church through voluntary contributions including from the poor such as donation of 'a handful of rice a day'

Mannathu Padmanabhan built one of Asia's largest educational networks through mobilisation devices such as New Year subscriptions (*Vishu Pirivu*), and produce subscriptions (*utpanna pirivu*). The investment in education in Kerala by community based organisations was truly outstanding.

In a study of education and economic development in Kerala, Nair (1994) comes to the following conclusions:

- a) “The efforts made by Christian community, social organizations like the Nair Service Society and the SNDP and a number of individuals belonging to the different communities for raising resources for starting schools and colleges seem to have few parallels in the history of any country in recent times.
- b) This mobilization of resources was possible because the leadership could touch the primordial feelings of the people, telling them this was a sure way for the individual community to move from the periphery to the centre of the system.
- c) Formation of voluntary associations, workers movements and political parties were signs of a faster secularising process, but communal loyalties persisted within these instruments of secularisation. A civil society was in the making, but it was being shaped within the mould of primordial loyalties.
- d) The Kerala experience shows that communalisation need not be looked upon as a vulgarised form of social development; but on the other hand it could lead to a flowering of several institutions for the total development of society.
- e) There is nothing wrong if communities separately or jointly do something for the common goal of the state’s development.
- f) Data show that no institutions run by a community is exclusively for its members alone. At least 20 percent of the appointments and a much longer percentage of students are from other communities.
- g) In a plural society, the road to a secular future can pass through the latent, intermediate function of ‘communalisation’.”

Since the state’s resources are limited a campaign for total development should include mobilisation of private resources of every kind, majorly the institutional power of all community based organisations. Any thought that this creative approach is against secularism should be discarded. The preservation of the secular ideal is protected by the laws of the land and the Constitution. All savings and investment in the state’s economy by communities and special interest groups which are legal add to the developmental impetus and are a creative support for the state’s overall efforts. In other words, to borrow a Maoist dictum, let ‘a thousand flowers bloom’.

9.3.5 Non-Governmental Organizations

NGOs are increasingly being viewed as having an indispensable role to play in supplementing the developmental initiatives of the state. Sarah Joseph, a well known human right activist in Kerala, has claimed that “the spurt in voluntarism, or what came to be called ‘grass roots politics’, after the emergency in the late 70s provided the hope for a while that a new style of politics was emerging which would regenerate democratic institutions in India”. “A more participatory model of democracy would emerge, it was hoped, as a result of popular pressures and the work of voluntary organisations which were involved in organising and mobilising the people. Their intervention has helped articulate the aspirations of the people and led the state to devise more people-friendly schemes”. (Sooryamoorthy and Gangrade, 2001)

In comparison to Government, NGOs are in a relatively better position to personalize the provision of services they offer to the people (Salamon, 1987). The principle advantage of NGOs lies in their proximity to people and their sensitivity to the needs of the community. A prominent feature of the nongovernmental sector is its capability of bringing people together and motivating them to participate in the developmental process.

Flexibility in approach helps NGOs invent appropriate solutions to the issues they handle. They can adjust to the needs of the clients (Ibid) Micro level operations provide greater opportunities for tailoring the services to the requirements of the beneficiaries. The small size is advantageous, for it gives the NGOs the capacity for innovations rarely seen in government and business (Korten, 1992).

One of the major advantages of the NGO sector is that it uses resources economically and appropriately vis-à-vis the state. Also NGOs serve as a test bed for new ideas and methodologies that are difficult for the government and business sectors to develop. NGOs also act as a sounding board for government policies and programmes. Such attempts secure recognition and often governmental agencies try to emulate them.

Funds and resources of NGOs are a sensitive issue as several NGOs have been on the scanner in the context of funds and their utilization. Notably, a large chunk of NGOs depend on foreign funds to run their activities. But Kerala has benefited immensely from voluntary activities, both independent and in association with the state.

That policy measures of the government, an integral part of public action, were instrumental in Kerala’s achievements (Ramachandran, 1999) is a strong case for building NGO-Government partnership for the state’s further development.

Shah and Iyengar¹ propose six parameters in judging the quality of NGO activities:

- People's participation,
- Technical excellence,
- Cost-effectiveness,
- Equity-concern for the deprived, and for women,
- Institutional, financial, and environmental sustainability and accountability

Subject to integrity and quality of services the NGO sector in the state has to be actively encouraged by the state. Steps should include a state sponsored 'Kerala Consultancy and Facilitation Centre for NGOs' for assistance to genuine NGOs, in preparation of projects, availing of funds and hassle free project implementation.

9.3.6 Encouraging 'the Community Development Society' of Kerala

The Community Development Schemes (CDS) structure and movements should be strengthened and streamlined to be another pillar of support for the state's development. The CDS is functionally linked to the local bodies and is a viable mechanism for delivering benefits to the poor with least leakage. The four pillars on which the CDS stands are (a) women's empowerment, (b) thrift and credit, (c) viable income generating activities and (d) convergence at the level of the local bodies where it is to function as their subsystem. It needs to be suitably structured and made into a strong component of the planning process of the state (Oommen, 2008).

Effective convergence should be the goal with reference to all programmes to be delivered at the cutting edge level of poor families. Clarity of mission objectives, periodic monitoring, evaluation and mid-course correction by a committed team backed by an equally committed Advisory Group at the state level are required.

Training – Agencies like NABARD, ANERT, Health Department, *Shramik Vidyapeeth*, Food and Nutrition Board, Regional Rice Research Centre, Coir Board, etc., have helped in the CDS with specialized training. There is a strong infrastructural set up for training with the involvement of the Institute of Management in Government (IMG), Kerala Institute of Local Administration (KILA), State Institute of Rural Development (SIRD) etc.

¹ See, Unit 18 Civil Societies: Social Movements, NGOs and Voluntary Action, Available from: http://hbse.nic.in/download_aca/ded/civil_societies.pdf.

9.3.6.1 Salient Features of CDS Functioning

The micro plans formed at the neighbourhood group level are integrated at the Area Development Society level to form a mini plan. Further various mini plans prepared by the Area Development Societies are integrated to form a CDS plan at the local government level. In fact, this CDS plan becomes the anti poverty sub plan of the village panchayat or municipality, for which one-third of the total development resources of the local government is set aside. Thus according to the Government of Kerala website, 'CDS system has the right of voice, the power of choice and the entitlement of action that is real empowerment.'

Another noteworthy feature of the programme is the setting up of women's banking through the development of credit and thrift societies. In the weekly meetings of the neighbourhood groups, the meagre savings of the poor women are collected and recycled through the sanction of loans. Thus, feeling of unity has also gone up among the poor women of Kerala. In Kerala, *Kudumbashree* has collected Rs. 230 crore as deposits and lent Rs. 320 crore as loans.

The most widely publicised feature of the programme is the setting up of micro enterprises combining the local demand with local resources as well as skills maximising local linkages. In this context CDS's involvement in the solid waste management in the urban areas is worth mentioning.

9.3.7 Self-help Groups (SHGS)

Along with 'democratic' decentralisation came the still micro level of participatory development through neighbourhood groups (NHGs), comprising 20 to 40 households below poverty line, the members being usually women. Such groups initially started with thrift activity and lending among members which were later expected to evolve into some economic activity. Some members of an NHG or drawn from different NHGs formed micro enterprise units organised as self-help groups (SHG). Visualised as a participatory poverty reduction approach by means of a neighbourhood organisation of the poor, under the leadership of the local self governments, the SHGS has emerged as an effective platform for converging various anti-poverty programmes of the state and central governments. This far-reaching experiment initiated in Kerala by the name of '*Kudumbashree*' (Family Prosperity) has attracted wide attention.

The creation of this large number of Self Help Groups (SHGs) of poor women under the leadership of the Panchayat is quite unique to Kerala. Apart from addressing the gap in women's associational life and enhancing their survival capabilities, the women of these SHGs are a source of support for the Panchayat in many ways. Women are often seen to have a spatial affinity with the local government as it is the most appropriate space in which they see the chance to associate with local public decision-making without having to renounce their traditional roles in the family.

9.3.8 Kudumbashree

As already stated, *Kudumbashree* is an innovative, women-centred poverty eradication programme being implemented since 1998 and 2000 in rural and urban areas of the state. It started with the Poverty Alleviation Programme with community participation in Alappuzha which won laurels from the United Nations. In 1994 the Community Based Nutrition Programme and Poverty Alleviation Project (CBNP & PAP) started functioning with UNICEF assistance and the programme was extended to Malappuram, considered a backward district of Kerala. Over 4,000 neighbourhood groups of poor women were formed under this project and they started mobilising savings, which touched over Rs. 2.50 crore in August 2004. They were also able to channelise financial assistance amounting to Rs. 2 crore from NABARD and other agencies. Around 700 neighbourhood groups were linked to various commercial banks under the Linkage Banking Programme of NABARD. The implementation of Government-sponsored programmes for improving health and sanitation in Malappuram district was channelled through neighbourhood groups.

The programme used non- conventional indicators of poverty and used a community based organisational structure, which facilitated the active participation of poor women in planning and management. When the state evolved a poverty eradication mission in 1998, referred to now as *Kudumbashree*, it incorporated the essential features of these welfare programmes.

A major strength of local governments in Kerala is their partnership with the community based organizations of the poor. The *Kudumbashree* system in Kerala has under its fold 38 lakh women covering nearly half of Kerala's families. At the local level the women are organized into a Neighbourhood Group (NHG) of around 20 families. NHGs within a Municipal or Village Panchayat ward are networked into an Area Development Society (ADS). And all the ADSs within a local government are federated into a Community

Development Society (CDS) which is a registered society. In many states of the country such organizations work outside the Local Government system; but in Kerala there is a well structured relationship between the two protecting the leadership of local government as well as the autonomy of the people's groups. This attempt at synergy has led to largely positive results.

9.3.8.1 The Objective of the Programme

The advantage of the programme stems from its unique approach to identify the poor, by using a multi-dimensional index, rather than just a mere shortfall in income. *Kudumbashree* carries out a baseline survey, as a first step, to identify the extent of poverty within a locality or district. A household is considered poor, if it possesses four or more of the nine risk factors. The combination of any four risk factors provides 126 possible ways of finding a poor household. Viewing poverty in this way, gives a range of possible ways to both identify the poor and initiate activities and address the causes and consequences of poverty.

The decision-making authority rests with the elected representatives, who are poor women themselves rather than bureaucrats or politicians. Thus the process inculcates not only a sense of women empowerment but also helps to promote economic independence. These aspects make *Kudumbashree* a unique and rewarding programme, in which poor women become the active and informed agents of human development and social change.

In Kerala the *Kudumbashree* programme has organised 1,96,000 poor women from 58 Urban Local Governments and 98,119 women from 700 Village Panchayats of the state into 64,272 (Rural) and 7,848 Urban) Neighbourhood Groups. The Community Development Society system has already collected Rs. 64 crore as small savings of which more than Rs. 50 crore has been disbursed as loan among members for contingency, consumption and income generation needs.

Another major achievement of the *Kudumbashree* programme is evident in the 25,000 vibrant individual micro enterprises and 1,000 group enterprises, with minimum 10 women in each group, functioning in the state. About 97 activities are undertaken by the various units of *Kudumbashree* in the state including direct marketing (69 units), IT (59), soap making (50 units), catering service (45 units), canteen (45), dairy (44), IT schools (43), ethnic delicacies (41), hotels (41) and garments (40). Some of the different programmes implemented under the *Kudumbashree* recently include *balasabhas*, *vidyashree*, IT services to the poor, identification and rehabilitation of destitutes, linkage

banking, lease land farming, etc. On the infrastructure development front too, *Kudumbashree* has made remarkable progress. 36,617 houses and 34,679 toilets for the urban poor and 21,907 houses and 20,409 toilets for the rural poor have been built on the initiative of the Community Development Societies.

There is a limitation that many groups are not able to run viable micro enterprises. Another major criticism raised against the self-help groups in general and *Kudumbashree* groups in particular is that many women belonging to the poorest of the poor families will be kept out of the entire system due to the inability to provide weekly savings, which is a prerequisite for getting membership in a group.

9.3.9 'Janasree' and other programmes

In addition to '*Kudumbashree*' which is the official state programme a private initiative called '*Janasree*' has been launched in recent times for empowerment and for grassroot development through people's participation. Registered as an NGO in 2006, it has organized 60190 '*Janasree Sanghoms*' which encompass an approximate beneficiary participation of 12.5 lakhs. 65000 SHGs formed in the villages has federated themselves to be part of Janasree through district level apex federations. Microfinance is one of the major activities of the *Janasree* Mission.

In addition various community based and social organisation notably the Nair Service Society (NSS), the Sree Narayanan Dharma Paripalana Yogam (SNDP), and several Christian Dioceses are doing substantial work in the field of microcredit throughout the state. Government is supportive of their efforts and should implement the proposal '*Kerala Micro Enterprises Finance Corporation*' to strengthen and expand such initiatives for the welfare of the poor and disadvantaged in the State.

CHAPTER - X

SUMMARY AND CONCLUSIONS

10.1 Introduction

The main hypothesis of the research is that the present model of development in Kerala is not sustainable and the time has come to establish a new upgraded model to take Kerala to higher levels of socio-economic development. The hypothesis has been tested through structured interview schedules with six main variables and 115 sub variables covering (i) agriculture and allied sectors, (ii) industries, infrastructure and environment, (iii) social services, security, welfare and justice, (iv) education, skill building and employment, (v) finance and fiscal policy, (vi) governance and project implementation. It has been substantiated that the people of Kerala and experts on the KMD are convinced that state should build a new model of public policy and programme framework to achieve total social justice, comprehensive economic development, full employment, fiscal health and good governance in the next decade of 2012-2021 coinciding with the 12th and 13th Five Year Plan periods. The realisation of these aims is possible if the supplementary policies and programmes suggested for the new model are implemented with political will and people's support. The new model aims to achieve the goals of total social justice and empowerment, comprehensive economic development and full employment for the state. The narrative includes the rationale for the steps suggested and comprises policy initiation, revamping existing and building new institutional structures, new missions and movements, public private partnership and consensus building among the people. In a nutshell the new model delineates Kerala's way forward.

10.2 Old Kerala Model still very relevant

In brief, the positive aspects of the existing Kerala model are:

- a) A set of high material quality of life indicators coinciding with low per-capita incomes, both distributed across nearly the entire population of Kerala.
- b) A set of wealth and resource redistribution programmes that have largely brought about the high material quality of life indicators.
- c) High levels of political participation and activism among ordinary people along with substantial numbers of dedicated leaders at all levels. Kerala's mass activism and committed cadre were able to function within a largely democratic structure.

The old Kerala Model fostered a literate, fairly healthy, motivated population with a sense of purpose, involvement, commitment to ideals, and a generally optimistic orientation to the future. These achievements – along with the expectation of high material quality of life indicators and willingness to organise and carry out mass actions – give Kerala weapons with which to build a new model appropriate to today's circumstances.

The forces that created the old Kerala Model can be reinvigorated and can be directed into a new model in which the shortcomings of the old are addressed. A new narrative is in the making, which seems to emerge from two findings. First, Kerala has not faltered on human development in spite of the long period of slow economic progress in the past; and second, the growth in SDP in the past 15 years has been no less than the all India average. (Chakraborty, 2005)

10.3 Adoption of a High Road to Economic Development

The low road to economic development is the path of capital accumulation through labour-intensive industries with low wages, extraction of natural resources, such as mining, quarrying, logging and such other activities which lead to depletion of natural resources as well as adverse environmental impacts. The low road also means low technological base and profiteering.

The high road, on the other hand, calls for a longer vision in investment, higher levels of skills and knowledge and consequently higher wages, higher technological base, modern organisation and management and containment of adverse environmental impacts. Examples of the high road sectors in Kerala are Tourism, Ayurveda-based industries and services, IT and Bio-Technology.

Kerala has now reached an HDI threshold where it will not accept a 'low road' to economic development. As pointed out by Kannan *et al* "any strategy involving exploitation of labour in any form is downright an anathema to the dignity and identity of Keralites". Given the high density of population and its dispersed habitat pattern, ecological sensitivity and the high level of social consciousness about quality of life, it is impractical as well as undesirable if not impossible, to engage in extractive activities which harm the natural environment and thereby threaten quality of life. The mass agitation against mining of sand and minerals, projects involving deforestation, blocking of natural waterways manifest the unsuitability of attempting a 'low road' to economic development in the state.

The following set of criteria may be followed while selecting and prioritising projects of the ‘highroad’.

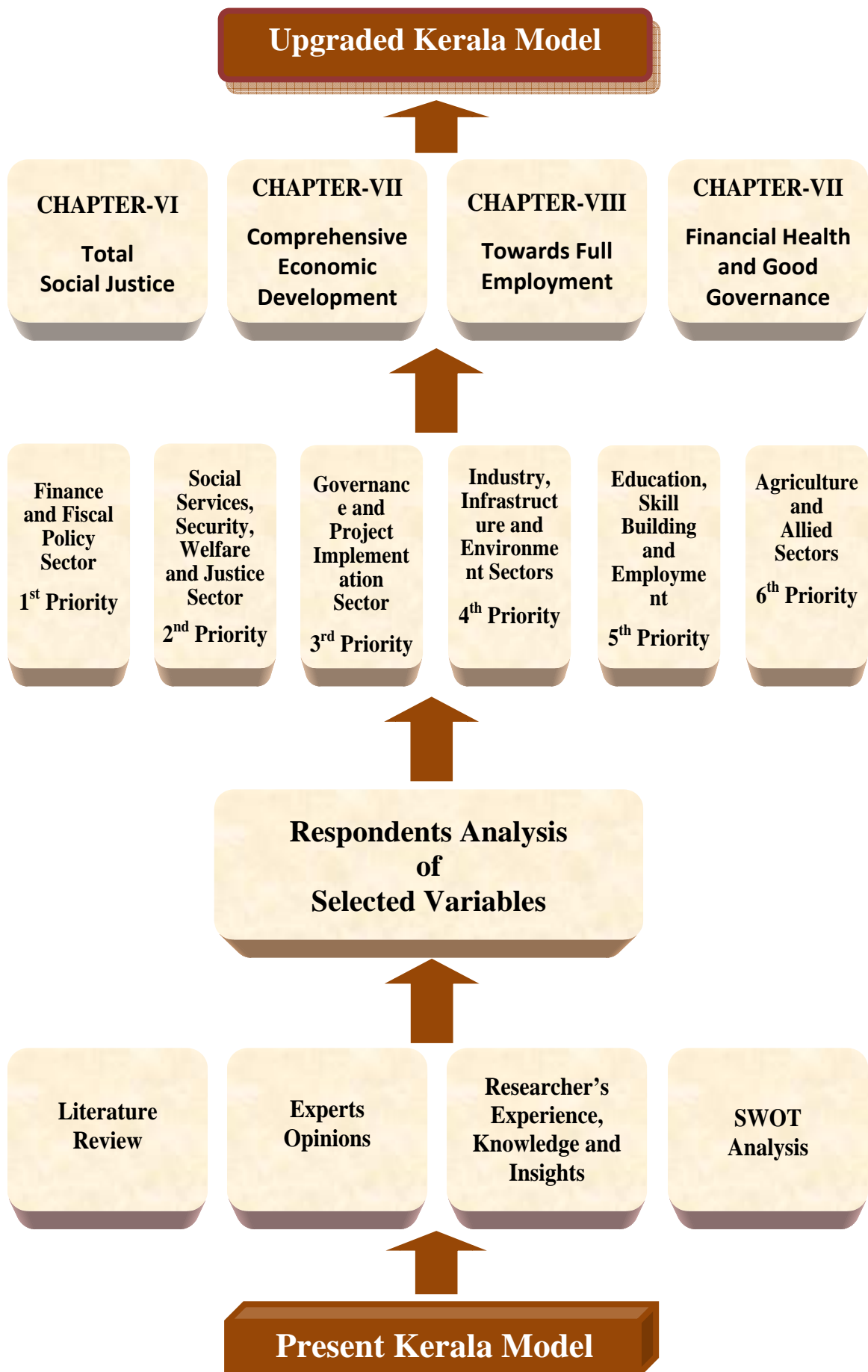
- Land-saving but skill- and/or knowledge-intensive (e.g. ICT-based) activities.
- Products which are low in volume but high in value (e.g. pharmaceuticals).
- Low pollution or other negative externalities but using the ecological resources as a positive factor (e.g. eco-tourism, herbal medicines, organic agriculture and high value agricultural products).
- Small and medium-sized activities except where there are distinct economies of scale (e.g. food-processing, fashion garments, precision engineering, etc.).
- Activities which can create a ‘niche’ market within India and abroad.

10.4 Transition from the old to the upgraded model – thrust areas

As depicted in the flow chart at figure 10.1 below the variables for analysis and discussion in the upgraded model for Kerala’s Development were selected based on the literature review, opinions of experts, researcher’s insights based on his experience and a SWOT analysis of the socio-economics of the state. These variables were then subjected to a respondent’s analysis and the priorities in popular perception were arrived at through a regression model. The findings and proposals built on them under six priority segments were grouped for convenience into four chapters signifying the four major thrusts and goals of the proposed upgraded model – Total Social Security, Comprehensive Economic Development, Full Employment and Fiscal Health and Good Governance. It may be emphasized that the respondents analysis has been used as a testbed for the ideas and opinions at the peoples’ level but does not constitute the exclusive foundation for the practical policies and programmes which constitute the improvements over the old model in the new ‘Upgraded Model for Kerala’s Development’.

The contours of the new model are grouped under the following chapters: Total Social Justice (Chapter VI) Comprehensive Economic Development (Chapter VII), Towards Full Employment (Chapter VIII), Finance and Governance (Chapter IX). Subjects are grouped under the chapters based on their greater relevance. For example, areas of maximum employment potential are included in the chapter on employment instead of in the chapter on economic development.

Figure 10.1



10.5 A Summary of the Thesis

This thesis is an attempt to fashion the desired model of Kerala's socio-economic development on the foundations already laid by the much lauded Kerala model which has achieved a high degree of human development with comparatively low investment. The origin and history of Kerala's development since ancient times through the pre-independent period of colonial rule and post-independent rule of democratic governments has been outlined. In particular the progress of literacy and evolution of the education system in the three regions of Travancore, Cochin and Malabar in the state has been traced. The socio-religious reform movements which emerged in the beginning of the 20th century played a major role in shaping the future socio-economic landscape of the state. The role of missionaries and these reform movements ensured essential civic rights to the lower castes.

Building on these movements the democratic governments in Kerala adopted a redistributive development strategy including radical land reforms in the 1960s. An expanding network of social security and welfare measures was launched. These achievements in the areas of social development in turn resulted in the positive outcome of a fast demographic transition taking Kerala to the premier position in adoption of family planning and population stabilization.

The overall growth history of Kerala has been narrated including the period of slow growth in the 60s, stagnation in the 70s and period of high growth from the 80s persisting even today. The poor central investment and an adverse investment climate for private capital contributed to stunted economic growth in Kerala resulting in unemployment among the educated. Kerala earned the epithet of 'a problem state'. The phenomenon of migration of Keralites especially to the gulf countries and substantial NRK remittances added substantially to the state income and resulted in a consumption boom. The structure of the Kerala economy changed to a dynamically growing tertiary sector and stagnating industrial and agriculture sectors in spite of initiation of economic reforms from early 1990s. These developments compounded by the fiscal crisis of the state and chronic unemployment brought into focus the very sustainability of the Kerala model. A silver lining is the recent turnaround with accelerated economic growth getting Kerala out of the low growth syndrome signalling a virtual cycle of growth based

on earlier human development and falsifying the predictions of doom of the Kerala Model.

The perceived strengths, weaknesses, opportunities and threats of Kerala state in creating sustainable socio-economic development and realising the state's full potential have been analysed. They are indicated in figure 10.2 below. The state has unique strengths in high human development index, gender equality, high literacy, a well developed education and health infrastructure and successes in housing coverage, women empowerment and population control. The phenomenon of out-migration especially to gulf countries have brought in foreign remittances contributing to almost a quarter of state's income and total deposits in the state. It has an advanced social justice and security system and model public distribution system, high food and nutrition security and the best record among states in poverty alleviation. The state has a strong presence in plantation crops and has led in land reforms implementation. It has a comparatively developed infrastructure and unique mineral resources especially mineral sands which can bring great wealth, income and employment if properly utilised. The state is first in the implementation of the constitutional mandate of decentralisation of governance and the state's public and democratic mobilisation and multi cultural and communal harmony have contributed to a stable social equilibrium.

The state's noted weaknesses are chronic unemployment especially of the educated, deteriorating quality of education, poor outlays for higher education, poor linkage to job opportunities, emerging morbidity and deteriorating health services, and mismanagement of major infrastructure sectors like irrigation and power. Agriculture is stagnant with acute food shortage due to dwindling cultivation of rice and poor growth in other food crops and problems in plantation crops except rubber. The state's public sector is inefficient and poorly managed without any sustained and determined effort to rectify the situation. Manufacturing industry has stagnated and traditional industries of coir, cashew, and handloom employing the bulk of labour force have been in a state of decay. The state is suffering from poor investment climate and low investment basically due to perceived labour militancy and a poor industrial promotion mechanism. The state faces environmental deterioration and has a poor record in waste management.

Figure 10.2 - Key SWOT Indicators for Kerala



Politics has become over-emphasised and over-developed and people have unfortunately placed undue reliance on the state to achieve all their goals, including economic ones. If one analyses the outstanding success stories of Kerala such as the Gulf migration, development of plantations or areas like marine products exports it will be self evident that these successes were the outcome of the entrepreneurial initiatives of the people. The tradition of self-help was evident in the state's history when communities mobilised investment capital through local mutual funds of *kuries*, *chitties*, and banks, and built the educational and health infrastructure with their own local resources. The goals of mobilisation and self reliant organisation later changed to extraction of benefits including welfare and subsidies from a patronising state government. The means were typically mass mobilization and agitation often departing from peaceful and democratic methods, and transgressing into gheraos, bandhs and destruction of public property. This scenario led to the fragmentation of politics and to destructive competition among rival parties and trade unions preventing healthy consensus and creative pursuit of the genuine collective goals of the people and the state.

Historically there has been obstruction of technological advancement resulting in traditional industries moving to other states and ultimate job losses. The state has been denied a fair share in the central allocation of funds and the combination of a stagnant economy and commitments in the social sectors has left the state with acute budget deficits. The state has a narrow taxation base and tax efforts have been suboptimal. There have been severe infrastructure constraints by way of quality of the road system, poor progress in inland water ways and poor capacity addition and management in the crucial sectors of power and irrigation. The outlier populations of fishermen and schedule tribes have been left out of social and economic progress and are still living in deprived conditions. The state's consumerist culture and its import dependent economy have been other weaknesses.

The state has tremendous opportunities in tourism because of its pristine environment and new knowledge based industries like information and biotechnology. The substantial health and medical infrastructure holds promise of making the state a global destination for medical tourism. The state's traditional system of ayurveda, if properly developed, holds opportunities of creating huge wealth and employment in the state. With proper skill building and an imaginative programme the already existing opportunity of migration can be developed into a successful movement for manpower development and export. The large NRK remittances and Keralites' own savings can be utilised for a massive programme of public private partnership especially in infrastructure and

services. There is emerging a new generation of youth who can be the vanguard for a movement for converting the state into an entrepreneurial paradise. The state can become a global destination in many areas where it has unique potentialities.

Among the threats are the heavy dependence of Keralite products on the external environment, the general agitational attitude towards development and the ideological opposition to even beneficial aspects of globalisation. The spectre of labour indiscipline is still haunting the state. The population dynamics have resulted in an aging population and also increasing life style diseases. The culture of *bandhs* and *hartals* and the activities of vested interests against technological advancement, modernisation and attempts of improving productivity and quality of services is further vitiated by excessive partisan politics.

A radical reorientation of Kerala's health and education sectors is a prime requisite. Kerala must transcend agricultural stagnation through innovative agriculture, new farming systems and launching a special mission for reviving rice cultivation. A viable, economically sustainable, diversified agricultural sector with value addition and brand building has to be fashioned and built. The proposals also cover development of plantations, agribusiness and trade, agro forestry as also a sustainable agricultural trade security system. Special programmes for horticulture development, cultivation of medicinal plants and floriculture as well as organic agriculture have been suggested. The potential of animal husbandry, dairying and poultry have to be fully realised. The issues plaguing the inefficient irrigation system of Kerala have to be solved.

Kerala's record in creating and maintaining economic infrastructure has so far been unsatisfactory. In particular, there has been a marked failure in sustaining public utilities and public-sector enterprises in an efficient way, leading to the drain of scarce resources.

Major initiatives have to be launched for building a world class infrastructure of roads, railways, ports, airports, telecommunication, drinking water supply, sewage and drainage in the state. Specially emphasised is the potential and need for building Kerala's unique waterways system linking the rivers and backwaters for slow cargo movement and development of tourism and culture. Kerala's problem ridden power sector has to be specially focused on and measures adopted to ensure adequate and stable power.

Kerala's industrial set up and mechanism have to be overhauled and refocused to build and nurture industries which are sustainable in Kerala. 'A high road to development' has

to be adopted with knowledge based industries, and those based on local resources with high technology which can sustain high wages. Pragmatic industrialisation based on raw materials including the bounty of mineral sands coupled with a high-tech human resources based small industry sector within a decentralised planning framework has to be promoted. Kerala should become a viable and attractive investment destination. Evolving a progressive and socially responsible public action process especially in the trade union front is a crying need. The thesis of Jeffrey (1994), Dreze and Sen (1989) that public action has been the locomotive of Kerala's progress still has considerable substance. The state's salvation lies in reorienting this strategy with vision, commitment and recapturing the zeal of the past. Fractious, rhetoric oriented politics should yield to purposive goal-based politics. Literature and art must disengage from day to day micro-politics and engage the growing evils of communalism, corruption, crimes, social anomie, gender hegemony and human rights issues. To reflect and act with vision and wisdom is the challenge before the intelligentsia, politicians and people of Kerala. The employment oriented traditional industries have to be sustained through technological upgradation and cross subsidies.

The true entrepreneurs in the state had in the past been alienated with no state support, if not with state repression. Under such circumstances, a 'turn-around in growth' cannot be expected through government programmes alone. What is needed is unleashing the hidden entrepreneurial potential and innovativeness of the people. The policy makers should appreciate the capabilities of the emerging entrepreneurial class, and should provide them the fullest support.

The great potential of mineral sands of Kerala should be specially developed consistent with the environment and a special initiative should be launched to make Kerala a hub for development of titanium metal and value added products.

A sustained and continuous global investment drive has to be organised and the image of Kerala reversed from an 'investment unfriendly' state to a global investment destination. The objective reality of labour market rigidities will have to be overcome. The industrial promotional mechanism has to be revamped and an imaginative programme launched for rehabilitation of returned migrants through enterprise creation. Kerala has to build an entrepreneurial society through education, skill building and entrepreneurship development. A massive programme for public private participation including all the local self development units should be launched. Firm decisions have to be taken about rationalisation and revival of Kerala's sick public sector undertakings.

The chronic obstacle of land acquisition for development schemes has to be overcome through a Land Acquisition and Rehabilitation Corporation and through measures for speedy acquisition of land with proper compensation and resettlement. Environmental concerns should be balanced with the needs of development. Special attention should be paid to rivers, backwaters and aqua system management in Kerala protecting this unique resource of the state. A total integrated physical master plan has to be prepared to stabilise the rural-urban continuum of the state and scientific planning enforced for proper utilisation of the land for infrastructure and different occupations and uses. Existing metropolitan development authorities at Greater Cochin, Thiruvananthapuram and Kozhikode have to be strengthened and new authorities set up for remaining District Headquarters and their environs for effective regional planning and undertaking large urban development schemes. The clean Kerala mission has to be perfected for total waste management.

As part of the full employment drive for Kerala, a Kerala Manpower Global Mission for enhancing overseas employment following the Philippine model has been proposed as also measures to give an employment orientation to all government policies and programmes. Under this section are included the development of sectors and areas with potential of creation of maximum employment like tourism, information technology and biotechnology, ayurveda and holistic health and higher education. The education system has to be made employment oriented, the quality of school education improved, higher education given adequate importance and technical education strengthened for modern skills. Kerala should become a national and international hub for higher education with world class institutions. Youth empowerment and sports development have also been stressed for equipping Kerala's youth for a productive and high quality life.

The serious revenue and fiscal deficit situation of Kerala when compared to the neighbouring states and all India has been analysed. Revenue mobilization in tax and non-tax revenue leaves much to be desired. The low allocation of central government funds including central taxes to Kerala has been mainly due to refusal of successive finance commissions to take cognizance of Kerala's high social sector expenditure as well as the states special problems of aging population and unemployment.

The imperative need for fiscal correction in time, effective administration and compliance has been stressed. Imperative is the need for scientific expenditure management, pension reforms, and bold and decisive action for rationalisation or winding up loss making public sector units. There is need also for rationalisation of subsidies in genuine areas like

paddy cultivation, public transportation and traditional industries. Government should launch a strong programme for mopping up unearned income and attracting maximum investment funds from central government and international agencies. The unique gift specific to Kerala of the large NRK remittances has to be channelized for productive purposes through an imaginative programme of investment and enterprise creation. There is a need for massive programme of public-private participation especially in infrastructure and public services and comprehensive entrepreneurship development.

Steps urgently required for improving and modernising governance and for upgrading the quality of public services have been delineated. Various recommendations in administration reforms still pending may be speedily implemented. A new paradigm for local government has been outlined for further improving Kerala's Panchayati Raj system which already stands in the forefront in the country in devolution of powers and functions. Further professionalization, monitoring and fixation of responsibilities of LSG are called for. The laws and procedures declared obsolescent by the Law Reforms Committee set up by the government should be repealed and several laws modified to support Kerala's economic and social development. Kerala needs building of consensus, overcoming partisan strife, in favour of dynamic action for social justice, development and employment creation. The unreasonable ideological and other opposition to even the clearly positive aspects of globalisation have to be overcome through conscientisation of the people. Kerala should move forward with technological change and innovation as a necessary condition for taking 'the high road to development'. Quality problems have to be addressed in infrastructure, education and public health among others. A more comprehensive anti-corruption mechanism has to be installed and successfully operated. The efforts of government have to be supplemented by Kerala's prolific popular organisations and movements, the trade unions, cooperatives, religious and community based organisations and the NGOs. The current successful initiatives towards decentralisation and participatory democracy need to be aggressively pursued. The already successful community development society of Kerala including grassroots level self-help group movements like Kudumbashree have to be further strengthened and universalised for maximal performance.

10.6 New recommended legislation, organisations and missions

The following new statutes, missions, authorities, movements and institutions of excellence have been proposed under the new KMD.

- (i) Permanent Social Justice and Security Commission
- (ii) District Family Planning Hospitals

- (iii) The Kerala Highways Bill
- (iv) Kerala State Maritime Board
- (v) The Kerala Rice Mission
- (vi) Kerala Virtual University for Trade
- (vii) National Institute of Organic Agriculture
- (viii) National Coir Research and Management Institute
- (ix) Kerala River and Water Bodies Control and Development Authority
- (x) Kerala Mineral Development Authority
- (xi) Permanent Mechanism for Global Investment Drive
- (xii) Kerala University of Entrepreneurship Development
- (xiii) Kerala Land Acquisition and Rehabilitation Corporation
- (xiv) Kerala State Agricultural Marketing Board
- (xv) Kerala Manpower Global Mission
- (xvi) Kerala Ayurveda Global Mission
- (xvii) Private Universities run by social and community organisations – Sree Narayana Guru, Xian, Muslims organisations, Mannom, Ayyankali
- (xviii) Kerala International Medical University
- (xix) Kerala Bio-technology Mission
- (xx) Kerala International Nursing University
- (xxi) Kerala Nursing Education, Training and Placement Mission
- (xxii) Kerala Centre for e-governance
- (xxiii) Kerala Consultancy and Facilitation centre for NGOs
- (xxiv) Kerala Skill Development Mission
- (xxv) Kerala Micro Enterprises Promotion and Finance Board
- (xxvi) International Medical University
- (xxvii) The State Commission on Human Settlements (SCHS)
- (xxviii) Kerala Institute of Habitat Management Studies
- (xxix) Kerala Tourism Infrastructure Development Corporation
- (xxx) International Institute of Hospitality Management
- (xxxi) Kerala Ayurveda Global University
- (xxxii) Kerala Sports University
- (xxxiii) Kerala Institute of Poultry Technology and Development

10.7 Key emerging tasks before the Government

All modern societies adopt rational scientific models for development, considering the ground-level realities in which they are to be operated and evolve procedures for achieving the intended outcomes, in the form of special operations with a time-frame set for their realisation. In order to establish the new model firmly the Govt. of Kerala must declare a historic mission for the next ten years to take Kerala out of the morass of stagnation into which it had fallen and take it to its rightful destiny as a model state in growth, development and social justice. The key policy strategy thrusts and tasks before the government are reiterated below:

- ii) Implementing the revolutionary new Model of Kerala Development building on the gains of the old model and based on growth with social justice, clean, lean and efficient administration, infrastructure development, promotion of investment and entrepreneurship and emphasis on high growth and employment areas like Information Technology, Bio-Technology, Tourism, Ayurveda and Holistic Health and Job Oriented Education, Training and Skill building and Human Resources Development.
- iii) Lean and efficient government – transparent, responsive and corruption free.
- iv) Proper financial and fiscal restructuring and management and implementation of agreed reforms putting the state's finances on a sound and stable footing.
- v) Government to concentrate on infrastructure, social security, implementation of laws for public safety and well being.
- vi) Government will act as the catalyst for promotion of entrepreneurship, investment, development and employment making Kerala an entrepreneurial paradise.
- vii) Public Sector Enterprise will concentrate on strategic areas and public amenities including health and education. But also step in for industrial possibilities where private initiative is not forthcoming. All possibilities of Public Private Partnership to be harnessed to enhance economic expansion.
- viii) Build Kerala as a global destination in its core strength areas like Tourism, Knowledge based industries such as IT and Biotechnology, Manpower development and exports, Medical Tourism, Ayurveda and Holistic Health Services.
- ix) Resolve the acute problems of the agriculture sector not only through ensuring farmer friendly policies vis-à-vis the WTO regime, but also through proper state support policies, diversification, increase of productivity, value added agro-business and industry and aggressive marketing and export.

- x) Clearly assessing impact of WTO regime and globalisation not only in agriculture but also in industries, service and other economic sectors of Kerala, working out the interventions required, limiting the adverse impacts as well as gearing up the state for utilising the emerging opportunities and advantages in the global market place.
- xi) Preservation of Kerala's intrinsic natural beauty and environment.
- xii) Massive thrust for development of infrastructure of roads, railways, inland waterways, telecommunications, IT band width and connectivity, ports, airports, water supply, drainage and sewerage and waste disposal.
- xiii) Development of proper industrial and business climate, labour management and work culture, rationalisation of public Sector, revival of sick units, removal of bottlenecks to industrialisation and setting up a vibrant industrial and business promotion mechanism.
- xiv) Adopting technologies suitable for Kerala, identifying such technologies in all areas of economic activity as well as in administration and delivery of services, and building a variety of Institutions of Excellence in different fields of Science and Technology.
- xv) Mobilisation and full utilisation of loans and assistance from the government of India, Quasi-Governmental agencies, World Bank, Asian Development Bank and other International and national lending agencies for project finance for the state across the entire spectrum of development. Setting up National and International Project Funding Cell in government.
- xvi) Deepening and strengthening of the social justice programmes to ensure that every Keralite has his minimum needs met and is given opportunities for a socially and economically productive life.
- xvii) Proactive social justice schemes for improving economic status of disadvantaged sections of Kerala like SC & ST, fishermen, artisans, traditional industry workers, landless agricultural labour – also educated poor. The record of Kerala in poverty alleviation is noteworthy and the state should now dynamically move on to absolute elimination of poverty.
- xviii) The public distribution system has to be further rationalised and streamlined and total food and nutrition security targeted.

- xix) Give a last push of proactive steps, mainly making freely available the best technical services and aftercare to the remaining eligible couples to make family planning universal and achieve final population stabilisation at 35 million in the next decade.
- xx) Strengthening and streamlining Panchayath Raj administration to remove distortions, to reflect the true spirit of decentralisation and to generate maximum productive impact in the socio economic development of the state at the grassroots level.
- xxi) Right sizing and streamlining government for efficiency, transparency and responsiveness – ensuring that Govt. works dynamically, is people friendly and service and development oriented. Full use of e-governance.
- xxii) Organising a perfect and dynamic socio-cultural and economic relationship with the Overseas Malayali Community, addressing their concerns and promoting maximum NRK investment in the state.
- xxiii) Generally removing all bottlenecks and achieving full utilization of the enormous inherent resources of the state like educated manpower, natural beauty and environment, stabilized population and high indices of human development, physical resources, existing infrastructure and entrepreneurship and overseas remittances.
- xxiv) Reaffirm commitment of Kerala government to mobilise and harness maximum investment into the state in the next decade. The four major requirements for achieving the above investment target are:
- Labour Reforms and creating conducive investment climate.
 - Fiscal incentives and infrastructure and other facilities for investors.
 - Quick and prompt decision making – single window system-fast track time bound one point clearances
 - Dynamic and sustained campaign for mobilising investors and investments.
- xxv) Setting up of total interactive digital computerised monitoring mechanism for development schemes and project implementation for the state. The Chief Minister to monitor, enforce and lead the developmental efforts from the front.

10.8 Scope for further Research

Development is an ongoing process and this is an axiomatic aspect of social, administrative and economic thought. Hence no idea related to the formulation of its specificities can be taken as final and ever relevant. This study only opens up a gateway to a new area of academic as well as practical thinking with regard to the development model that can be considered appropriate for Kerala.

The present research has attempted to construct a design for a new upgraded model of development for Kerala State, based on the trends in the evolution of the present model as well as the strengths, weaknesses, opportunities and threats the state has been experiencing in relation to socio-economic development as perceived by the people as well as experts. Concrete proposals are made for alteration of some existing and introduction of new public policies and programmes which will upgrade the existing model to one capable of achieving sustained socio economic growth and welfare for the state. This being a qualitative study based on primary survey, expert opinions etc no quantitative validation was possible on developmental outcomes in areas such as growth, poverty alleviation or employment as a result of implementation of the projected model. Further research can be undertaken for detailing out the suggested policies and programmes and quantifying the potential results in terms of improved indices in social justice and poverty alleviation, economic growth and per capita income and employment creation. Other avenues of further research which suggest themselves are – ways of achieving a fine balance between development and environment both of which are crucial to this state, the restructuring of the state administration to reflect the upgraded model to face to challenges of the future, and the integration of the upgraded model to the planning process of the state and the centre. Also of crucial relevance is the specific physical, social and economic characteristics of the state which demand and deserve special dispensation at the national level in order that the potential of the state may not be stunted by unnecessary rigidities and insensitivities of central planning.

The attempt by the researcher has been to bridge the gap between quantitative and qualitative research methods, and hence the work leaves space for further research through the deployment of a host of techniques such as ethnography, archival research as well as other new classical research methodologies in the domain of the economics and sociology of development.

10.9 Conclusion

The highlights and thrust areas of the upgraded model are indicated in figure 10.3.

Figure 10.3

Upgraded Welfare Developmental Model for Kerala



There is an urgent and imperative need for a new upgraded model for Kerala's development building on the foundations of the old model through a set of governmental policies, programmes and institutional structures supported fully by the people aiming towards total social justice, comprehensive economic development, full employment, fiscal stability and good governance in the next decade coinciding with the 12th and 13th five year plans. Such a movement for a revised model is practical and feasible and has the sanction and support of the vast majority of the people of Kerala who are weary of Kerala's unnecessary backwardness and have a strong desire to take Kerala to the forefront of the country in socio economic development. The new model should usher in a shining place for a resurgent Kerala in the map of India and humankind.

In a globalised economy it is not necessary that every state or geographical area has to be strong or self sufficient in all areas of economic activity. The state should utilise its great inherent strengths, channelise the creative energy of its people-make maximum progress, create wealth and abundance and with the surplus in the economy fuel further investment, finance the social sector, and access whatever goods and sources it is deficient in from the global market place.

The most important lesson of Kerala's Development Experience – that public action through democratic means, which includes both popular movements and progressive governmental intervention, can radically transform a society – is as relevant today as it was a generation ago and is a necessary condition for steering a balanced development path in the future. Government should therefore gear itself for a great leap forward implementing the new upgraded model of development, internalizing popular aspirations and mobilising the support of all sections of the people including community and religious based organizations in its effort to build a New Kerala – a destiny to which the enlightened people of Kerala are rightfully entitled.

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Audio Visual

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Appendix - I

Curriculum Vitae of S. Krishna Kumar

- Date and place of Birth : 6th September 1939, Trivandrum, Kerala
- 1954 : School final – 2nd Rank in State
- 1956 : Intermediate – 3rd Rank in State
- 1960 : Mechanical Engineering – 1st Rank in University
- 1961 : 1st Rank in Indian Railway Service of Engineers
- 1963-1980 : IAS officer of the 1963 batch – 17 years in the IAS – District Collector, Cochin; Chairman, Greater Cochin Development Authority; Secretary, Board of Revenue; Director Civil Supplies, Industries Director for Commissioner, Principal Secretary, Industries, Fisheries, Social welfare, Local Administration and Urban Development in Kerala.
- 1980 : Resigned from the IAS to join the Indian National Congress
- 1980-1984 : President, Major INTUC Unions of FACT, HMT, Keltron, ALIND (1980-1984) Employees Concorde (Apex coordinating body of Kerala State and Central Government Employees)
Chairman – Kerala Cashew Workers Apex Co-operative Society
- 1981-1984 : Chairman, Hindustan Latex, Central PSU (Trivandrum, Kerala)
- 1984-1996 : 3 times Member of Parliament from Kerala
- 1985-1987 : Union Dy. Minister for Family Welfare
- 1987-1988 : Union Deputy Minister for Textiles
- 1988-1989 : Union Minister of State for Information and Broadcasting
- 1991–1993 : Union Minister of State for Petroleum
- 1991–1993 : Union Minister of State for Defence (concurrently)
- 1993–1996 : Union Minister of State for Non Conventional Energy
- 1993–1996 : Union Minister of State for Agriculture (concurrently)
- 1996 onwards : *Member* - Kerala Pradesh Congress Executive, All India Congress Committee
Chairman -
➤ Indo Global Vision Projects & Consultancies Private Limited
➤ AWAKE (All World Alliance of Kerala Entrepreneurs),

- Karmanya Trust for HRD and Employment,
- Progress Kerala Society
- TRUTH (Trust for Religious Unity, Tolerance and Harmony).

2006

M.A. in Sociology – Annamalai University

Professional Training

Trained abroad in Management, Leadership and Socio-economic Development by the UN, International Union of Local Authorities, World Bank, USAID, Soviet Society for International Friendship, British and Chinese Governments. Also trained by the Government of India and several Institutes of Management.

Research - Publications:

- The Story of Ernakulam Experiment in Family Planning – 1971 (Published by the Govt. of Kerala).
- Kerala's Pioneering Experiment in Massive Vasectomy Camps – 1971 (Studies in Family Planning, Population Council, New York).
- Development of Cochin Shipyard Ancillary Industries – A Technical Study – 1972
- Report on Greater Cochin Development Authority – 1973
- Ernakulam's Third vasectomy campaign Using The Camp Approach – 1974 (Studies in family Planning, Population Council, New York).
- Strategy for Massive Effort for Small Industries Development in Kerala State – 1975 (Govt of Kerala)
- Strategy and Action Programme for a Massive Thrust in Fisheries Development and Fishermen's Welfare in Kerala – 1978 (Govt of Kerala)

Awards:

- FICCI Award, 1973 for excellence in Public Administration.
- 'For the Sake of Honour' – the highest Civilian Award by International Rotary for humanitarian and social welfare work for the poor and the disadvantaged.
- K.R. Narayanan Award 2007 for Public Service.
- 1995 'Energy Man of the Year' Award for outstanding work in the field of New and Renewable Energy Sources.
- 'NAYE' Award by the National Alliance of Young Entrepreneurs for contribution to the development of small-scale industries in the country.

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Appendix – II

Curriculum Vitae of Dr. A. Sukumaran Nair

Chairman, Travancore Institute of Science and Technology, Trivandrum

Chairman, Centre for Mathematical Sciences, Trivandrum

Chairman, Asian Council for Accreditation, Trivandrum

Formerly Vice Chancellor, Mahatma Gandhi University, Kottayam

Formerly Pro-Vice-Chancellor & Officiating Vice Chancellor, University of Kerala, Trivandrum

Formerly Commissioner for Educational Development, Government of Kerala

Founder Director and Former Chairman, Rajiv Gandhi Centre for Education, Science and Technology, Trivandrum (Currently the Rajiv Gandhi Centre for Biotechnology)

Present Positions Held

Member, Governing Body/Executive Committee — Central University of Kerala, Kasargode and Sankaracharya Deemed University, Kancheepuram, Tamil Nadu.

Member, Academic Council of the Central Deemed University—Rajiv Gandhi National Institute for Youth Development (RGNIYD), Sreeperumbathur, Chennai, Tamil Nadu.

Permanent Residential Address

Dr. A. Sukumaran Nair
Ex. Vice Chancellor
T.C-27/1845, Hari Mandiram
Mathrubhumi Road
Vanchiyoor, Trivandrum, Kerala
E.mail: harimandiram@gmail.com
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Official Address

Dr. A. Sukumaran Nair
Chairman, Travancore Institute of Science and
Technology
Koliyoor, Muttakad, Trivandrum.
Ph: 0471-2481565
E.mail: tist@md3.vsnl.net.in

Academic Qualifications

M.Sc. (Mathematics), M.A. (Sociology), M.A. (Politics), M. Ed. (Psychometry), Ph.D. Education) (University of Kerala)

First class and first rank for M.Ed. Degree Examination, M.Ed. Thesis adjudged the top of the year

Advanced study/post doctoral study in:

Indiana University (USA), Stanford University (USA), London University (UK)

Specialized in the following areas:

Psychometry, Experimental Education, Research Designs, Mathematics Education, Teacher Education, Management of Higher Education

Selected for two international awards:

Fulbright Fellowship, Government of United States, Commonwealth Fellowship, British Government.

Important Academic/Administrative Positions Held

Special Officer for Examination Reforms, Calicut University and later as Senior Administrator in Government of Kerala and as Pro Vice Chancellor and Vice Chancellor in different universities extending for over 15 years. 40 years' standing as Ph. D. Supervising Faculty in different Universities.

Commissioner for Educational Development and Research, Government of Kerala (Nearly 4 years)

Pro-Vice-Chancellor, University of Kerala (4 years)

Officiating Vice-Chancellor, University of Kerala &

Vice-Chancellor, Mahatma Gandhi University (Nearly 4 years)

Academic Distinctions

Connected with over 30 Indian and foreign Universities as Member of Boards of Studies, Ph.D./D.Litt. Examiner, Member of Selection Committees, Advisory Committees, Editorial Boards of different research journals (including the prestigious foreign journal- Journal for Mathematics Education, University of Lou borough, U.K.)

Served as Member of important Apex National Bodies/Sub-committees there of, like the following:

- University Grants Commission,
- National Council for Educational Research and Training,
- National Council for Teacher Education,
- National Assessment and Accreditation Council,
- Indian Council of Social Science Research

Research Contributions

Published over 100 original papers, notably concept papers and research papers

Supervised the research work of over 35 Ph.D. candidates in different universities

Supervised over 120 M.Ed. / M.Phil./M.C.T dissertations

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Appendix – III

**CD of Documentary by Films Division, Government of India
on Ernakulam Family Planning Campaign led by S. Krishna Kumar**