Analysis of Operational Efficiency and Community Financing Mechanisms to Ensure the Sustainability of Health Systems

THESIS

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CERTIFICATE

This is to certify that the thesis entitled 'Analysis of Operational Efficiency and Community Financing Mechanisms to Ensure the Sustainability of Health Systems' and submitted by **Aravindakshan. P** ID. No. PhD 2006 PHXF 430P for award of Ph.D. Degree of the Institute embodies original work done by him under my supervision.

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ABSTRACT

Health programs in rural areas increasingly face lack of availability and quality of services. Multiple factors are responsible for this and one of these is the paucity of resources. Resource crunch is further compounded by multifarious activities initiated under liberalization and structural reforms undertaken by Governments in developing countries like India. In this context, importance of efficiency of the system becomes primary so that less resources are needed to provide same level of services or alternatively better services are provided with the scarce resources available. Secondly, there is a growing need to explore community financing health financing mechanisms to generate inflow of additional resources leading to a sustainable health system both in governmental and non-governmental sectors. With the above realization, the research study had set following objective;

1. To estimate operational efficiency (OEA) to help in identification of the efficiencies and inefficiencies in the system, and
2. To assess performance of Community Health Finance (CHF) to help in raising operational self-sufficiency, so as to sustain the programs and projects in the long run.

The overarching hypothesis of the present study is that those centres, which are efficient and are able to generate adequate resources through community financing, will be sustainable over time. The scope of the study allows for the processes to be initiated for testing out some of the learning's. It takes into account the sensitivity to variations in conditions among selected groups and areas, and the tangibility of the alternatives for reform.

A study conducted by the health stems was used to analyze the situation. Data was collected on inputs and outputs over period of time to understand the

utilization levels, financing pattern and costing of variables, The foregoing analysis shows that the three indicators, namely utilization, efficiency (unit costs) and revenue need to be taken together to evolve self sustaining system. None of these factors would be useful in isolation. For the purpose of sustainability of centres all of them need to be taken together to evolve future strategies, namely a) better availability of staff, medicines and diagnostic facilities, b) increasing number of contacts per person (that is in the whole population), c) enhanced efficiency of the health system in operation and d) enhanced revenue generation. In nutshell, the system needs to evolve a series of strategies in respect of each of the villages depending upon their specific needs. Some of these are discussed below along with recapping the key findings. As such, one aspect related to mobilisation of resources, which has important bearing on sustainability of services has positive indications for future. This, of course, needs efforts for IEC, community mobilisation and inculcating a sense of ownership in people.

The self sufficiency analysis has shown that how far a health centre was able to sustain itself. This is important as the ultimate aim is cent per cent self sufficiency in the long run, the current gap needed to be filled by the resources from the project itself. The analysis has shown that the ratio ranged between 28% to 76% in respect of different Health centres at different times.

To assess status of efficiency and cost recovery, data was analysed in different ways;

- The health centres were small entity so slight variation in the salary of Doctor or LHV tilted costing results. Similarly, slight variation in output- OPD attendance or tests also altered cost of centres considerably.
- The composition of costs, thus, revealed that this was highest in Punasan centre and lowest in Methan. Main reasons for higher cost at Punasan were higher cost of salary of doctor, higher cost of medicines and lower output. The output of this centre was about one-third of one of the centres (Methan).

- Cost recovery as a percentage of direct expenditure was worked out. It shows that two centres (Methan and Meloj) had recovered more than the direct costs involved. As evident, Manpura had lowest proportion, that is, 16 percent.
- Juxtaposition of Average Contacts/'0000Pop, Average Cost/Contact, Average Revenue/ person, Average Expenditure/Population shows that except, Average. Cost/ Contact all other indicators more or less showed similar behaviour. Here also, the notable exception was Average Expenditure/Population in case of Manpura.

The key findings include: Firstly, it is important that NGOs initiate a health system at appropriate/ strategic locations to ensure optimum utilization. This may be strategic from the point of view of providing necessary inputs in places where the governmental health facilities are either absent or defunct.

Secondly, proper planning and monitoring system should be in the place. Monitoring system would be specifically helpful in the proper management of the system. For this, relevant information based on both primary data (interviews, FGD with the population, etc.) and secondary data (records, study of financial statements, etc.) needs to be collected from time to time based on the nature of the information.

Thirdly, there should be an in built consideration pertaining to creditability of the NGOs' services. This is possible by means of providing appropriate quality of services, which is backed by dedicated professionals.

Fourthly, from the very initiation of any health system by an NGO, the consideration of cost recovery should be built in and operational efficiency analysis should be conducted to look into points of efficiency and inefficiencies with a view to exploit the former and monitor the latter.

Finally, different strategic options should be considered as a follow up of the operational efficiency analysis. In the particular case of Sidhpur health system, for instance, popularizing services to enhance patient turnover thereby increasing fee revenue emerged as an important strategic option.

The research has shown that sustainable, cost-effective and quality health system solutions can only be achieved if these are built upon partnerships among key stakeholders, namely consumers, governments, health policy analysts, clinicians, health professionals, academicians and researchers.

Not only managerial efficiency is required to optimize the use of inputs, but also community financing is necessary for self-sufficiency to sustain the rural health systems, and both have to be inbuilt while planning. Cost recovery should be built in, and operational efficiency analysis to be done periodically to streamline management. Strategic options could be thought of as a follow up of the OEA, e.g. Sidhpur health system: like increasing fee revenue or popularizing services to enhance patient turnover and introducing variety of alternative financing methods for self sufficiency which emerged as important strategic options.

In conclusion, the most important factors for program sustainability are effective management and active community participation. The two-fold approach adopted in Sidhpur, namely more efficient use of resources and finance enhancement, together with different methods of local financing was the most successful. A mix of combination of these strategies is needed to sustain a rural health system. These approaches have more general applicability and larger scope for operational research.

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AKCHP	Aga Khan Community Health Programme
AKF	Aga Khan Foundation
AKHN	Aga Khan Health Network
AKHS	Aga Khan Health Services
AKU	Aga Khan University
ANC	Antenatal Care
ARI	Acute Respiratory Infections
CBHC	Community Based Health Care
CBR	Crude Birth Rate
CDR	Crude Death Rate
CHW	Community Health Worker
CIDA	Canadian International Development Agency
CMR	Child Mortality Rate
EPI	Expanded Programme For Immunization
FP	Family Planning
GM	Growth Monitoring
IEC	Information, Education, Communication
IMR	Infant Mortality Rate
KAP	Knowledge, Attitudes, Practice (Behaviour)
MIS	Management Information System
MMR	Maternity Mortality Rate
MOH	Ministry Of Health
MPW	Multi Purpose Worker
NGO	Non-Governmental Organization

ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PHC	Primary Health Care / Primary Health Centre
PHC MAP	Primary Health Care Management Advancement Programme
PNC	Postnatal Care
PRICOR	Primary Health Care Operations Research Project
SSS	Salt-Sugar Solution For Diarrhoea
STD	Sexually Transmitted Diseases
TB	Tuberculosis
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund
URC	University Research Corporation
USAID	United States Agency For International Development
VHC	Village Health Committee
WHO	World Health Organization

I. INRODUCTION

1.1. Background

Health programs in rural areas increasingly face lack of availability and quality of services. Multiple factors are responsible for this and one of these is the paucity of resources. Resource crunch is further compounded by multifarious activities initiated under liberalization and structural reforms undertaken by Governments in developing countries like India. The result is a shrinking government contribution to social sector, especially health.

In this context, importance of efficiency of the system becomes primary so that less resources are needed to provide same level of services or alternatively better services are provided with the scarce resources available. That is, available resources are utilized efficiently and services cater to more and more people. Secondly, there is a growing need to explore alternate health financing mechanisms to generate inflow of additional resources leading to a sustainable health system both in governmental and non-governmental sectors.

Public Sector

Public sector has been trying to address the above issues in a planned manner, but given the size of the problem in the form of enormity of demand in terms of geographical coverage as well range of services required. This requires corresponding level of resources, infrastructure, manpower, supplies and inputs as well as efforts. Consequently, inadequacy of service provisions and suboptimal utilization of public health continues side by side. These factors have made the public health system less effective in providing good quality of health care accessible and affordable to the population in need. Due to these issues, the goals for

achieving health equity continues to be a remote reality and thus has become a major cause of concern for the development in the country.

Non- government Sector

On the other hand, there is large number of health facilities and trained health professionals available outside government sector, comprising institutions under private, non-profit, charitable and NGOs apart from professionals and technicians engaged in individual practice. Ideally, this gives an opportunity for a possible partnership between the two sectors. For example there can be outsourcing of facilities to the non-government entities as is selectively experimented in some parts of India. This will address some of the above issues existing in the public health system. There is ample evidence from the national and International experiences that show viable options for addressing health inequities among the population.

There is a need to prepare non-government sector for this task. As a first step in this direction, there is a need to identify and optimize private health facilities and services so that together with the public services, there is a definite progress towards achieving the aim of improving health of the people.

To sum up, in the present situation, on one hand, the health sector in the country is marked by low availability of public health facilities to the people, especially by those residing in rural and interior areas. Then whatever facilities are available, their utilization is low on account of their sub-optimal functioning, which is mainly due to the acute shortage of critical health care staff. On the other hand, the alternative source of health provider, that is, non-government sector is also not present in adequate proportion in rural and interior areas. Access to some of these

facilities and services is also limited by access, affordability and equity concerns.

1.2. Statement of Problem

Given the welfare state concept and that three decades have already passed since the Alma Ata Conference in 1978, it is now high time to redeem this situation. The world economic situation has changed considerably since then. Almost all countries are committed to the goal of "Health for All" which was to be achieved by the year 2000. But developing countries felt severe resource constraints to achieve this. Most countries find need for undertaking fresh initiatives to raise additional resources and, simultaneously, promote productivity and efficiency of health care services to be the key to redeem such situation. As such, focus is now on generation of additional resources and raise efficiency of the health services so that- whether government or non-government- long term sustainability is ensured.

Revenue and Expenditure aspects

The first aspect of the two, that is, finance enhancement is the method commonly adopted to generate more revenues to offset the operational deficits. New developments in public sector in the form of establishment of Society set up to raise user charges, donations and explore other sources is one example. Also measures like sub-contracting, engaging experts on call, etc. are designed to improve quality of services.

The second aspect related to ensuring sustainability depends on the reduction of operational inefficiencies by reducing costs in the system by optimizing use of inputs. There has been an increasing appreciation of efficiency concern in public sector but these are yet to be addressed in

comprehensive manner due to sheer magnitude of the facilities and services involved and expertise and efforts required.

As a result, both these methods, namely, efficiency improvements (by rationalizing resource allocations) and finance enhancement need to be adopted simultaneously to sustain the programs and projects. However, there is always a threat of decreasing efficiency if vigorous cost containment is not adopted on continuous basis. In case of raising finance, excessive dependence on user fees may tend to out price; thereby access to the services may adversely be affected. A combined and balanced approach needs to be adopted in respect of both revenue (that is resource mobilization) and utilization (efficiency) aspects to address these complex issues.

In view of the importance of these two issues, the present study addresses these to identify future measures to enhance efficiency and to ensure sustainability, especially with reference to a community health projects.

1.3. Objectives

Overall Objective

Given the above background, there is a need to augment the private, non-profit, charitable and NGO sector raising its efficiency as well as by ensuring mobilization of adequate revenue to ensure sustainability? It is only when both the sectors are functioning on sound footing and have additional resources on their disposal, then only their partnership would be properly forged ahead to give people maximum access and availability. It is with this overarching objective that the present study has been undertaken.

Specific Objectives

The detailed objectives of the study are:

1. To estimate operational efficiency (OEA) to help in identification of the efficiencies and inefficiencies in the system, and
2. To assess performance of Alternate Health Finance (AHF) to help in raising operational self-sufficiency, so as to sustain the programs and projects in the long run.

Hypothesis

The overarching hypothesis of the present study is that those centres, which are efficient and are able to generate adequate resources, will be sustainable over time.

1.4. Scope and Limitations of the Study

The scope of the study allows for consultative processes to be initiated for testing out some of the learning's. It takes into account the sensitivity to variations in conditions among selected groups and areas, and the tangibility of the alternatives for reform. The initial learning from the study was first fed back into the Project itself that was the study area. As the events later unfolded, some of measures were readily applied and those improved the efficiency. Further, measures undertaken to involve people and improve their satisfaction and at the same time an improved participation and ownership went a long way to improve resource mobilization. Thus it did show that this study has relevance to those interested in making health systems more effective, sustainable, and accountable. However, necessary modifications would be needed in case of institutions that are large. It may, however, be said that basic tenets would still be applicable.

A sustainable health system needs to fill many gaps in understanding, and the study synthesizes much about what can be learned from a rural health system. Emerging from this analysis is an important set of principles for reform:

- Look after the health needs of the poor and vulnerable sections of society
- Prepare for the health transition with appropriate health financing systems and programs
- Harness the energy of the private sector while counteracting its failures.

Though the study has focused on the NGO sector, it has wider applicability. The question that needs to be addressed is how to sustain the health services and health gains in the long run.

Applicability to non-governmental sector

A word of caution may be given here. Within non-governmental sector, features of private, non-profit, charitable and NGO institutions vary in terms of their philosophy, profit motive, revenue generation, target population and client characteristics. As such, methodology adopted in this study and the resultant findings will be differentially applicable to each of these. While some institutions like the private ones may be more interested in efficiency concerns, others like charitable institutions may be more interested in aspects related to financial viability.

Applicability to the public sector

In the public sector new trends are emerging towards better utilisation of resources as well as mobilisation of resources through user charges, etc., Consequently, both the above aspects of the study may be useful to them.

Main differences will be the complexity and scale of operation. Further, it may involve generation of large amounts of data from different facilities, necessitating undertaking specific studies for the purpose.

1.5. Organization of Thesis

The study has been divided into six sections. The first section discusses the overall concept of operational efficiency and community financing methods for sustainability. This is followed by analysis of different types of cost elements, utilisation levels, revenue sources, break even analysis and analysis of operational efficiency. Section III, discusses the cost recovery and sustainability of the health centres under the study area. Discussion on Operational Efficiency of the health centres and potential Alternative Financing methods for managerial decision making comprises the section IV. The final section brings out the operational and policy implications, i.e. section VI.

OPERATIONAL EFFICIENCY, COMMUNITY FINANCING AND SUSTAINABILITY

Purpose

The main purpose of the literature review is to explore whether similar studies were undertaken in the areas of operational efficiency and community financing, which are the two important premises of the study. It may be pointed out that majority of the studies were in the field of public health sector and house hold sector and few studies were carried out in the NGO projects. Further, most studies were focused either on health expenditure, costs, or on community health financing, but none of these have been used together for feeding results for enhancing efficiency or increased sustainability. Some of the studies undertaken in the related areas are discussed below**.**

Study objectives and hypothesis and search for relevant literature:
Review of available literature containing relevant studies done earlier was done with reference to the objectives and hypothesis of the present study. Thus, main aspects related to the following areas.

The research focuses on how the analysis of operational efficiency and community financing Mechanisms contribute to the long-term sustainability of health systems. The hypothesis is that if the health system improves operational efficiency, it would reduce cost, reduce wastage of resources, by optimizing use of inputs. This means contributing towards improving operational self-sufficiency.

Similarly, if suitable community health financing mechanisms were employed, it would contribute towards financial sustainability and would reduce dependency on outside support.

The dual strategy, that is on one side deploying cost reduction methods through improved operational efficiency and the other side finance enhancement mechanisms through community financing would help to ensure the long term sustainability of health system.

In this context, it is pertinent to review the related literature to understand the various terms and terminologies and to explore, experiences world around towards this understanding.

Review of literature

2.1. Operational Efficiency

Although the "bottom line" in any sustainability strategy is money, which brings in enough revenues to meet expenditures, money is not the only consideration. If one or more of these is a threat, then it will have to be removed or "neutralized" to make the sustainability strategy successful. Factors can also be positive and enhance sustainability. Then they can be seen as opportunities to expand or improve the program.

There have been many studies in developing countries that have focused on the problems of resource constraint (WDR. 1993) and analyses have been done in different ways. These include Cost Benefit Analysis (CBA), Cost Effectiveness Analysis (CEA) and Operational Efficiency Analysis (OEA). Majority of studies have attempted either CBA or CEA. Very few attempts have been made to obtain and use cost information for

conducting operational efficiency analysis (Berman, 1986). Even within the latter, studies in the Indian context have primarily focused on hospitals in urban areas (Purohit & Rai, 1992). Moreover, the role of operational efficiency analysis in achieving the sustainability of micro level health systems by non-governmental organizations (NGOs) has also not been much explored.

The idea of operational efficiency requires comparison of similar strategies aimed at achieving the same service output by that identifying the factors contributing to various efficiencies (or inefficiencies) across similar types of services.

The studies on the public health sector have covered topics like cost analysis of PHCs (Kataria M. et al, undated) and operational efficiency of public hospitals (Mahapatra P. et al, 1992).

Barun Kanjilal et. al in his paper “Time Varying Technical Efficiency: An application to sugar cane farms in Louisiana” has used the stochastic Frontier Models for studying the technical efficiency as applied to the agricultural farm sector.

The studies on the private sector have mainly looked at the earnings of health institutions and practitioners. One of the studies looked at the expenditure incurred by the corporate sector on providing health benefits to its various employees (Duggal R, 1993).

The broad methodology that has been followed for studying health finances includes the analysis of financial statements for a particular reference year. While most studies have specifically looked at one unit and its various activities, one study of the Mini Health Centres (MHC)

Scheme in Tamil Nadu, has examined the work of a number of NGOs (Sapru R. et al, 1991). The study of cost analysis of PHC covered six PHCs selected from two states based on a multi stage sampling method (Kataria M et al, undated). Mailed questionnaires along with personal visits were employed and the financial components studied (Duggal R, 1993). Along with the above methods, studies have also relied on discussions and collection of secondary information from records in predetermined formats.

The findings in the cost analysis of Primary Health Centres show that the per capita expenditure incurred is far too little (Kataria M, et al, undated). Another study, which measures the operational efficiency in public health care institutions, concluded that the level of operational efficiency in important cases is similar in most of the units studied in the four hospitals (Purohit B.C. et al, 1992).

One of the studies of an NGO's micro level experience on operational efficiency and sustainability showed the scope for improving operational efficiency to sustain rural health services (Pulikkal, A. and Purohit, B.C., 1995).

The major finding that emerges from the studies done in the NGO sector is that many of them are dependent on outside sources for funds to run their projects. Most of the NGOs have introduced the system of fee-for-service in their overall fiscal strategy (AKHS, India). Fees constitute, on an average, only 20 to 30 per cent of the total cost incurred on running a particular service. Many of the NGOs have tried insurance-based schemes to raise resources but have not been very successful (Dave P et al, 1990a, 1990b, 1990c, 1990d).

One of two studies conducted on private health sector has brought out the fact that the average monthly net income of a doctor practicing at a clinic/residence is about Rs. 29, 800 per month; for a doctor running a nursing home, it is about Rs. 80,000 per month (Kansal S.M, 1992). Studies which throw light on the access and utilisation of health services have been conducted by specialist institutes of health research such as the NIHFW (Delhi) or IIHMR (Jaipur); by NGOs in the field of health care such as FRCH (Bombay), KSSP (Thiruvananthapuram); or as part of baseline surveys for large area projects involving the establishment or enhancement of the provision of health care delivery; or as part of evaluations of such projects.

These studies are generally based on household survey/case studies of PHCs, sub centres (e.g. DANIDA, 1986); hospital based (Purohit B.C,1992) or local level secondary data such as PHC, sub centre records or other hospital and district and state level records which are unpublished (Murali I and Nath D.H. 1985). Combinations of these methods among themselves and with other methods have also been used. For example, combination of group discussion with households level survey in George A et al, 1993. The study by DANIDA (1986) too employed a combination of sub centre and PHC records with information gathered through interview with patients.

Though many studies have elicited information on the preferred provider (who, in most cases, is the private practitioner), few have gone into details of private sector utilisation and estimated the magnitude of its utilisation among the various classes of society and their distribution in rural areas (Duggal R with Amin S, 1989; Kannan K.P. et al, 1991; NCAER, 1992; George A et al, 1993). It is mainly these studies that have also looked closely at the question of household level health expenditure.

2.2. Community Health Financing

A review of the health financing experiences of four voluntary organizations in India indicates that the sector may also provide lessons in program financing (Ford Foundation, 1989). The studies show that community and self-generated sources include contributions made by the community served, as well as local efforts by the voluntary organization to tap indigenous funding sources. In many projects, this source represented a significant proportion of total health income. Moreover, with the category community and self-financing, organizations exhibited many innovative financing mechanisms, such as progressive fee scales, community based prepayment/insurance schemes and income generating schemes. Broadly, the studies covered under this area focus on the costs of programs, revenue raising methods, cost benefit, earning of health providers etc.

Chand A. D. 1987. “Community Financing for Primary Health Care: Report of a Study: “Economic and Political Weekly. 22(24): 951-6. The study refers to Comprehensive Health and Development Project, Pachod. The project is being implemented in Pachod, which is a rural and underdeveloped region in Aurangabad district in Maharashtra state, India. It covers a population of 50, 000 in 47 villages. It provides immunisation services and the revenue is generated from “fee-for-service”. The revenue generated is used for remunerating the Community Health Worker (CHW). The scheme has resulted in increased health awareness in the community and increased motivation for the CHWs.

Dave P. 1991 Community and Self-Financing in Voluntary Health Programs in India, Health Policy and Planning Vol. 6, no.1. This review of the health financing experiences of voluntary organizations in India shows

that the community and self-financing methods represent an important source of funding for the sector. User fees were an important source of funding for hospitals. User fees were frequently used as a co-payment for prepayment/insurance schemes and for non-member service charges. Prepayment/insurance schemes were an important source of funding for community-based health care. Commercial schemes were used only to fund hospital care.

Very few organizations provide evidence of the community's involvement in financial decision making. The structures and processes required to enhance community participation need to be further explored. Some organizations have ideal village structures such as village committees, milk societies and mahila mandals to encourage community participation.

Giridhar G. et al. 1987. Study of Health Care Financing in India, Indian Institute of Management, Ahmedabad. Sponsored by the Asian Development Bank, and based on case studies of Maharashtra and West Bengal, the report analyses the broad trends in the sources and use of funds towards health care. The study is based on secondary data, obtained from the documents of central, state and local governments. The report discusses some innovative financing mechanisms operating in Maharashtra. It also provides a case study of health care financing in West Bengal.

The concluding part of the report is on major health insurance schemes and health care provision for the employees in the corporate sector. It discusses the need for a comprehensive social security scheme for the employees. Employees State Insurance (ESI) scheme has also been analysed.

Gupta RB. 1992. “Unmet health needs and paying capacity of community in Sidhpur Area: A focus group based study”. IIHMR, Jaipur. The study covered a rural area in Gujarat served by Aga Khan Health Services. The study revealed irrational drug use, availability of only a few diagnostic services, and no formal referral system. Most participants felt the need for a full-fledged hospital at the village level. All respondents were willing to contribute towards the health facility, ranging from Rs. 500/- to Rs. 10,000/-. However, they wished to be assured of quality services at their doorstep at economical rates.

Parivar Sewa Sansthan. 1989. NGOs Cost Financing Experiences, Parivar Seva Sangathan, Delhi. Seven out of 15 clinics of Parivar Seva Sansthan achieved over 100 percent cost recovery. Cost recovery was low in other clinics. The two main programs, stationary clinics and contraceptive social market project, together provided 2, 13,257 CYP (Couple-Year-Protection) at cost of Rs. 20-46 only per CYP. There are two factors, which can help an organization in achieving self-sufficiency: (a) maximizing the rate of cost recovery, and (b) minimizing the cost.

Purohit BC. 1991. “Rangabella Project: Finances, costs and benefits”. IIHMR, Jaipur. The study is an evaluation of Rangabella rural development project, focusing on the cost-benefit aspect and experience in self-financing. Rangabella project was initiated in 1975 in the Sundarban area of West Bengal. Self-financing through project activity is 84% in case of animal husbandry program, and 46% in health program. Its health benefits include medical care, maternal benefits, and immunization and TB program. Fees of different health services are fixed in the para-meetings (village meetings) on the basis of costs involved as well as financial conditions of the concerned patients. The people in village meetings also decide consultancy charges. An important point that

emerges from such kind of charging mechanism is that the people at the para-meetings are left with a choice to subsidize anybody who is financially weak.

Purohit BC and Siddiqui TA. 1992. “Auto-Financing and Cost-Sharing of Diagnostic Facilities in Teaching Hospitals of Rajasthan: A Case Study of Public Hospital in Jaipur.” Indian Institute of Health Management Research, Jaipur. The study deals with S.M.S. Hospital, Jaipur, which is a teaching hospital in the government sector. Funds are generated through user-charges for diagnostic services. Out of seventeen tests covered under the study, as many as seven tests even failed to recover variable costs. This resulted into cross subsidy within the same department from the revenue surplus tests to loss incurring tests. About 35% of the cost of running the diagnostic services is recovered in this way. The question of equity is addressed by providing exemptions to the poor, ex-serviceman. etc. This scheme has hardly helped in generating sufficient revenue to meet on-salary recurrent expenditures.

Pathak P. and Dwivedi A. 1993. “Sustainability of NGO promoted Health Programs, implemented at the village level in co-operation with State Health Agencies: IIHMR, Jaipur. The study focuses on an NGO called “Seva Mandir, operating in Udaipur district of Rajasthan. Target beneficiaries of its health programs are mainly the poor tribal community. Various health programs are working effectively through Village Health Workers and Traditional Birth Attendants. The programs are being monitored effectively by the tribal community itself. The community provides support in kind through voluntary labour, materials etc. Financially, the NGO depends more on international funding agencies, rather than on the government. People being very poor, the attempt to

introduce some sort of health insurance scheme with partial financing by Seva Mandir, has failed to materialize.

Purohit BC and Gaur KK. 1994. Financing for Health Care through Voluntary sector in Rajasthan, Indian Institute of Health Management Research, Jaipur. The study examined the financing aspect of about ten voluntary health organisations. The majority of sample NGOs has not made concerted efforts to tap resources other than donations and grants. Only two organisations, namely Jaipur Rural Health and Development Trust (JRHDT) and Sree Kalyan Arogya Sadan (SKAS), made use of community/self financing methods. JRHDT utilised fund raising methods like prepayment/insurance scheme and commercial schemes. Of the total funds, JRHDT derived nearly 0.85 percent from these methods. SKAS raised as much as 29.24% of the total funds through user fees and commercial schemes. SKAS was found self-sufficient in terms of medicines, x-ray and diagnostic facilities through employing user fees. Revenue generated through income generating schemes like agriculture and milk production by SKAS helped it to support the diets of the patients in its T.B. hospital in a significant way.

Rao PH. 1988. “Determination of medical care utilisation in rural areas”. A dissertation study, Indian Institute of Management, Bangalore. The study found that the cost of medicines was very high. PHC and government hospital doctors charged Rs. 0.3 to Rs. 3.8 despite treatment being notionally free, while private doctors charged Rs. 16.8 on an average. About 60% of the patients were ready to contribute money for better services. Of these, 38.7% preferred monthly payment upto an average of Rs. 10. The study shows that rural areas have potential for designing schemes like health insurance and health co-operatives, based on

community financing. However, people did not think that this should be linked to the PHC.

Station B.;Clemens J 1989. “User Fees for Health Care in Developing Countries: A Case Study of Bangladesh” Social Science Medicine. 29(10): 1199-1205. In this paper, the possible impact of user fees on the health of individuals residing in Bangladesh is examined. The existing government health care system appears to be providing care to two of the most medically vulnerable groups in Bangladesh, the poor and women. The paper discusses the significant role played by the public health system for curative care of the individuals, their families and the wider community. The paper suggests that additional questions should be asked by health care providers, anthropologists and economists prior to institution of user fees in the government system and such measures should first be introduced in an experimental format with a rigorous and comprehensive impact evaluation.

Sisodia P. 1992. “The cost and financing of health at Bhorugram”. IIHMR, Jaipur. Bhoruka Charitable Trust (BCT) was founded in 1963. It serves a population of 20 villages in the desert area. The trust aims to provide public health and medical care facilities integrated with family welfare and nutrition for vulnerable sections of the population. It provides aid through charitable dispensaries and direct donations to other medical and health institutions.

The main sources of finance are government contributions (58.06%), beneficiary contribution (21.40%), house rent (0.90%), agriculture (0.26%) and miscellaneous (19.38%). Most of the income is from patients in the form of consultation fee, and the remaining from other sources such as

pathological tests. Of the total revenue, 83.12% is generated through user charges. The trust contributes the remaining i.e. 16.88%.

Varandani G. 1987. “Employees State Insurance Act, 1948: An Exercise in Social Engineering through Statutory Enactment”. Social Security for Industrial Workers in India, Deep and Deep publications, New Delhi. The ESI scheme covers factory employees, contributing directly or indirectly to the manufacturing activity. The scheme is run by ESI Corporation, which has representation from the state and central governments, employers, employee and medical professionals. Its benefits include cash benefits and medical care benefits. The contributions come from employee and employers, which in 1993, were 2.5% and 5% of the average salary of an employee and employer respectively. Employees earning Rs. 6.00 or below, are exempt from paying the contribution. There is negligible contribution from the state government, and none from the centre. Lately, the scheme started running in deficit. Employees are generally dissatisfied because of the poor quality of services provided.

Indian economy has been liberalised to bring desirable economic development. But the question of equitable development is yet to be addressed to reach out the benefits to the micro level. The structural adjustment policies resulted in reduced subsidies of social services, thus curtailing access to these services by the poor and needy. Many private and corporate sectors started providing tertiary care, while the need for reaching out the basic care to the poor and needy persists. This has had impact on the health outcomes.

Health being a state subject, the central government support is limited to specific programs and specific schemes that are wholly or partly aided by the central government. The public sector contribution to health care

expenditures in India comes to less than 40 per cent of the total with the balance of 60 per cent financed from private sources including households.

There exists a mismatch between the need, demand and supply of essential health services. Though the public health system is trying to address the issue, a mix of public and private services with strong community participation is required for sustainable development.

A review of the health financing experiences of four voluntary organisations in India indicates that the sector may also provide lessons in program financing (Dave & Berman, 1990a, 1990b, 1990c & 1990d). The studies show that community and self-generated sources include contributions made by the community served, as well as local efforts by the voluntary organisation to tap indigenous funding sources as a health financing method. In many projects, this source represented a significant proportion of total health income. Moreover, with the category community and self-financing, organisations exhibited many innovative financing mechanisms, such as progressive fee scales, community based prepayment/insurance schemes and income generating schemes. Broadly, the studies covered under this area focus on the costs of programs, projects, revenue raising methods, cost benefit studies, earning of health providers, etc.

The studies on the public health sector have covered topics like cost analysis of PHCs and operational efficiency of public hospitals. One of the studies of NGOs micro level experience on operational efficiency and sustainability showed the scope for improving operational efficiency to sustain rural health services (Pulikkal, A. and Purohit, B.C., 1995). The studies on the private sector have mainly looked at the earning of the

health institutions and practitioners. One of the studies looked at the expenditure incurred by the corporate sector on providing health benefits to its various employees (Berman & Khan 1993).

The broad methodology that has been followed for the studying health finances includes the analysis of financial statements for a particular reference year. While most studies have specifically looked at one unit and its various activities, one study of the Mini Health Centres (MHC) Scheme in Tamil Nadu, has examined the work of a number of NGOs. The study of cost analysis of PHC covered six PHCs selected from two states based on a multi stage sampling method. Along with the above methods, studies have also relied on discussions and collection of secondary information from records in predetermined formats.

The major finding that emerges from these studies in the NGO sector is that many of them are dependent on outside sources for funds to run their projects. Most of the NGOs have introduced the system of fee-for-service in their overall fiscal strategy (AKHS, India). Fees constitute, on an average, only 20 to 30 per cent of the total operating cost for a particular service unit. Many of the NGOs have tried insurance based schemes to raise resources but have not been very successful (Dave P et al, 1990a, 1990b, 1990c, 1990d).

The findings in the cost analysis of Primary Health Centres show that the per capita expenditure incurred is far too little (Kataria M, et al., undated). Another study which measures the operational efficiency in public health care institutions concludes that the level of operational efficiency in important cases is similar in most of the units studied in the four hospitals (Purohit B.C. et al, 1992).

Studies which throw light on the access and utilisation of health services have been conducted by specialist institutes of health research such as the NIHFW (Delhi) or IIHMR (Jaipur); by NGOs in the field of health care such as FRCH (Bombay), or as part of baseline surveys for large area projects involving the establishment or enhancement of the provision of health care delivery; or as part of evaluations of such projects.

These studies are generally based on household survey/case studies of PHCs, sub-centres, hospital based studies (Purohit B.C, 1992) or local level secondary data such as PHC, sub-centre records or other hospital and district and state level records which are not published. Combinations of these methods among themselves and with other methods have also been used. For example, combination of group discussion with household level survey (George A et al, 1993). The study by DANIDA (1996) too employed a combination of sub-centre and PHC records with information gathered through interview with patients.

Though many studies have elicited information on the preferred provider (who, in most cases, is the private practitioner), few have gone into details of private sector utilisation to estimate its magnitude among the various classes of society and their distribution in rural areas (Duggal R with Amin S, 1989; NCAER, 1992; George A et al, 1993). It is mainly these studies that have also looked closely at the question of household level health expenditure. For sustainable development, it is of paramount importance that resources are used more efficiently. To this, a set of distinctive issues that make up a health financing and management research agenda has to be defined. For each issue or a cluster of issues, it would discuss what kinds of data and methods are needed to analyse the situation, propose interventions, and assess and modify those interventions. The type of policy and program action generally available to address different

problems also requires to be reviewed. Thus the research is required in the sense that a combined methodology of Health Economics, Financing and Management is being proposed to be employed for achieving long-term sustainability of a Health System.

2.3. What Does Sustainability Mean?

Sustainability is a relatively new word. In fact, it does not appear in any dictionary. However, Webster's dictionary defines "sustain" as, to "keep up, prolong." It usually implies maintaining something that already exists. The term is often equated with "self-sustaining" and "self-sufficient," which means that no outside support is needed.

When people ask how sustainable a PHC program is, they usually want to know what the chances are that the program can be continued. When donors ask that question, they usually want to know whether the program will be able to continue after donor support ends.

The term sustainability means different things to people from different vocations. A businessman may define it in terms of the profit he makes, while a doctor may define it in terms of the well being of his patients. A teacher may define it in terms of the skills the pupils acquire, while a manager may define it in terms of the resources required to continue with the efforts. But within this vast range, there is a common thread, as the dictionary defines it -- "something that stays, prolongs, keeps, is self-sufficient, and exists over a period of time."

In addition to that which says over a period of time and that which refers to productive growth, the United Nations Development Program defines

sustainability as: sustainable human development is development that not only generates economic growth but distributes its benefits equitably; that regenerates the environment rather than destroying it; that empowers people rather than marginalising them. It is development that gives priority to the poor, enlarging their life choices and opportunities, and providing for their participation in decisions that affect their lives. It is development that is pro-people, pro-nature, pro-jobs and pro-women (Human Development Report, 1994).

Defining and assessing the sustainability of such programs or institutions is perhaps the most challenging of all development related tasks. The sustainability of such programs is dependent on a large number of factors. Some of these are more tangible than others. Sustainability of social development programs may depend not only on their funding sources but also on the socio-political environment of the society, the nature and extent of community and government support and, on the availability of skilled and committed manpower.

Till recently, sustainable development was understood only in the context of environmental concerns such as the impact that development programs have on the ecology and economy of an area. Following the Brundtland Report of 1987, "sustainable development" emerged as the burning environmental issue of the times. However, owing to a greater concern for accountability, governments and funding agencies have been increasingly articulating the need to "assess whether programs have been able to produce the intended benefits and how well the flow of these benefits is sustained" (Bamburger and Cheema, 1990).

Neither governments nor international development projects receive systematic information on how well their investments are producing

intended social and economic benefits. As resources become increasingly scarce, this lack of information on the performance of public investment programs is of increasing concern, and the demand for more systematic monitoring and evaluation of sustainability is likely to grow (Bamberger and Cheema, 1990).

These are legitimate questions, since many programs, in education, agriculture, as well as health, have collapsed when donors withdrew their support. Thus the interest in sustainability is first and foremost an interest in ensuring that health programs and services, and the benefits they produce, can be continued.

2.4. Defining Sustainability - An Overview of the Literature

Efforts at defining sustainability of NGOs or at identifying the elements that contribute to creating sustainable programs have, so far, been limited. The Operations Evaluation Department (OED) of the World Bank made some concerted efforts in 1985 to study sustainability of programs. In the first study, conducted by OED in 1985, it was found that only 9 out of 27 agricultural projects were classified as "sustainable," 8 were "doubtful," and the remaining 10 were "not sustained." All four-education projects were evaluated as "sustained."

The OED Annual Review of Evaluation Results for 1988 also includes an analysis of 557 projects audited between 1986 and 1988. The assessment was made at the time of project completion and included a range of projects -- from transport and telecommunications to education. Only 17 percent of education projects, 50 percent of population and nutrition projects and 17 percent of urban projects were evaluated as sustained (Bamburger and Cheema, 1990).

Of the 212 project evaluations of the USAID, 26 percent projects were rated negative. 56 percent received marginal marks and 11 percent were considered sustained after the termination of US assistance (M. Hussein, 1987). Such assessments also revealed some inherent anomalies in the process of evaluation and the manner in which sustainability is defined. While undertaking the task of evaluating a range of development projects, OED emphasised that sustainability is more difficult to assess where quantitative and qualitative parameters require balanced evaluation. For instance, it may be easier to evaluate the cost-benefits of an irrigation project rather than to assess the benefits of service delivery programs in education or health. For some programs, benefits may accrue over a period of time and some may surface sooner than others. This is particularly true of projects that are very process-oriented and show results over time as is the case with projects on community participation and mobilization for utilizing health services. The life of a project such as that of housing or road construction may be as high as 15 to 30 years. On the other hand, the intended benefits of irrigation projects may begin to show soon after they are completed. Similarly, a project that has multiple outputs may succeed in some and not in other areas. A project may demonstrate its benefits in irrigation but not in community health development.

Traditionally, the sustainability of programs had been defined only on the basis of the calculations of the economic rate or return or on the extent to which the project is able to recover its costs. The World Bank defines sustainability on the basis of the Economic Rate of Return (ERR). "Projects are classified as `sustained' if the re-estimated economic rate of return five years after the project began to operate was greater than or equal to the Economic Rate of Return calculated at the completion of

project implementation. If the re-estimated ERR, on the other hand, is lower, the project is defined as not sustained." The authors also point out that "while ERR is a convenient summary indicator for comparison of projects in the same sector, it suffers from a sustainability factor. The method requires that all benefits and costs must be assigned a monetary value. It is difficult to monetise qualitative ‘benefits’ such as health improvements, increased access to education, or satisfaction with living in a better neighbourhood. The analysis often includes only those benefits which can be easily monetised - with the result that total project benefits may seriously be underestimated" (Bamburger and Cheema, 1990)

To take into account qualitative parameters and long-term impact that programs can create, Bamburger and Cheema designed a composite "sustainability index." This index lists a series of indicators that can be used in the assessment of most kinds of social development projects. The index will, however, require modification for industrial and commercial projects. Four groups are listed that constitute the sustainability index. The first group lists indicators that pertain to the nature of services and benefits that accrue from them. The second group refers to the maintenance of physical infrastructure. This group is considered critical because the maintenance of physical premises would in many ways also demonstrate the concern for quality of services provided to the community. An example would be the maintenance of equipment purchased for irrigation purposes. The third group lists indicators that relate to long-term development of institutions as an important condition for program sustainability. The fourth group refers to the nature and extent of support that the program and institution have been able to develop with the international donor agencies, the local and central governments and the beneficiary community.

The authors also point out that an index of this kind must not be attributed with statistical qualities. It is an index that attempts to identify some key indicators that determine the sustainable nature of programs. These indicators are useful for comparing the degree of sustainability between projects or of the same project at different times. The applicability of this index will best be determined after its use over a period of time. The authors also point out that the index may have limitations such as the fact that it will not tell whether the impact of a project is positive on the environment or not. It merely claims to "measure" the intended benefits and not the possible outcome on the environment. For instance, a social forestry program such as those that have been popularised in India may have an adverse impact on the ecology of an area. Dunu Roy (1984-1985) points out that the planting of many eucalyptus trees has helped many foresters and farmers earn an attractive income but it has adversely affected the relationship between cattle and forestry because these trees cannot be used for fodder.

In her paper on NGOs and Sustainability, Maliha Hussein points out that "development administrators generally refer to sustainable institutions as collective entities that meet one or more of the following criteria: (I) they are able to recover some of their costs or even become self-financing; (ii) they supply a continuing stream of benefits; and (iii) they survive over time as identifiable units" (M. Hussein, 1987). The author also points out that it is often left unclear whether these are sufficient or even necessary criteria of sustainability.

Honadle and Van Sant aptly wrote the following in their book on Implementation for Sustainability: If development were a one-time procedure like a vaccination with lifetime effectiveness, there would be no reason to be concerned with sustainability. But development is not such a

procedure. Simple infusions of outside resources rarely generate self-sustaining improvements in productivity and life quality. For progress to be made in the practice of development, attention must be concentrated on the process of converting resources into development gains. The connection between implementation and sustained outcomes must be understood (Honadle and Van Sant, 1985).

Definitions of sustainability may vary (Table.1) but nevertheless tend to weave several common themes between different perspectives. Most analyses agree that some clearer definitions for an assessment of sustainability need to be established, especially for programs with a large number of qualitative parameters.

While sustainability has a general definition, as suggested above, each user needs to define the objectives and identify any restrictions on the definition of sustainability, as it applies to the specific program.

Definitions of Sustainability

Profession	Definition of Sustainability	Outcome
Agricultural/ Natural Scientists	Sustainability is measured in terms of long-term productivity of a resource base in the context of continuous stresses on the earth's environment.	Is concerned about the long-term impact on the global resource base and the quality of life.
Economists	Sustainability is measured in terms of trade-off between economic growth & environmental preservation.	More concerned about community well being and about the earth's environment.

Profession	Definition of Sustainability	Outcome
Management Experts	Sustainability is perceived in terms of the systems established to meet recurrent costs and as a process to improve implementation.	Effective implementation and better accountability.
Administrators	Sustainability refers to building organizational capacity and assurance of useful client services.	Are concerned more with the longevity of program and client services.
Health Experts	Sustainability is viewed in terms of promoting affordable health prevention programs.	Enhanced quality of health for all.
Education Experts	Sustainability is perceived as the growth of individual and institutions for dynamic contribution to families and society.	Improved access to knowledge, self-awareness and active participation.

PHC MAP has identified ten sustainability factors affecting the sustainability of health programs and projects that are summarized as below.

1. Target population size: The degree to which the size, composition and distribution of the target populations are likely to change in the future. Rapid and large increases or decreases in the size of the target populations can be threats to sustainability.

2. Target group knowledge, attitudes and practice (coverage): The degree to which the principles of the target groups of the project are and will continue to be knowledgeable about PHC services and their benefits; motivated to utilize those services; and actually practice health-related habits, including utilizing PHC services and institutionalizing health seeking behaviour at home. Low knowledge, poor motivation and poor health habits are threats to sustainability.

3. PHC service quality: The degree to which high quality PHC products and services can continue to be provided in the future. Low quality and/or the absence of key services can be a threat, while high quality may increase demand for services and support of them.

4. Management support: The degree to which important PHC project management activities, such as planning and supervision, can be maintained at current or increased levels of effectiveness and efficiency. Weak or missing support services can be a threat to sustainability.

5. Organizational capacity: The degree to which strong linkages between the parent and collaborating PHC organization(s) can be maintained in the future. Even well managed and financed program(s) may collapse if implementing organizations are weak or inefficient. Well-managed organizations contribute greatly to the sustainability of individual programs. Community organizations may be particularly critical for the sustainability of certain programs.

6. Political commitment: The degree to which influential individuals, groups and organizations will support the project in the future. High, broad-based commitment is conducive to sustainability; low, narrow-based commitment is a potential threat.

7. Personnel resources: The degree to which skilled management, technical and field staff can be retained in the future. Loss of key staff is a threat to sustainability. Retention of key staff can ensure continuity and stimulate interest in expansion and growth.

8. Program revenues: The degree to which needed monetary income will be maintained in the future. Inadequate income is obviously a threat. It needs to be noted that the strategic assessment of this factor is limited to a broad assessment of revenue trends, threats and opportunities in the future.

9. Program expenditures: The degree to which costs can be controlled in the future. High program costs are a threat. As with Revenues, the strategic assessment concentrates on the broad picture.

10. Environment: The degree to which changes in such contextual factors as weather, economy, political stability, transportation systems, etc., are likely to change in the future. Small and gradual changes can usually be absorbed, but large and sudden changes can have significant positive or negative effect on sustainability.

The public sector contribution to health care expenditures in India comes less than 40 per cent of the total with the balance of 60 per cent financed from private sources including households. Because, health is a state subject, the central government's support is limited to specific programs and schemes that are wholly or partially aided by the central government.

There has been a growing recognition of the important role of the voluntary sector as "innovators of health development". It has been suggested that many of the strands of the current "Primary Health Care"

approach have evolved from the experiences of the voluntary sector, such as the training of community based health workers (Newell, 1975). In addition to providing 'models' in health service organization and delivery, voluntary organizations have also provided valuable lessons in qualitative aspects of program management and community participation.

To achieve the goal of "Health for All by the year 2000 AD", it is of paramount importance that resources are used in most cost-effective manner. In this direction, a set of distinct issues that make up a health financing research agenda has to be defined. For each issue or group of issues, it discusses what kind of data and methods are needed to analyse the situation, propose interventions, and assess and modify those interventions. The types of policy and program actions generally available to address different problems also need to be reviewed. The research is required is the sense that a combined methodology of Health Economics, Financing and Management is being proposed to employ to the long-term sustainability of a health system.

During the decade that has passed since the Alma Ata Conference in 1978, the world economic situation has changed considerably. The developing countries have been subjected to severe resource constraints. Most countries find it necessary to take new initiative to raise additional resources and, at the same time, promote productivity and efficiency of health care services. In this context, the proposed research can throw light on the multiple mechanisms that are required to sustain health development.

Main Conclusions of Review

The main conclusion which may be drawn from the review of literature supports the objective of undertaking the present study and main premises adopted for the study.

1. The first aspect relates to methodology. Among secondary data, analysis of financial data, study of records, etc were used by different studies. Among primary data, mailed questionnaires, interview schedules, observational study, focused group discussions (FGD), etc. were utilised. Normally each study adopted a certain set of data collection technique than a combination.

   In the present study, information emanating from analysis of financial data and other secondary data was supplemented by primary data, namely emanating from interview and FGDs.

2. The second aspect relates to the measurement of efficiency and methodologies used.

   Use of cost analysis has been more as a mere descriptive feature than carrying it to the next step of using it as a measure of efficiency and showing its use in decision making process. In the present study it has been used to evaluate comparative status of different health centres in the project/ study area and relates it not only to the specific centre but to compare it in terms of population served. Further, efficiency is also related to cost recovery an important aspect in the effective management of services.

3. Thirdly, sustainability has a range of parameters, including quantitative and qualitative factors and revenue base. Each project/ facility has to adopt a combination of these as apart of revenue enhancement. In the process some other factors need to be adopted such as IEC and outreach services, etc. These have been dealt with in the present study.

Gujarat State; Health & Family Welfare Sector

The research area is located in Gujarat. In this context, it is pertinent to have a look at the health & family Welfare priorities of the state.

The tenth five year plan has overhauled the state health system for addressing the priority development concerns of the state like maternal mortality, child mortality and population stabilization through concerted initiatives. The national family health survey -3 and special survey on maternal mortality in India has shown the improvements in health indicators in the State. IMR has reduced from 63 to 50, MMR from 389 to 172 and TFR from 2.9 to 2.4. The latest CRS also shows an improvement in infantile sex ratio from 825 to 843, which is encouraging. TB cure rate has increased to 85%. However, the NFHS shows that the percentage of fully immunized is less than 50% and quality of care also needs improvement.

During the tenth plan period RCH program phase- 1 was completed which has given impetus to the rural health system. During this period, the State also formulated a state specific population policy and the policy goals and objectives were in concurrence with the ICPD program of action, national population policy and millennium development goals. It has made significant progress in implementing the State population policy thorough launching revised reproductive and child health program. These programs are consolidating the inputs for achieving the health goals of the State.

The Tenth five-year plan for the health and family welfare sector in Gujarat has been built on the progress made during the ninth plan period, with a vision- "Partnership for improving quality of life of the people living in Gujarat". The plan

will launch an intensive drive to promote over all health status of the people living in the State. It aims to improve, consolidate, and sustain the health gains with the focus on result-based interventions. During the plan period, reducing regional disparities in health status by improving health care coverage among vulnerable population like BPL, tribal and SC/ ST, women and children, adolescents, urban slum dwellers; and sustain those health gains at the highest level over the period of time will be the top priority. Towards this, various approaches have been laid down to address the persistent issues of equity, accountability and quality of the health services and its management. Moreover, to improve the program outcomes, emphasis has also been given to the area specific and population specific needs and approaches, community participation, and need based resource allocations. The major development challenges that will be addressed during this plan period are reducing maternal mortality to below 1.0, bringing down the infant mortality to less than 30 and reducing total fertility rate by 2.1. The State also plans to reverse the spread of HIV/ AIDS epidemic over the next 5 years through integration of prevention & treatment programs and community mobilization efforts. To achieve this, the State health & family welfare department has given due importance to strategic coalitions with private, corporate and cooperative sectors, accountability of services and system, good quality of care with people's participation, supported with increased allocation of resources.

To make the public health system more responsive, efficient and effective, it plans to strengthen the existing health infrastructure in the Sate. The community health centers and first referral units will be fully fortified by establishing blood storage facilities, biometric systems, communication facilities, ambulance services and diagnostics services. Autonomy will be given to these facilities by establishing Rogi Kalyan Samitis. To further strengthen the decentralization process and monitoring system as close to field realities, two more Regional Deputy Directors' offices will be established. Establishing an urban health cell at the State head quarter will strengthen urban health, an area of emerging

concern. A program cell at State level to strengthen rural health and mobile health services will also be established.

Other new initiatives include setting up of an Indian Pubic Health Institute to address the difficult public health management issues in the State, supporting the establishment of a public health institute, initiating specialty and super specialty courses in selected medical colleges, improving the quality of medical, nursing and para- medical education. Introducing telemedicine services, promoting a health insurance system for the needy, satellite based monitoring system for mobile health services, state of art health and hospital management information systems, etc is also be part of the State plan.

The department has adopted a progressive approach while preparing the budget. A budget of Rs.3000 crores was proposed under the plan, in which 44.53 % will be for public health, 18.80 % for family welfare, 8.33% for medical services and 28.33 % for medical education and research. It has also considered gender and equity concerns while allocating the budget. Out of the total Rs.3000 crores budget, 4.58% is for the scheduled caste and 18.23% is for scheduled tribe. It has also ensured gender-based allocation by ensuring 41.99% of the budget for benefiting the females. It has also proposed for increasing operational efficiency of public health systems through partnership with NGO/ private sector and learning from each other with the aim of better health for all.

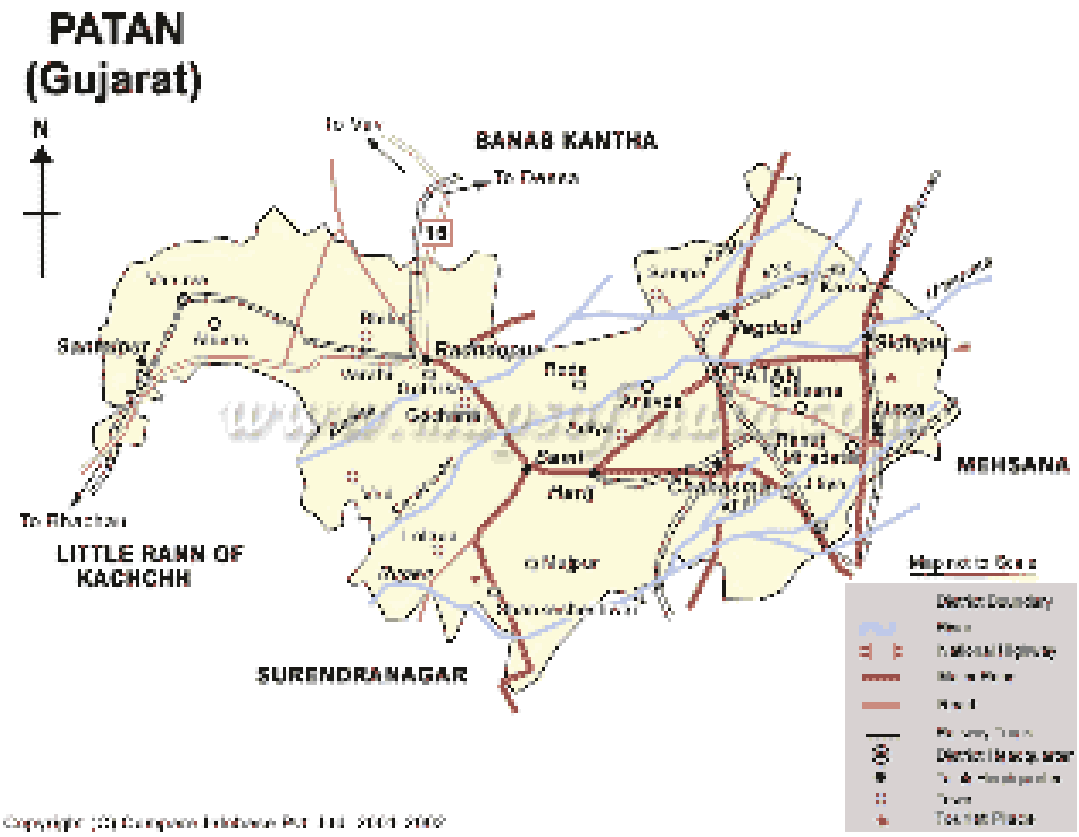
3.1. Institutional Profile of the Research/ Area

Aga Khan Health Services (AKHS) is one of the largest non -profit health care networks in the third world serving more than two million people every year in Pakistan, Kenya, Tanzania, India and Bangladesh. In India, AKHS-India operates from Prince Aly Khan Hospital in Bombay and community based health care programs providing preventive, promotive

and curative services all over the country. It may be mentioned AKHS promotes volunteer structure of the programme and this part of organization works hand in hand with the professional staff.

Though traditionally contributing to improving health conditions, its scope has been limited to maternal and child health services, health screening of school children and providing some subsidy to those in special need. Plans were developed for an expanded mission of AKHS-I and the development of an innovative Total Health Care System (THCS). The new mission of AKHS-I was to promote a state of positive health for its target population in India so that they may lead full and productive lives.

In order to meet the specific objectives pursuant to this mission, AKHS-I had developed a Strategic Plan for 1990-95 wherein it envisioned a self sustaining health system evolving over the ensuing years in India that would provide access to a comprehensive set of quality health services for the communities it served. This called for a gradual implementation of the recently conceived comprehensive system of health care by developing human, technological and material requirements for this comprehensive system. This beginning was made starting with a pilot subsystem in Sidhpur.



3.2. Geographic Description of Sidhpur Project of AKHS

Sidhpur is situated in the state of Gujarat in western India. While Gujarat is one of the more industrialized states, many regions are economically backward. The project area of Sidhpur is close to the Thar Desert in the neighbouring state of Rajasthan, a dry and sandy terrain. Extreme climate conditions add to the harsh poverty of the people, who are mainly dependent on farming.

The baseline surveys conducted by Aga Khan Health Service, India revealed that the communities belonged to poor socio economic strata and were seriously under served. The morbidity and mortality rates were

high, health awareness low, water and sanitation were a major problem and literacy levels were poor.

The health situation in the region reflected the heterogeneity of the population. In small, more affluent segment of the population, this was increasingly exposed to urban life. Non-communicable diseases such as hypertension, arthritis and heart disease were emerging, creating a need and demand for sophisticated diagnostic procedures and higher levels of therapeutic clinical services. For others, especially women and children, harsh and underdeveloped living conditions contributed to problems of malnutrition and communicable diseases including tuberculosis, diarrhoea, acute respiratory infections, and gastroenteritis and ENT problems.

The 23 localities of the Sidhpur area covered by AKHS-I were identified as under-served and in need of quality, comprehensive health care. Recognizing this need, the community approached AKHS-I to aid in developing an effective health care program in the region. The initiative already taken by the community, along with the firm commitment and management skills demonstrated by its leaders, suggested a reliable potential in the region for achieving the AKHS-I goal of a decentralized community- managed and financed sustainable, quality health care system.

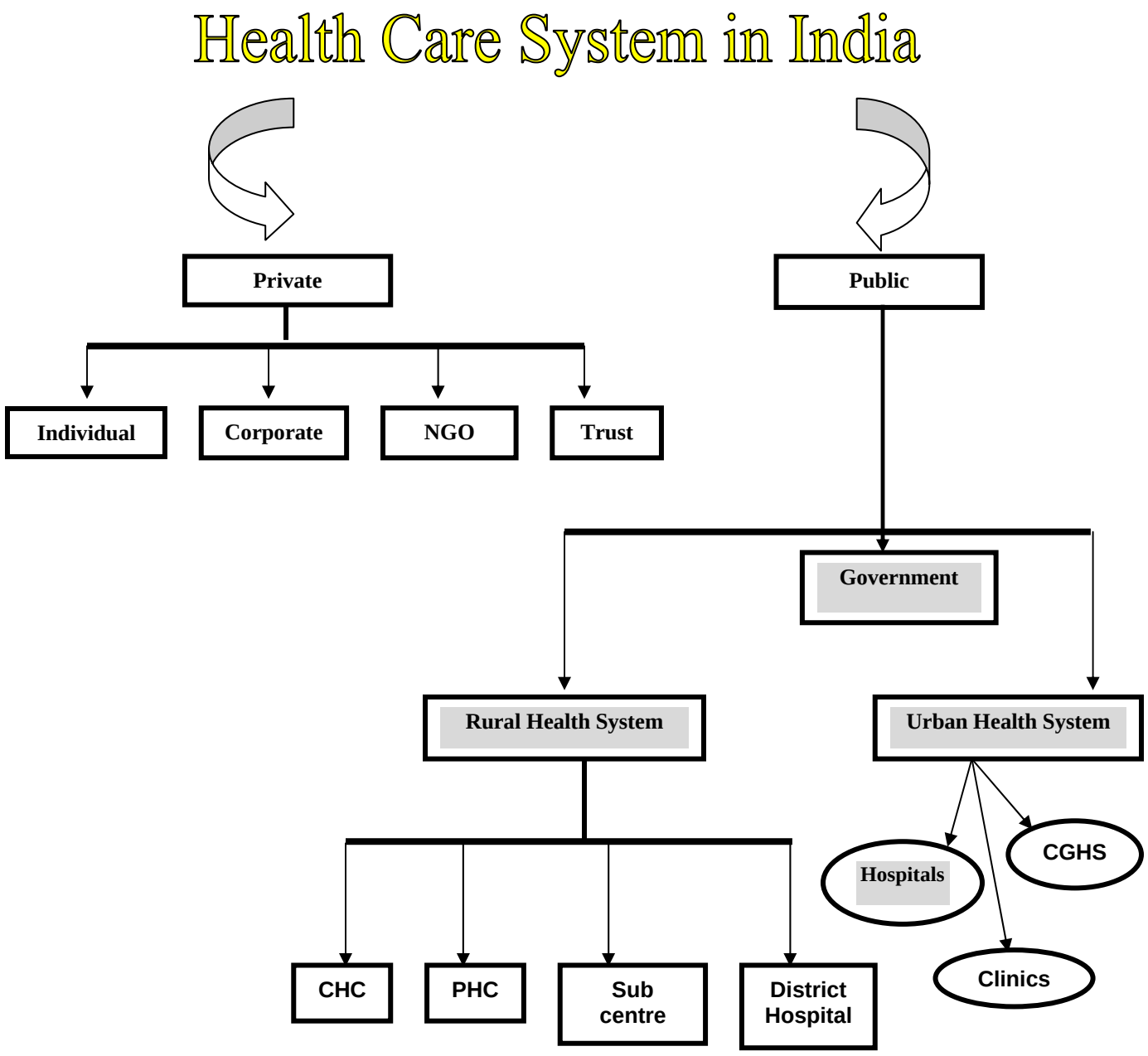
The choice of Sidhpur for the pilot subsystem was thus built on three factors.[1]

Need/ Demand: There was a demonstrated need and demand from the community for the proposed cluster of activities and services.

[1] Project proposal

Viability: The socio-economic conditions of the area provided reliable basis for future self-sufficiency.

Replication: The mix of the service population provided an appropriate site for a valid test of the concept of subsystem, as part of the total health care system, as described in the strategic plan of AKHS-I.



There are 12,000 hospitals (60% private) & 1.2m qualified allopathic practitioners (89% private). 70% of Govt hospitals and 60% pvt hospitals are in urban areas. There are 1, 37, 006 sub centers, 23, 179 PHCs and 2913 CHCs.

The Government health sector is characterized by publicly financed & managed curative & preventive health services from primary to tertiary level. These services are usually free of cost.

Private health services are directed mainly at providing primarily clinical health care and financed from private resources. It is said that it could place a disproportionate burden on the poor.

3.3. Sidhpur Health Systems

At present, AKHS-I have 7 health centres (AKHCs) and 1 diagnostic centre (AKDC) in SHS area in Mehsana (now Patan). The 23 Project villages are spread over 9 sectors, covering a population of 38, 189. All the sectors except Meta have one or other AKHS health facility. Since Meta was a semi-urban town with government PHC and few qualified practitioners, the idea to develop a health centre there was dropped. All the AKHCs have the required equipment and furniture/fixtures except at Metrana and Manpura where there is no indoor facility and no deliveries conducted. Presently, the AKHCs are open for 4 hours everyday (for curative care), and having a full-time trained Lady Health Visitor staying at the Sector Headquarter. There is also a Visiting Doctor and LHV Supervisor.

The volunteer health structure of AKHS-I in the area consisted of Village/town Health Committees working towards understanding the health

conditions of their target populations and providing referrals to health facilities; Local Health Boards supporting and supervising the activities of the Health Committees; Regional Boards monitoring health programs and assisting in sharing resources; and the AKHS-I Board involved in evaluating programs and evolving policies with the participation of field personnel. The committees had been addressing health problems such as immunization preventable diseases, tuberculosis, malnutrition, diarrhoea through basic preventive and curative services that they had prioritized since 1985, entirely through local initiative. Consecutive evaluation efforts however, indicated that such vertical programs have not had the desired impact on the health status of the community. AKHS-I responded by studying the feasibility of a restructured community-based health care program. This involved a strong component of community-based activities linked to strategically located Health Centres, Medical Centres and diagnostic facilities, with an apex maternity/secondary care hospital at the hub of the infrastructure.

The experience of AKHS-I with the communities, through the four existing Health Centers and the Local Health Board, had been quite promising. The expenses for the entire supplies and other support, and a part of the staff costs at the Health sub-centres were being met by the community (Rs. 7000/- to Rs. 11,000/- was the annual income at each of the Health sub centres with the fee structure of Rs. 4/- per patient-visit). The community had the potential to pay more and better quality of services and need-based programs were offered to them. This contribution from the visiting public was expected to increase further depending on the use of services, once the project was initiated in 1993.

The implementation of the pilot subsystem required an initial assessment of the size and characteristics of the target population. Since all existing

information regarding the Sidhpur region was based on secondary and scanty data, a detailed demographic and health profile of the region and a directory of health care providers was required. This included the need for a systematic study of morbidity patterns through medical appraisal of a sample population in each of the localities in order to identify actual health needs. The challenging tasks of attempting to cover a span of 23 villages/towns separated by harsh terrain and linked by poor communication, affecting a transition from vertical, institution-based services to integrated, community-based programs, as well as strengthening the existing health structure, would have required AKHS-I to identify professional staff, motivated and capable volunteers to carry out these measures.

Planning and Processes

It was planned that the Project Manager, with the support of Health Officer, Field Officer and Community Organizer, would oversee the planning phase activity in Sidhpur, and maintains a constant dialogue with the “grassroots” Health Committees, thereby enabling the community to articulate its own needs and simultaneously tap the local human resource base. This process should also serve to sensitize and prepare the community for the initiation of the project with the goal of ensuring maximum user support, enthusiasm and ability to sustain a quality health system.

Phased approach

The Planning cum preparatory phase (phase I - with two components - phase I - A of planning and Phase I - B of planning and preparation) then would provide the opportunity to develop innovative approaches to address health needs in a cost effective manner; evolve a mechanism

whereby the community would finance and govern a self-sustaining system; and test models for planning future PHC services.

Through The favourable policies of Government towards NGOs and the good relationship of AKHS-I with the Government enabled AKHS to effectively utilise the resources in terms of material aids, mobilization of human resources and training opportunities for sponsored candidates. Plans for closer collaboration with Government programs in Sidhpur area were proposed to be evolved. Recognizing the objectives to be achieved and changes to be effected in the community and in the AKHS-I approach, it was logical that the first phase of planning and preparation extended over a period of at least two years. By the end of 1992, a suitable proposal was ready. It suggested 8 Health facilities (Health Centres) at periphery, maternity services, diagnostic facilities and a training centre at Sidhpur that would have benefited approximately 7 lac population living in and around Sidhpur. The intervention phase was expected to be initiated by the end of 1993.

Aims and objectives of the Project: *The project aimed to achieve the following:*

Ante Natal Care (ANC) is defined as the advice and care that a pregnant woman receives from trained/qualified medical/paramedical personnel during a minimum of four visits during pregnancy, so that it culminates in healthy mother and healthy children. During these visits, pregnancy must be confirmed, she must be specifically protected against tetanus, and other health problems, be medically examined, be investigated/ screened for diseases and be treated for the conditions.

Once the program was to get implemented, AKHS-I expected to significantly raise the health status and awareness of the community. A successful Sidhpur system was envisaged to serve as a training ground for staff and volunteers from other areas. Eventually, the programs would aim to transfer management and financing responsibility to the actual health care beneficiaries, thus empowering individuals to take initiative towards their own development in other sectors. If the strategy proved to be effective, the development of a multi-tiered, comprehensive health subsystem could in principle be replicated elsewhere in future by AKHS-I and prove itself to be an important step forward on the road to achieving quality, community-led sustainable health care for targeted populations of rural India.

AKHS.I aimed at developing a three tier health system in Gujarat for providing affordable, accessible and good quality services with effective referral linkages to the community. The Sidhpur Health System Development Project was a step towards this direction.

The Project had a target population of 38,528 spread over twenty-three villages within a radius of 22 kms from Sidhpur. The goal of the project was to establish a financially and organizationally sustainable health system capable of addressing the priority health needs of people living in selected villages of Sidhpur area, but which was also financially self-sustaining. To achieve this goal, the project used operational efficiency analysis and introduced a variety of health financing mechanisms. These approaches enabled the project to improve the operational self-sufficiency of the health system from 16.4% in 1994 to 75.5% in 1997. The health system was projected to achieve 100% operational self-sufficiency by the end of the year 1999.

The service delivery system included community based services provided by CHVs in all 23 villages that were grouped into nine health sectors of which seven had health centres. The sectors were further grouped into two administrative zones with referral linkages to the Sidhpur Diagnostic centre.

*The overall **objectives** of the project were:*

1. Increase the target population's access to health services by establishing a financially sustainable three tier health care system that provided good quality and affordable services;
2. Create health awareness and demand for quality services;
3. Strengthen support systems including financial, MIS and quality assurance system and identify alternate methods of financing;
4. Support human resource development, particularly in the areas of management, disease surveillance, quality assurance and cost sustainability analysis;
5. Facilitate implementation of a multi-Sectoral strategy in the Junagadh area by collaborating with other Aga Khan Institutions, government organizations and NGOs.

The project ensured that the target population received basic immunizations and that episodes of diarrhoea were treated correctly with oral dehydration therapy, malaria was diagnosed and treated, nutritional status monitored, mothers counselled on correct weaning practices and pregnant women received ante natal care. In addition, diseases like tuberculosis were treated; the community educated on HIV/AIDS and tests conducted for diabetes and hypertension.

Salient features of the Project

The project followed the innovative concept of the systems approach (Figure.1) in its health care delivery and provided crucial backup support to the basic primary health care delivery system. The Sidhpur system was growing beyond the health centers providing PHC and basic curative care at the villages. The second tier of the system included providing secondary level maternal and curative services and selected referral and technical support.

AKHS-I had seven health centres serving as the base for PHC, curative care and delivery care. The Diagnostic centre had been set up to provide pathological and radiological services. There was a plan to set up maternity home as well. A referral system was also being developed for secondary and tertiary level care providers. These endeavours improved accessibility of the project population, to maternal and paediatric services and other priority health needs.

A significant component of the project was the development of human resources and community empowerment. The project management was designed in such a way that community participation was ensured at each of the four tiers of governmental structure. Community participation was not a catchword but a reality. At the village level, people had been involved in identifying their felt needs. During awareness drives, the local community's support was visibly heartening. The village level functioned from the foundation of the health systems. They served the people they lived with. Young women from community were selected and trained as lady health visitors and placed in the community to which they belonged to ensure acceptability and continuity of services. The community had also taken the initiative to provide financial and infrastructural support for their

own health centers. Besides establishing facilities, community participation was sought for sustaining the programs, services and institutions.

Sustainability

The operational sustainability of the project was to be achieved with the development of several financing mechanisms to sustain fee for services (user fees), cross subsidization and PHC with diagnostic services, Community Health Fund, packaging of services, etc.

Collaboration was an integral part of the system. AKHS-I worked closely with local community resources, Aga Khan Institutions, government organizations, private institutions and NGOs. This partnership extended to a number of project activities like delivery of health services where, at the village level, the staff worked closely with government staff and facilities to ensure complete PHC coverage of the population, developed referral system and enhanced community resources like water supply. Staff training at various levels was also done in collaboration with government and other institutions. Expertise was shared in PHC MAP trainings and other MDPs for other NGOs and government. The project served as a site for block placements for different academic institutions as centres for learning for sustainable systems development.

Figure.1: Health System Approach[2]

Sidhpur Health System

Service	Area	Population Coverage	Unit	Provider	Management Structure	Finance
Selected tertiary level care	Division central level	Registered & service	Hospital	Specialist	Board	User fees + Funding
Dx Services & secondary level maternal and curative care	RHB/ Project level	Registered & service	DX/PC/ MH	Specialist	PMCs	User fees + Donor funding
Selected referral & technical support	LHB/ Zonal level	Registered & service	MCs	CN/MOs	ZMCs	User fees + AHF
PHC basic curative	Sector level	Registered & service	HCs	LHVs/ MPWs	HSMCs	User fees + AHF
CBHC	Village level	Registered	Village	CHVs	VHCs	User fees + Donation

The support systems and management were continuously refined for optimum use of scarce resources through developmental research. There existed a vigorous monitoring system to assess the quality of services. A management information system (MIS) was developed for monitoring the progress. For MIS, a list of indicators was identified which included monitoring, impact, pre, mid, and post indicators and research studies. Findings from information generated through the management information

[2] This approach was developed by AKHS-I for organizing sustainable Health systems.

system and research studies including baseline studies and evaluations from reputed agencies were constantly incorporated into management decisions at all levels. Utilization patterns and coverage of services, health status of the population and structures were regularly monitored. PHC-MAP modules were also used for monitoring and evaluation programs and activities.

Organizational sustainability was the end goal. Capacity building of the individuals was seen as a program for achieving organizational sustainability. Ongoing training programs at different levels were part of the huge resource development programs. Some alternate financing methods were developed for financial sustainability and affordability.

In the journey, from a free standing PHC project to a sustainable health system, the project made notable achievements. The focus initially was on mother and child and primary health services. Through this project, good service coverage and substantial reduction in the maternal and infant mortality rates were achieved in the area. Immunization coverage, antenatal and post-natal care and delivery by trained personnel, and health awareness improved. Birth rates came down, child spacing for more than two years increased, and rates of severe malnutrition and low birth weights also came down. The community had significant control over health resources and services that had been achieved through empowerment.

All these approaches would go a long way in improving the health status of the population and the lessons learnt would be useful for other agencies working on similar projects. This project was funded by a Matching grant from the United States Agency for International Development (USAID) and the Aga Khan Foundation for a period of four years.

As a part of the project formulation, a base line survey was conducted in the project area. Since this survey results were available, a separate survey was not conducted for this research and the data was used for analysis.

The information gathered through the aforesaid survey was analyzed and given below;

3.4. Household Survey-Coverage of Households and Population

A total of 11124 households were contacted during the census survey of Sidhpur. Of these, respectfully 1601, 5382 and 4141 households were from amongst the Ismaili, non-Ismaili and control area respectively. The percentage of locked houses during the census was around 15 per cent, 10 per cent and 9 per cent among the Ismaili, non Ismaili and the control group respectively. Hence the population is estimated, assuming that these households would also have the same average number of family members, as the households surveyed.

In the sample survey, 26 percent of the Ismaili households were covered. However, more number of households was contacted but they were locked. It was also interesting to note that the percentage of households without any eligible women in the house was highest among the Ismaili group, that is, around 40 per cent, while among the non-Ismaili it was 27 per cent and was lowest in control area at18 per cent.

Coverage of Households, Population and Eligible Women in the Survey in Sidhpur

Indicators	Total
Total population surveyed	31299
Number of census households covered	6233
Number of locked houses	750
Estimated population as per survey	35049
Estimated population as per AKHS register	38986
Number of households contacted in sample survey	781
Number of households without eligible women	265
Number of households with at least	
One eligible woman	457
Two and more eligible women	59
Number of ever married women interviewed	494
Number of currently married women interviewed	472
Number of women interviewed who had delivered in last 3 years	146

Source: AKHS-I Register, 1995

3.5. Demographic Profile

Sex ratio is in favor of the females among the Ismailis. There are 1140 females for every 1000 males. (Vs. Low no. of eligible women) This is very high when compared to the national figure of 944 (NFHS 1993) for the country and the state of Gujarat. This status is to some extent comparable to the sex ratio of Kerala and Goa state, where the number of females is more i.e., 1078 and 1019 respectively. This trend shows that among the Ismailis there could be more males migrating out. While among the non-Ismailis and the control area there are only 968 and 969 females per

thousand males respectively. These figures too are slightly better than the state average **(Table 1**).

Age structure: The data reveal that there is a difference in the age structure between the Ismailis and the other two categories. The percentage of population in the younger age group, that is, less than 6 years is significantly less (7.6 per cent) among the Ismailis. While among the non-Ismailis, it is 18 per cent **(Table 1).**

The population among the Ismailis is biased towards the older age groups. For instance, 30 per cent of the total population is concentrated in the 50 + age group, while this is only 12.3 per cent and 12.1 per cent among the non-Ismailis and the control population respectively **(Table 1)**. Even the NFHS data of Gujarat reveal that around 13 per cent of the population is normally in this age group.

This age structure clearly reveals that this aging pattern exists among the Ismailis staying in Sidhpur and is not necessarily the pattern for the total Ismaili community, as such.

Marital status: The structure of the population when analyzed by their marital status also reveals that the behaviour of the Ismailis is different from the non-Ismailis and the control population. The percentage of the married population is more (54 per cent) among the Ismailis, while normally in any population the percentage of unmarried constitutes the bigger group. Among the other categories, that is, widow/widower, divorcee etc. there is not much of a difference among the three categories **(Table 1)**.

Educational status: While the percentage of non-literate is only 19 per cent among the Ismailis, it is almost double among the non-Ismailis and the control group. A higher percent of the Ismailis had completed high school (21 per cent) compared to the non-Ismailis of project (10 per cent) and control (8 per cent) areas **(Table 1)**.

Percentage currently attending school: More than four fifth of the population (86 per cent) in the 4 to 19 age group are currently attending school. This is less than 60 per cent among the non-Ismailis and the Control group **(Table 1)**.

Table 1: Demographic profile of the population

(Percentage)

Indicators	Total
Age (in years)	
0-3	8.4
4-6	7.7
7-14	18.8
15-49	49.5
50-60	9.8
60+	5.8
Sex	
Male	50.1
Female	49.9
Sex Ratio	998
Marital status	
Married	46.4
Unmarried	48.1
Widow/widower	4.3
Divorcee	0.3

Indicators	Total
Separated	0.2
Married but no ‘gauna’	0.7
Educational status (7 years and above)	
Non literate (can’t read and write)	34.1
Can read and write (no formal education)	0.3
Primary level	30.0
Middle/Secondary	17.6
High school	11.8
Higher Secondary	3.6
Under Graduate	1.0
Graduate and above	1.2
Doctor/Engineer/Other professional	0.1
Technical course	0.3
% Currently attending school (4-19 years)	60.8 (11651)
Occupation	
Unskilled laborer	3.8
Agricultural laborer	7.6
Cultivator	6.0
Service (Class III and IV)	3.3
Service (Class I and II)	0.2
Craftsman/Artisan/Tailor/skilled labor	4.0
Petty business	1.4
Large scale business	0.5
Medical professionals	0.1
Other professionals	0.2
Housewife	24.2
Student	23.6
Helping in house work	4.5

Indicators	Total
Unemployed/not working	1.5
Disabled	0.4
Retired	0.2
Old age	4.4
Others	0.4
% Working population (15 yrs & above)	41.2 (8386)
Total population from census	31299

Occupation: Housewives form the largest segment (28 per cent) in the study population. The second largest group of population (22 to 27 per cent) is the students in all the three populations. The third large group is cultivators (males only) in all the three groups. Persons classified as non-employed ones represent a very small category **(Table 1)**. Employed population forms a significant segment but distributed among numerous occupations with small percentages.

Religion and caste: Of the total target population, the largest group is that of other Hindu backward caste (40 per cent), followed by Ismailis (22 per cent). Scheduled castes are the third largest group (15 per cent) followed by other Muslims (12 per cent) and high caste Hindus (10 per cent). Scheduled tribes and others constitute a meager portion of the population **(Table 2)**. Among the control population, again the Hindu backward castes constitute the largest category (40 per cent) followed by other Muslims (32 per cent) and high caste Hindus (17 per cent) and scheduled caste (10 per cent).

Table 2: Religion and caste, type of house, ownership& assets

(Percentage)

Indicators	Total
Ismailis	21.8
Other Muslims	12.0
Hindu	
Scheduled caste	14.6
Scheduled tribe	2.1
Other Hindu backward castes	39.6
High caste Hindus	9.7
Others	0.2
Total no. of census households	6233
Type of house	
Hut	1.9
Kutcha	19.7
Mixed	19.0
Pucca	59.4
Ownership of the house	
Own	91.3
Rented	8.5
Provided by employers	0.1
Others	0.1
Number of rooms	
1	49.1
2	43.3
3+	7.6
Mean	1.6
Households having separate kitchen	45.5
Households having electricity connection	85.6
Households owning cultivable land	62.6

Land per HH (in acres)	
HH not owning land	37.1
1-2	17.9
3-5	17.3
6-8	11.6
9+	16.1
Mean	4.4
HH owning durables	
Refrigerator	14.5
TV	23.3
Motorcycle/scooter	7.4
Car	3.5
Tractor/Thrasher	3.5
Radio	17.8
Tape Recorder	22.9
Total no. of sample HHs	781

Type of house: The Ismailis live in households that are well constructed as compared to the households of the other category. Majority of Ismailis (80 per cent) live in pucca houses. None of them live in a hut, while 15 per cent of them own mixed type of houses and those who own kutcha houses are a meager 4.5 per cent **(Table 2)**. Among non-Ismailis, the proportion of kutcha and pucca houses is almost equal while mixed houses are 23 per cent. There are 4 per cent people who live in a hut. Of the total, majority (59 per cent) own pucca houses followed by an equal proportion of kutcha and mixed houses (19 per cent each), while only 2 per cent people own a hut **(Table 2)**. The scenario in controlled population is such that about 39 per cent have pucca houses. Those who own either a

kutcha or mixed houses are almost equal in proportion while about one per cent people live in huts.

Ownership of house: Majority of the people (ranging from 90 to 93 per cent) in all the groups have their own houses followed by people (7 to 10 per cent) who live in rented houses. On an average, Ismailis have larger number of rooms (1.8 rooms) per household than non-Ismailis or control category (1.4 rooms) **(Table 2**).

Ismailis edge out others in matters of having a separate kitchen in their houses as 62 per cent of them have this facility. Also about 99 per cent of Ismaili households have electric connections as compared to non-Ismailis or even controlled category in which case only 70 per cent and 73 per cent respectively have such amenities. The average distribution of agricultural land per household also indicates that Ismailis are richest among the study population as they own on an average 6.4 acres of agricultural land as compared to 1.9 acres among non-Ismailis and 3.3 among the control group.

Household and agricultural assets: Ownership of household items like refrigerator, television, car, motor cycles and scooters, tape recorder, radio and transistors shows that greater proportion of Ismailis were owning these assets than those among the non Ismailis The ownership of tractors and threshers was also more among the Ismailis who are comparatively richer among these populations **(Table 2)**.

Drinking water and toilet facilities: Majority of the Ismailis (92 per cent) have drinking water facility in their household while over half of the non-Ismailis depend on community sources of water. Water from tap is the major source irrespective of the community/area. In terms of toilet facility,

Ismaili community has better facility as compared to the non-Ismaili and control groups. Water seal toilet is widely prevalent in the households irrespective of the community/area. Those who do not have own latrine, in most of the cases use field for defecation but their proportion is higher among non-Ismailis (79 per cent) and control population (78 per cent) than the Ismailis (38 per cent).

Mobility of Population: Population is most mobile among the Ismailis (14 per cent) followed by non Ismailis (7 per cent) and control group (5 per cent only). Most of the people move for employment. This is true for all the three categories.

3.6. Health Profile

Health seeking behaviour

Morbidity and source of treatment: The percentage of households reporting morbidity in last 15 days is slightly higher among the non-Ismaili (24 per cent) households, as compared to Ismaili households (20 per cent). However, 5.9 per cent of the total population in both Ismaili and non-Ismaili reported sickness in last 15 days. ARI/ cold and cough were reported more among the Ismailis. The other major sicknesses reported were fever, diarrhoea, pneumonia, etc. Private hospital was the most preferred source of treatment amongst all the communities. However, 41 per cent among Ismailis do depend upon AKHC for their services **(Table 3)**.

Hospitalization and cost incurred: The reported hospitalization of any household member in the last one year indicates only marginal difference between Ismailis, non-Ismailis and control populations. However, the cost incurred for hospitalization is highest among non-Ismailis than among

either Ismailis or control population. Non-Ismailis availed maximum financial assistance for health in the last 12 months than either control population or Ismailis **(Table 4)**.

Table 3: Morbidity and source of treatment

(Percentage)

Indicators	Total
HH reported sickness of at least 1 HH member in last 15 days	23.5
% Population reported sickness in last 15 days	5.9
Mean no. of days of sickness	9.9
Type of sickness	
ARI/cold, cough	27.0
Pneumonia	5.8
Diarrhoea	9.9
Other GI tract infection (cholera, food poisoning)	1.1
Measles	4.3
Malaria	7.5
Typhoid	3.0
Scabies/boils/skin disease	1.7
Genital Tract Infection	0.1
Urinary Tract Infection (UTI)	0.4
Anemia	0.6
Eye/ear problems	1.7
Fever	32.4
Others	6.0
Sources of treatment	
No treatment	8.0
Govt. hospital	9.1
CHC/PHC/SC/UFWS	6.0
Pvt. clinic/hospital	66.3

Indicators	Total
AKHC/hospital	10.7
Untrained practitioner	0.1
Ayurved/Unani/Quacks	0.4
NGO clinics	0.4
Home treatment	4.0
Chemist	2.5

Table 4: Hospitalization and cost incurred

(Percentage)

Indicators	Total
% HH reported hospitalization of any HH member in last 1 yr	18.6
Cost incurred for hospitalization (in Rs.)	
1-100	0.1
101-200	0.5
201-500	1.8
501-1000	1.8
1001-5000	9.6
5001-10000	2.6
10001-15000	0.6
15001-50000	1.0
50001-75000	0.1
Mean (in Rs.)	5040
% HH covered by health insurance scheme	12.0
% HH availed financial assistance for health in last 12 months	7.7
Total no. of sample HHs	781

Accessibility and preference for Aga Khan Health facility: Although more than 90 per cent of the households in both project and control areas had the Aga Khan Health facility within 5 kms. of their house, less than 50

per cent of the Ismailis and a much lower percentage of the non-Ismailis from project area (9 per cent) used the facility for availing services **(Table 5)**.

Table 5: Accessibility and preference for Aga Khan Health facility

(Percentage)

Indicators	Total
Distance of Aga Khan health facility from home	
Within the village	50.2
0-1 km.	37.2
2-5	5.8
6 km and above	5.8
Don't know	1.0
Source availed for general treatment	
Govt. facility	8.9
Aga Khan health facility	27.1
Private	60.3
No facility	1.0
Not reported	2.7
Reasons for choosing AKHC for general treatment	
Near to house	68.9
Availability of drugs	48.5
Availability of beds and equipment	1.5
Regular availability of health services	7.5
Capacity to handle emergency	8.2
Friendly providers	4.5
Overall good services	39.6
Less waiting time	18.7
Providers spend enough time with client	2.2
Convenient timings	1.5

Indicators	Total
Provide free medicine	0.7
Affordable cost	11.9
Total no. of sample women who availed AKHS	134
Total no. of sample women interviewed	494

Among those who reported using the Aga Khan Health facility, the main reason by all the households was its nearby location. Other major reasons were availability of drugs and overall services being good.

Key lessons learnt

The household survey reported above was useful to understand the area profile, demographic and health profile of the population. Such information was important to work out the number of health facilities and other inputs, utilization pattern, paying capacity of the population to work out sustainability mechanisms.

One of the lessons learnt from this analysis was that to sustain, measuring operational efficiency and fostering community financing to promote community ownership should be an integral part of the health planning.

This analyses also used to understand and measure inputs given to various health facilities, population coverage and catchments area and utilization pattern. This information is required to measure operational efficiency.

Drinking water and toilet facilities: Majority of the Ismailis (92 per cent) have drinking water facility in their household while over half of the non-Ismailis depend on community sources of water. Water from tap is the major source irrespective of the community/area. In terms of toilet facility, Ismaili community has better facility as compared to the non-Ismaili and

control groups. Water seal toilet is widely prevalent in the households irrespective of the community/area. Those who do not have own latrine, in most of the cases use field for defecation but their proportion is higher among non-Ismailis (79 per cent) and control population (78 per cent) than the Ismailis (38 per cent).

SECTION- 1

As mentioned in the Chapter I on Background of the Study, the present study aims to suggest simple techniques that can be used for non government organisations, including community based organizations to strengthen the management of rural health systems in view of ensuring sustainability. While the techniques like cost analysis used for identifying operational efficiency, community financing would be of immense use to improve mobilisation of resources thereby the operating surpluses.

Hypothesis

As mentioned earlier, the overarching hypothesis of the present study is that those centres, which are efficient and are able to generate adequate resources, will be sustainable over time.

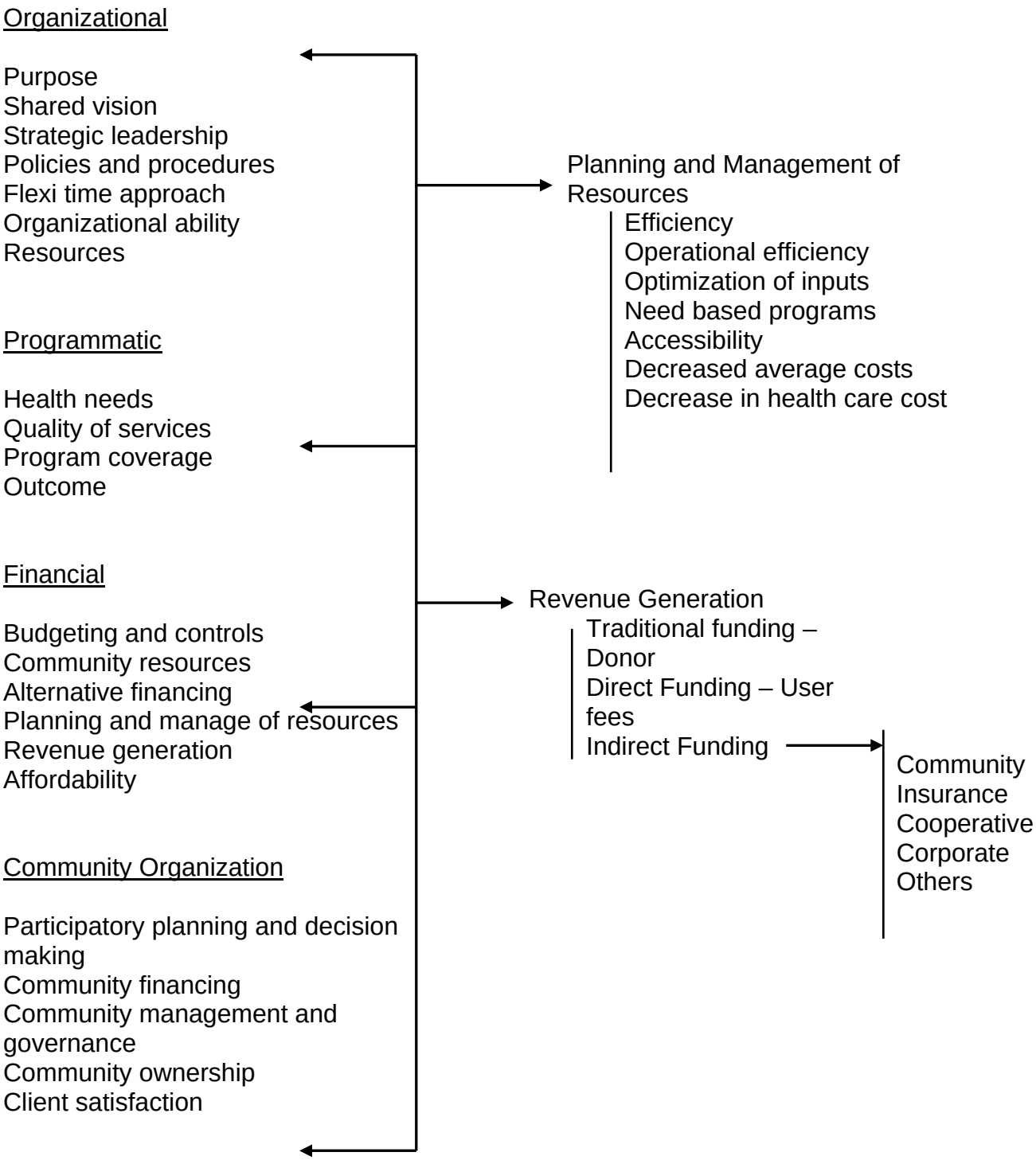
Measures to test hypothesis

To test this hypothesis, mainly two measures have been adopted, namely, Operational Efficiency Analysis (OEA) and Community health financing mechanisms.

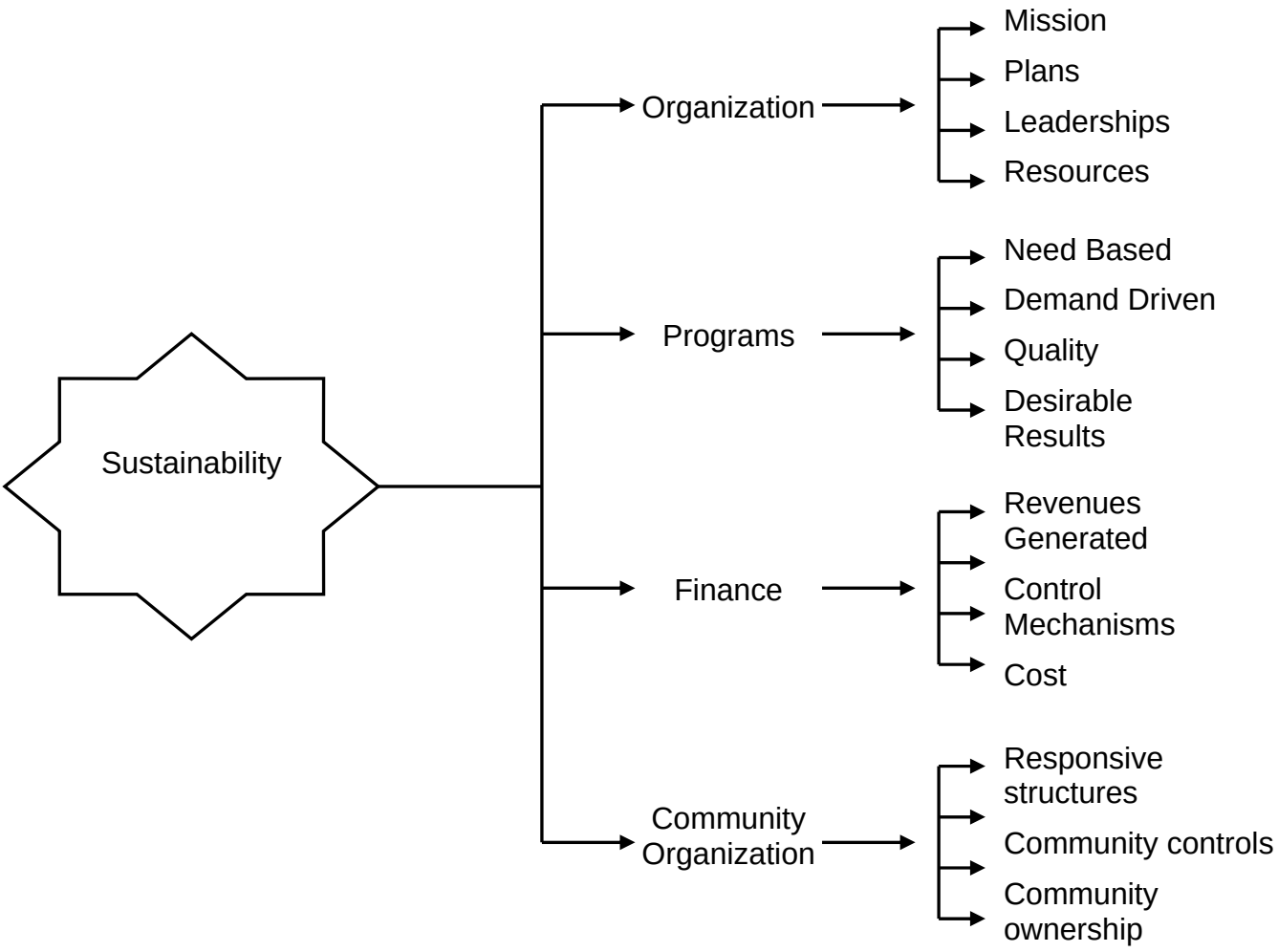
Operational Efficiency Analysis (OEA) helps to identify the efficiencies and inefficiencies in the health system in order to optimize the inputs and thereby reduce operational cost,

Community health financing mechanisms on the other hand helps in raising operational self-sufficiency of the project. If applied in conjunction, the projects can economise the use of resources and, at the same time, generate more resources. Thus, the projects become self-sustaining in the long run.

Sustainability Conceptual Framework

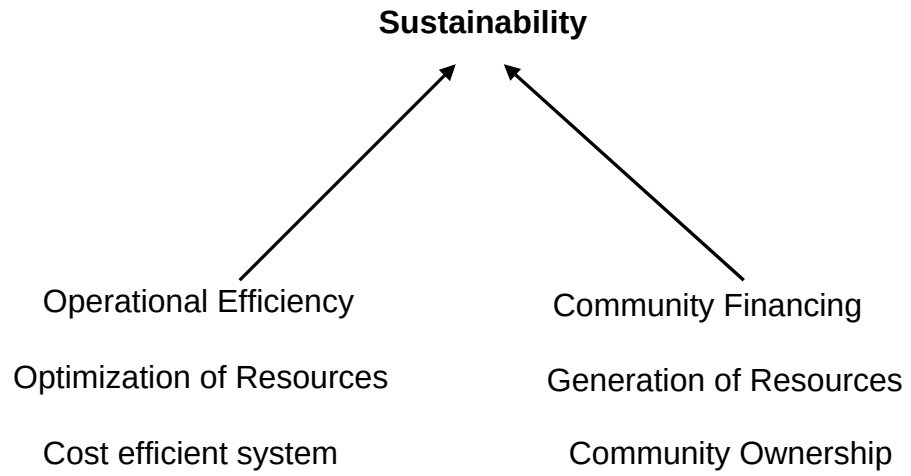


Health System Sustainability Index



Relation between OE and CF for sustainability

- OE is required for optimizing the use of resources. This would reduce average unit cost and would help to be cost efficient.
- CF is required for generating revenue for sustainability. This would increase the revenue.
- Only revenue generation would not help to achieve sustainability. The health system should be operationally efficient also. To sustain both are required.



Research methodology

Main steps involved in the methodology are discussed below. It may be said that the present study is field based study. In an attempt to capture maximum part of picture, data was collected from several sources. In the process, there may be some differences in time spans related to different sets of data. But it was necessary to build in trend analysis in respect of selected aspects of analysis.

Review

The study started with the review of literature on proposed objectives of the research proposal. To estimate the current level of efficiency of different services and measuring the variability of efficiency, both for type of services and type of service units (facilities), a detailed Cost Analysis was undertaken.

Types of data collected

To achieve the objectives, both primary and secondary data was collected. While secondary data was collected from project MIS emanating from different centres and patients. These related to the target population served, various output indicators (OPD attendance, deliveries performed,

Laboratory tests, referrals for five years), receipts and expenditure (four years), staff position, etc.

Primary data related to community based survey as well as the FGD done by project conducted. It is to be noted that since the project was in the planning phase, a complete community based survey was done to identify the socio economic and health status of the population. The Researcher was involved in leading this survey; the survey results were used for the research purpose also.

4.1. Study Design & Techniques Used

To identify mechanisms for sustainability, the paying capacity of the community had been assessed through community surveys and Focus Group Discussions. The analyses clearly brought out the lack of much-needed health facilities in the villages. The expenditure on health care services was quite high (Rs. 50-500 per sickness, and Rs. 600-1500 per delivery), every single respondent expressed his/her willingness to contribute according to their paying capacity, both towards setting up a facility and thereafter towards its upkeep including medicines, diagnostic treatment, and even the doctor's fees,. The major reasons for coming forward to make such contributions were that the facilities would provide quality services, including diagnosis in the vicinity. . Visiting a local health centre would save time and would cost less than the current expenditure in terms of private doctor's fees, transport and other expenses.

In the project area, the operational efficiency analysis was carried out utilizing information from the PHC, which were comparable in terms of their equivalent assignments, identical facilities and resources as well as the population served by them.

SECTION- 2

4.2. Use of Operational Efficiency Analysis (OEA) as a Method

4.2.1. Principle

Method of OEA requires that strategies aimed at achieving the same comparable service output among various facilities, projects, services, programs. Depending upon availability of necessary data, it would identify factors contributing to efficiencies (or inefficiencies) across similar type of units.

4.2.2. Steps in OEA

- A detailed break down of total costs is needed to measure operational efficiency.
- Next is identification and measurement of given output. These output units should be comparable over different facilities (OPD visits, tests, etc.)
- Cost apportionment is necessary to distribute various direct and indirect costs to the defined outputs.
- Estimates of the average cost of a particular service output could be derived by dividing total costs by total output.
- The differences in average cost per unit of the comparable service output are analyzed by looking into various factors that have bearing upon the individual cost elements.
- Identification of these factors will thus provide information about the relative efficiency of different service units and help in improving the management of health resources.

- OEA leads to identification of factors that contribute to higher or lower costs in the provision of a set of services by different health units.
- Measurement of OEA thus requires computation of total cost and its breakdown into different items.

4.2.3. Methodology

- Costs ere broadly classified into direct and indirect cost.
- Former is inclusive of salaries of staff (such as Lady Health Workers, doctors), medicines and other supplies.
- Indirect costs include support services, overheads, staff development costs and depreciation.
- Cost elements of various health centres of the project area were studied and reported accordingly.
- Financial statements related to both revenue and expenditure were analysed to estimate average costs Further, information related to the target population was used to estimate ratios related to utilisation as well as per capita revenue and expenditure.

4.2.4. Concept of cost analysis

Cost analysis is the examination of average costs related to services given by an institution and to determine how resources have been spent

Managers, their supervisors, and donors are the people who need this information most. Cost analysis can help them to understand (and explain) how funds have been used, and why expenses are high (or low). Cost analysis (CA) can also help them to identify areas where expenses can be reduced, where further analysis is needed, and where increased funds are justified. Revenue analysis, on the other hand, helps to identify where

primary support is presently given, and whether each financing from each source is increasing or decreasing.

Cost Analysis will help in three ways:

Monitoring

This is the most common use of cost analysis - to monitor expenditures in order to make necessary adjustments. This type of analysis usually involves comparing actual expenditures with and is frequently conducted to identify problems before they become serious. Managers may want a more detailed analysis than board members and donors, but the general purpose is the same- to ensure that expenditures are under control and that revenues are coming in as planned.

Efficiency

Cost analysis helps managers to identify areas of potential savings. If services can be provided at reduced costs while maintaining the same quality, then the project can be made more efficient. This type of analysis usually requires comparisons among subprojects (or locations over time) to see if there are lessons that can be learned from one experience and applied to another, either to reduce costs or to increase revenues.

Planning

Managers can also use cost data to make projections of future costs and to estimate what it would cost to replicate a program or service in another area. In addition, analysis can be used to estimate what it would cost to continue a program or service at the same, expanded, or reduced level - that is, what it would cost to sustain it. Alternatively, cost data may also be used to plan strategies and volume of services within a stipulated level of resources.

There is no single type of cost analysis and no standard purpose that fits all programs. Like most other management activities, it all depends on what the user(s) wants from the analysis. Since most health projects have a number of potential users (managers, boards, donors, communities, for example), it is possible that each user could have a different objective in mind.

Strengths of cost analysis:

As described above, cost analysis can be a very useful tool for the manager and policy maker. First of all, keeping track of costs is just good management. Most accounting systems do not produce the type of analysis that managers need to monitor and plan activities. (It is a step further than accounting. But why compare with accounting?). Thus, some special effort is required. The analysis does not have to be complicated to be informative and useful. Secondly, in the absence of certainty, even approximations can help improve decision-making. Finally, given the strains on most budgets, as well as the pressure from boards and donors to become self-sustaining, cost analysis will become an essential part of every manager's tool kit.

Some limitations of cost analysis:

Mostly, cost studies use financial data in its raw form for estimation of accounting costs. More advanced methodology, and more importantly, more information and data is needed to estimate true economic costs. Thus, it is difficult to estimate "true costs." It refers to a specific type of cost, what economists would call "financial" or "accounting" costs rather than "economic" costs. Economic costs include in-kind contributions; make adjustments for subsidies, donated labour, etc. To economists, the

“true” cost of an activity is the value of the alternative Endeavour that might have been foregone using the same resources. Measuring the true cost of a PHC, for example, is very difficult. It would require, among other things, estimating the cost to the client for attending a clinic session, the cost of donated labour and materials, and the true cost of subsidized supplies. That is it requires mixing supply and client sides.

The present module uses more pragmatic approximation of costs, which are financial costs. The module also used actual monetary expenditures and revenues, which was the type of information that appears in financial reports. However, suggestions are included in the module for estimating the cost of some important and typical items that do not have a monetary cost attached. For example, CHWs are often unpaid volunteers. It would be important in most cost analyses to include an estimate of the market value of their labour.

Allocation of costs:

To allocate costs means to assign them to one or more cost categories. Costs may be assigned to a single category or they may be spread across several categories. The first procedure will call as "direct allocation" and the second as “indirect allocation".

Direct allocation

When costs can be clearly attributed to a single category, then the allocation is straightforward.

Indirect allocation

Some costs have to be allocated to two or more categories. Typical examples are buildings, vehicles, equipment, and staff time. There are two

principal ways to allocate these costs: 1) equally among the cost categories, or 2) proportionately. It is easiest to do the calculations in percentages. That is, determine the percentage of the total cost that should be allocated to each cost category.

Equal allocation

The total costs are divided equally among the cost categories. For example, if there are three health centres, one-third of the costs would be allocated equally to each of them. Although this approach is easy, it is usually not accurate, unless the locations and services are similar.

Proportional allocations

Costs are allocated according to the unit of measure that is typically associated with the cost category.

Item	Unit of measure	Example
Personnel	Time worked	50% time on immunization x salary
Supplies	Weight based Volume used Units used	20% of vaccine x total cost of vaccines
Facilities	Spaced used Time used	35% of clinic floor space x rent
Equipment	Time used	25% of lab equipment x annual depreciation
Vehicles	Distance traveled Time used	30% of total Km driven x vehicle operating costs

It is often very difficult. The most critical step in cost analysis is allocating (or distributing) the cost of an item across several cost categories. For example, the Project Manager usually does not spend much time on direct services. It would be very difficult to split that person's costs among the

project's services, locations, etc. Similarly, a vehicle is used for many activities. Distributing its costs fairly among those activities would likewise be difficult.

This may not be a problem if the costing system has been set up to keep track of these distributions. But most systems have not done that. In that case, the analyst will have to take the figures from the accounting report and reallocate them to various services. But the manager must accept that these are estimates and, therefore, may not be completely accurate.

These and other community problems are discussed in the module and suggestions are made for dealing with them. In many cases, financial staff is familiar with these issues and can take them into account when conducting the cost analysis. The manager and policy maker should, however, also be aware of the effects these limitations can have on the results.

Allocation techniques:

These allocation formulas require good records. Information must have been kept on how much time each staff spent on each activity, which supplies were used for which activity in which location, how many kilometers were driven, and so forth. This level of detail will give accurate estimates of costs, though it is time consuming.

4.3. Community Health Financing

Community Health Financing here means source of revenues raised from people. It may be in cash or kinds. It does not include other than funding from government, donor or from any other agency. The main rationale

behind a separate mention of community financing is to see how far project can raise resources internally/ this would later help to reduce outside /donor dependency for finance to become self-reliant.

4.3.1. Community Health Financing Options

a. Community based financing

- Identify potential community donors
- Sponsorships of event/programs
- Voluntary Services
- Community Health Funds
- User Fees
- Other fund raising activities

Community-based health financing refers to different mechanisms of mobilizing resources for health care. Mechanisms such as community health fund, community financing, community involvement in user fee management have all been referred to as community-based financing.

Community- based health care financing (CF) mechanisms play an increasingly important role in the health system of many low and middle-income countries. The expectation is that CF mechanisms reach population groups that government and market-based health financing arrangements do not. Populations with low income, obtaining their subsistence from the informal unorganized sector (urban and rural) and/or socially excluded groups (due to cultural factors, physical or mental disability, other chronic illness) are often not able to take advantage of government and/or market based health care financing arrangements. Thus, CF has been attracting widespread attention for its potential to

provide these population groups with increased financial protection and access to health care.

Why do poor people in poor countries turn to their communities for support in paying for health costs? To answer this question, one must understand the private, public and market failures. Where private insurance and public health financing have failed, communities have got together to underwrite their health care costs. Governments have attempted to provide health care for the poor through public clinics and hospitals. These services are funded through tax revenues, contributions from formal-economy employees and user fees. But these formal financing instruments do not work as well in developing countries because income is not readily identifiable, and taxes and premiums cannot be collected easily at source. The result leaves many of the poor without needed health care or financial protection against the cost of illness. Also, public budgets can only afford minimal health care, and most subsidies are channeled to health centres that are accessed more by the middle class.

The high incidence of tax evasion by middle-to-upper class causes serious dysfunction of risk spreading through a revenue pool that is not sufficiently large or diversified. There are more problems in developing countries due to limited regulatory capacity of government. Thus, with low revenue base and poor capacity to implement regulatory compliance, many low-income governments rule out the option of universal health financing from public funds.

That is why so many poor people have to rely on spot payments to pay for health care. If they cannot afford it, they suffer illness and the resulting lower earning capacity, and if they do pay for it, they are exposed to a severe risk of impoverishment, or both. This is a major problem. The

poverty-illness nexus arises, and its vicious impact is particularly pronounced among the rural poor and people working in the informal economy.

Then there is market failure. Market failure is partly the lack of an effective exchange between supply and demand, inability to create an effective link between needs, demand, ability to pay and supply. The compounding private, public and market failures pushed many rural populations and informal sector workers to turn to local community arrangements to help meet their health care needs.

b. Other methods of financing are:

- Prepaid packages/insurance schemes
- Co-operative financing
- Material aid from other agencies
- Social marketing of services
- Cross subsidization

The use of this information is mainly for the following uses:

- To develop cost recovery and other revenue to support recurrent costs at village level and contribute to financial sustainability.
- To develop an expansion plan for quality services that can be sustained.
- To generate strong community participation and support for programs.
- To strengthen institutional systems and capacity for sustainability.

c. Success of CHF method lies in

- Advanced health management techniques
- Mechanisms to sustain the interest of community and staff
- Professional and technical backup to programs
- Community participation in planning, organizing and pricing policies
- Optimization of inputs and strategic location of services outlets

4.4. Sustainability

It usually implies maintaining something that already exists. The term is often equated with "self-sustaining" and "self-sufficient," which means that no outside support is needed. In terms of health projects, it implies that the project can sustain over time with the internal resources, including those raised from the community through their participation in costs.

4.4.1. Sustainability principles

A broad definition of sustainability includes programmatic, institutional, financial sustainability and community support. Elements include:

- Institutional sustainability including organizational capacity, human resource development, effective management, institutional sustainability, planning and evaluation systems, flexible and responsive structures.
- Programmatic sustainability including program design, quality of services, broad range of choices for RCH, strong and effective referral networks, appropriate data and MIS systems, and quality training programs.
- Financial sustainability including capacity to plan and manage financial diversification, strong financial accounting and cost analysis systems,

ability to raise revenue, implement social marketing, community financing schemes and leverage funds.

- Community sustainability including involvement of community in supporting the project and institution, community mobilization, broadening linkages and networks to support the institution and its objectives.

Sustainability is not an end result but an on-going process, which should be incorporated in the design or initiation of a project. Sustainability is also an attitude and the belief that it is imperative, desirable and achievable. This attitude reflects a business like approach to management of funds, cost effective operations and a quality service orientation. Specific objectives for sustainability should be based on a solid baseline assessment, including internal analyses of systems, resources, strengths and weaknesses, as well as external marketing analysis.

V. OPERATIONAL EFFICIENCY AND SUSTAINABILITY OF HEALTH CENTRES

FINDINGS

The Chapter on Findings is divided into five sections. These are setting for the Study giving need for the study, nature of studies undertaken elsewhere, selected information about the Study Area. Next section gives details related to Resource Mobilisation and Expenditure. The fourth section discusses the concept of operational efficiency. This is followed by an analysis of different types of cost elements and operational efficiency in the five health centres. A discussion of the utilization levels, cost recovery and sustainability of the health centres comprises last section.

5.1. The Setting

As mentioned earlier, Health Programmes in rural sectors increasingly face the paucity of resources, and alternative health financing methods need to be explored for: (i) meeting the growing financial constraints, (ii) looking into the possibilities of a sustainable health system, and (iii) development of future strategies. In this regard the experience of micro level experiments can help to throw light on some of these aspects. The present study is an attempt to provide some insight in this direction.

Nature of earlier studies

The problem of resource constraint (WDR, 1993) has been studied in developing countries. In the process, mainly three types of analyses have been carried out. These include: operational efficiency analysis (OEA), cost effectiveness analysis (CEA), and cost benefit analysis (CBA). Of these, majority of studies have attempted either CBA or CEA. Very few

attempts have been made to obtain and use cost information for conducting operational efficiency analysis (Berman, 1986). Even within the latter, the studies in the Indian context have been primarily focused on hospitals in urban areas. In this regard, it is pertinent to note that with reference to the published data; so far there has been hardly any attempt in India, which carries out operational efficiency analysis with reference to non-governmental health sector in the rural area. Moreover, the role of operational efficiency analysis in achieving the sustainability of a newly established micro level health system by a non-governmental organization (NGO) has also not been explored. Consequently, the needed analyses would throw light on formulation of appropriate strategies by NGOs in their survival and continuation of these health services without much donor dependence.

Study Area

Salient features related with the target population of the project of AKHS, namely sources of care, availability of services, rates and charges, and an idea about quality of services have been given in the Table below.

Health Center	Categories	No. (Qty)	Timings	No. of days in a week	Services provided	Rates (Average per case)		Cost of our services compared to these (more or less)		Quality of services of theses providers
						Curative	Delivery	Curative	Delivery	
Manpura	Government ANM	1	N	3 hours	Once in month			N/A	N/A	Average
	BAMH Pvt Practitioners	1	N	4 hours	7 days	Rs. 5/pt	N/A	N/A	N/A	Poor
	Others (Specify) Pvt ANM	1	Y	8 hours	7 days	Rs. 5/pt	Rs. 200/-	More	More	Average

Health Center	Categories	No. (Qty)	Timings	No. of days in a week	Services provided	Rates (Average per case)		Cost of our services compared to these (more or less)		Quality of services of theses providers
						Curative	Delivery	Curative	Delivery	
Punasan	Government ANM	1	N	6 hours	Twice in a month					Average
	Unqualified practitioners	1	Y	8 hours	7 days	Rs. 8-10	Rs. 100/- delivery	Equal	Equal	V. poor
Varshilla	Government ANM	1	Y	8 hours	7 days		Free		More	Poor
Meloj	Government ANM	1	Y	8 hours	7 days		Free		More	Average
	BAMH Pvt Practitioners	1	N	3 hours	6 days	Rs. 10-20		Equal		Poor
	Unqualified practitioners	1	N	5 hours	2 days	Rs. 10/- pt		Equal		V. poor
Methan	Government ANM	1	N	8 hours	6 days		Free		More	Average
	BAMH Pvt Practitioners	1	N	8 hours	6 days	Rs. 10/-		More		Average
	Unqualified practitioners	1	N	8 hours	2 days	Rs. 10/-		More		Average
Metrana	Government ANM	1	Y	8 hours	6 days		Free		More	Poor
	Government Centers	1	Y	8 hours	6 days	Free		More		Average
	BAMH Pvt Practitioners	1	Y	8 hours	7 days	Rs. 5/-		More		Not Good
	Unqualified practitioners	1	Y	8 hours	7 days	Rs. 5/-		More		Not Good
	Unqualified practitioners	1	Y	24 hours	7 days	Rs. 5/- per drug gen. medicine	Rs. 200/- delivery	Equal	Less (no facility)	Poor

Features of the target population

The details about the total and composition of population in the Health Centres in the project area are given below. The Table shows that Ismail population is less than a-fifth (about 17.2%) of the total population, ranging from 4.4% to 45.5%. Maximum proportion of Ismail population was in Methan and Manpura.

Sr No.	Health Centre	Isamail Population	%	Non-Ismail Population	%	Target Pop. 1997
1	Manpura	673	**45.50**	806	**54.50**	1479
2	Punasan	962	**19.23**	4040	**80.77**	5002
3	Varshilla	267	**23.30**	879	**76.70**	1146
4	Meloj	817	**14.70**	4739	**85.30**	5556
5	Methan	1363	**41.05**	1957	**58.95**	3320
6	Samoda	280	**11.29**	2200	**88.71**	2480
7	Metrana	374	**4.40**	8130	**95.60**	8504
Total		**4736**	**17.23**	**22751**	**82.77**	**27487**

5.2. Present Study

In the present study an attempt is made to analyze the experience of one of the NGOs to develop a sustainable health system. The study focuses on a primary health care system initiated at Sidhpur in Gujarat (India) by Aga Khan Health Services. The exercise covers curative health services provided by five health centres of the system in the duration between January to December, 1993. The operational efficiency analysis is carried out utilizing information from these centres, which are comparable in terms of their;

1. equivalent assignments,
2. identical resources and
3. Facilities as well as the population served by them.

A synoptic view of these centres is presented in ***Table 1.***

Table1. : A Synoptic View of Five Health Centres: Sidhpur Health System

Centres	***Population***	***Staffing***	**Frequency of Dr.'s Visit Weekly**	**Building (Rented/ Owned)**	**Services ANC/PNC Basic YES/NO**
Methan	3289	Doctor LHV	2	Owned	Yes
Varsila	1794	Doctor LHV	2	Owned	Yes
Manpura	1449	Doctor LHV	2	Owned	Yes
Meloj	3181	Doctor LHV	2	Rented	Yes
Punasan	1173	Doctor LHV	2	Owned	Yes

Some output Indicators

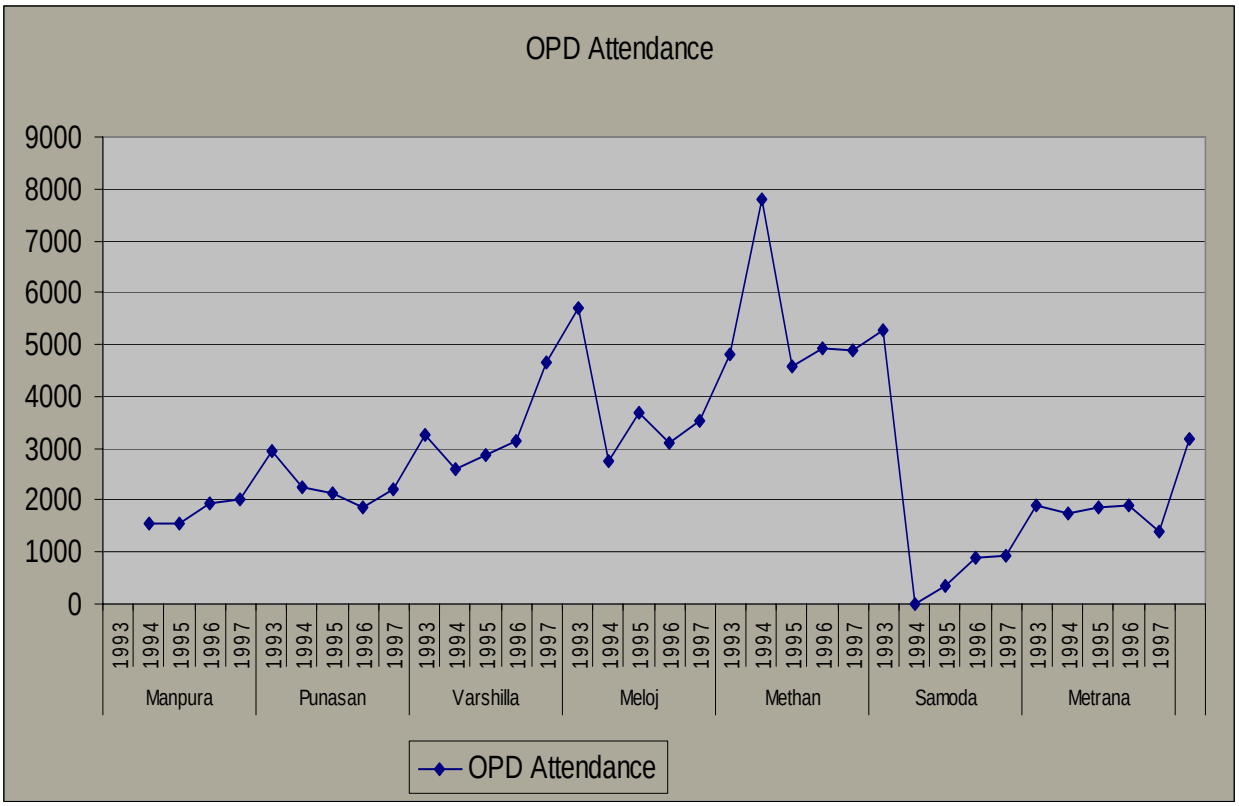
The Salient information about the trends in the output of the seven Health Centres during last five years is shown in the Table below. It shows that there has been considerable improvement in the output of all the Centres, especially in terms of OPD attendance and Lab Tests. In case of deliveries, it was very low overall with marginally increasing trend in case of Manpura and Varshilla but in all other Centres it was either fluctuating or decreasing. Referrals, especially to AKDC seem to have picked up over

time, especially after 1995. These findings have a bearing on future strategies, especially related to utilization of staff time as well as income generation.

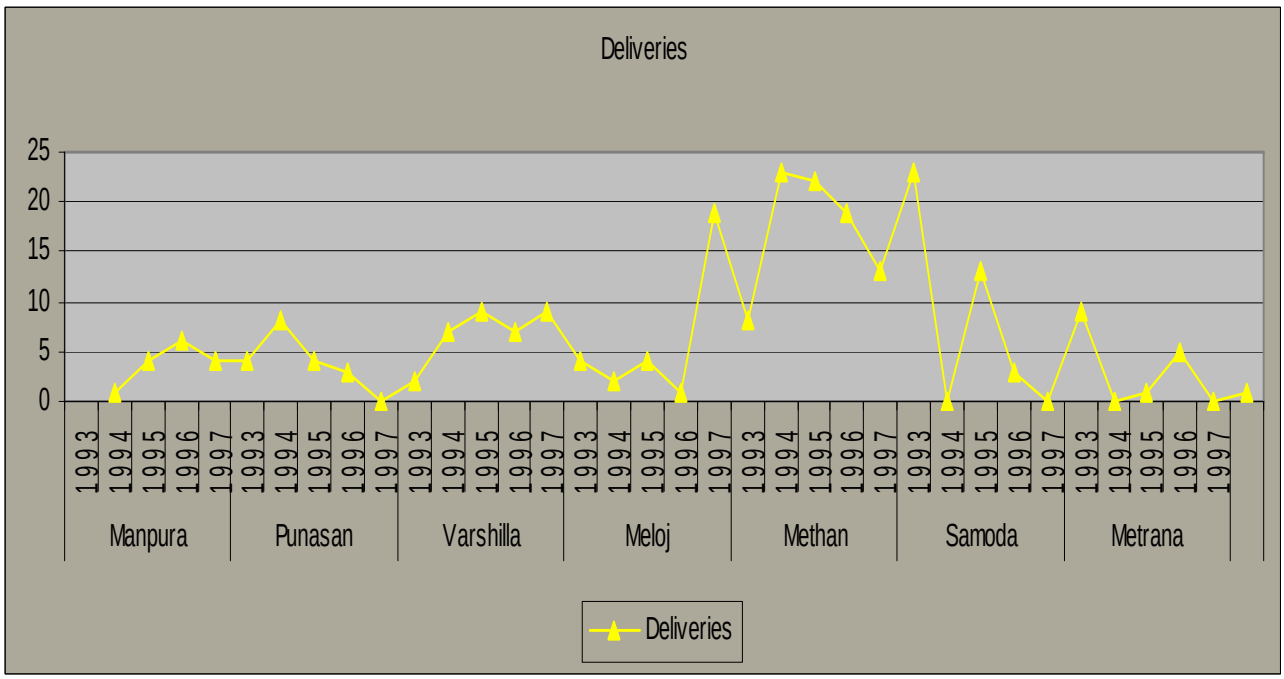
Sr#	Health Centre	Year	OPD Attendance	Deliveries	Lab Tests	Referrals To	
						AKDC	Others
1	Manpura	1993	1547	1	15	0	0
		1994	1560	4	58	0	16
		1995	1953	6	76	22	0
		1996	2016	4	179	45	2
		1997	2941	4	585	45	23
2	Punasan	1993	2260	8	0	0	0
		1994	2153	4	87	0	0
		1995	1859	3	202	9	1
		1996	2203	0	161	52	3
		1997	3246	2	785	41	4
3	Varshilla	1993	2612	7	0	0	0
		1994	2864	9	0	0	13
		1995	3143	7	199	30	0
		1996	4659	9	96	83	12
		1997	5684	4	211	226	9
4	Meloj	1993	2762	2	88	0	0
		1994	3666	4	75	0	0
		1995	3116	1	132	0	0
		1996	3530	19	139	167	16
		1997	4794	8	356	170	20
5	Methan	1993	7812	23	0	0	5
		1994	4591	22	55	0	8
		1995	4926	19	145	110	10
		1996	4906	13	148	234	33

Sr#	Health Centre	Year	OPD Attendance	Deliveries	Lab Tests	Referrals To	
						AKDC	Others
		1997	5274	23	241	314	25
6	Samoda	1993	0	0	0	0	0
		1994	365	13	1	0	0
		1995	879	3	41	0	0
		1996	921	0	75	55	5
		1997	1902	9	150	85	13
7	Metrana	1993	1749	0	0	0	0
		1994	1848	1	23	0	0
		1995	1903	5	67	50	8
		1996	1385	0	155	100	5
		1997	3164	1	309	150	16
8	**Total**	**1993**	**18742**	**41**	**103**	**0**	**5**
		1994	**17047**	**57**	**299**	**0**	**37**
		1995	**17779**	**44**	**862**	**221**	**19**
		1996	**19620**	**45**	**953**	**736**	**76**
		1997	**27005**	**51**	**2637**	**1031**	**110**

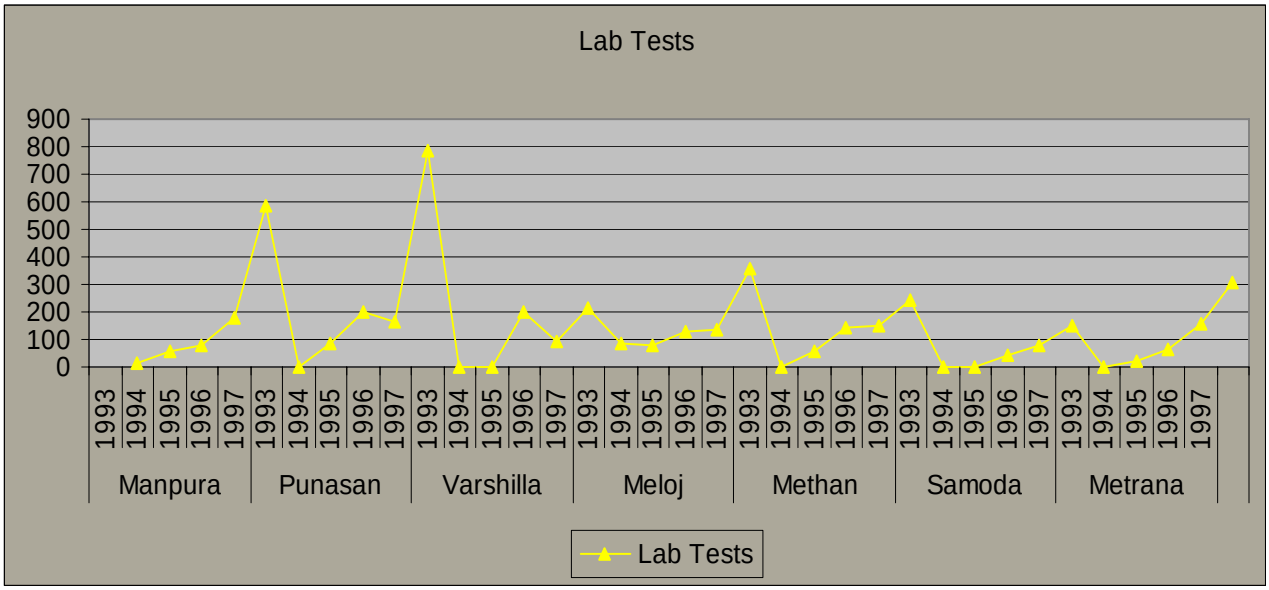
The above information is shown in three graphs given below. First graph shows behaviour of OPD attendance in the seven health centres. Methan clearly showing higher peaks followed by Maloj.



The second Chart given below shows trends in the deliveries performed in seven Health Centres. They all show rather decreasing trend over the years.

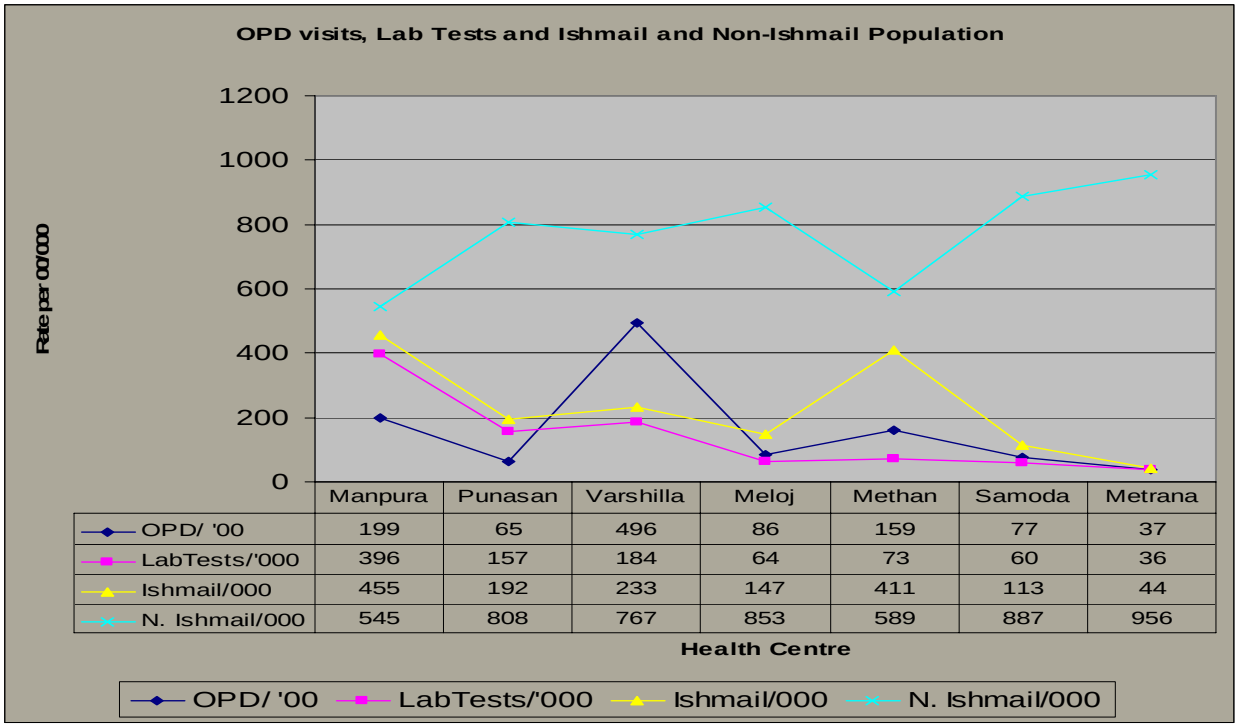


The third Chart given below shows trends in the Laboratory Tests performed in seven Health Centres. It shows increasing trends over the years. It may be mentioned that the variations in the lab tests were largely due to irregularity of lab services



Controlling for differences in population

In order to make outputs more comparable, indices related to OPD and Lab Tests were calculated per thousand and per hundred populations respectively as per Table and Chart given below. The rationale for taking different population denominator is just to contrast the two graphically. It shows that the rate of Lab Tests is highest in Manpura while rate related to OPD attendance is highest in Varshilla. Once we introduce indices related to Ishmail population per thousand then an interesting finding emerges that all the three indices go hand in hand. When non-Ishmail population is compared with indices related to OPD and Lab Tests, it behaves rather inversely. It implies that utilization has changed with the composition of population. It has important implications for and future policy in terms of inculcating ownership within non-Ishmail population so that utilization is improved thereby increasing future revenues.



The graph shows that in case both OPD visits per hundred population and laboratory tests per thousand population vary in consonance with the Ismail population However, this variation is large (OPD visits in Marshilla) or low (laboratory tests in Methan) than in rest of places.

5.3. Resource Mobilisation and Expenditure

Details about some of the key sources of revenue from the Community and expenditure on selected cost centres for a period of four years, in respect of the project, have been given in the Table below.

Revenue and expenditure analysis of all centers- 4 years period

Receipts from the community				
A/c Heads	**1996**	**1997**	**1998**	**1999**
Medicine	144520	173930	198390	210350
Other Curative	44020	63830	67235	79982
Laboratory Service	1971	2687	3205	4850
Deliveries	6835	7584	10025	14890
Injection	16365	17391	19365	22070

Receipts from the community				
A/c Heads	**1996**	**1997**	**1998**	**1999**
MCH Services	6176	19346	22090	24380
Control of CD	8950	5790	4550	6570
Control of NCD and Other	12739	37032	42565	49940
CHF/ COF (AHF)	2200	28100	33750	35400
Donations and Other	2445	800	5000	750
Total Receipts	**246221**	**356490**	**406175**	**449182**

Expenditure by Cost Centres				
A/c Heads	**1996**	**1997**	**1998**	**1999**
Electric	13283	18456	18900	19534
Maintenance	9349	10678	10820	11690
Traveling	5626	4377	4832	5312
Stationary	3226	4404	4523	4970
Meeting Expense	1745	1449	950	1070
LHV Extra Duty	715	525	670	815
Personnel cost	334661	428798	458701	495980
Vehicle	74074	69620	45970	55330
Medicine	73363	79739	83455	88534
Others	1715	3120	2018	2980
Telephone	5126	6829	4030	5038
Miscellaneous	315	491	990	895
Total Expenses	**523198**	**628486**	**635859**	**692148**
Self Sufficiency Level (%)	**47**	**57**	**64**	**65**

It may be noted that:

- Cost of Medicine is calculated from actual consumption
- Cost of Personnel includes actual salary and benefits given to Medical Officer and LHV. As they are at differential levels of seniority, the total payment given to each individual may vary among different health centres.
- Cost of Vehicle is estimated from average km. cost multiplied by no. of visits. Again these may be different among Centres.

- Other cost includes miscellaneous cost and syringes needles and other expenses.

The self sufficiency level that is total revenue divided by the total receipts is given below. This shows how far a health centre was able to sustain itself. This is important as the ultimate aim is cent per cent self sufficiency in the long run, the current gap needed to be filled by the resources from the project or from donors. Both the sources are temporary and depend upon multiple factors, sometimes beyond the control of the local management. As the project is in its initial phase, this can be achieved in the long run, primarily by mobilizing extra resources as well as economizing the use of existing resources.

Health Centre	Self Sufficiency Level (%)				
	1993	1994	1995	1996	1997
Manpura	35	28	43	38	37
Punasan	28	29	35	36	55
Varshilla	52	40	51	63	76
Meloj	57	45	55	51	51
Methan	111	82	85	75	67
Samoda		14	17	22	37
Metrana	31	30	36	22	36

5.4. Operational Efficiency: Concept and measurement issues

The concept of operational efficiency requires that a set of strategies aimed at achieving the same service output be compared. Such comparison basically would identify the factors, which contribute to the efficiencies (or inefficiencies) across similar types of services. Thus, to

measure operational efficiency it is necessary that a detailed break-up of total cost is available. Utilizing this information and dividing it by total service output, an estimate of average cost of a particular service output could be derived. The differences in average cost per unit of the same service output are analyzed by looking into various factors that may have bearing upon the individual cost elements. Such identification of these factors will provide the idea about the relative efficiency of different service units (Alexander et al, 1977; Turkey, 1968) and help in improving the management of health resources (Berman 1986). This may be possible owing to identification of factors that contribute to higher or lower costs in the provision of the same service by different health units. It is likely that if certain factors, namely, under- utilization of similar equipments, inappropriate utilization of staff time, costly and inappropriate prescriptions etc. are adding to higher costs of a particular service unit, theses could be monitored and controlled.

The measurement of operational efficiency thus requires computation of total costs and its break-up into different items. In the present analysis the costs have been broadly as direct and indirect costs. The former is inclusive of salaries of local health workers (LHV), doctors, medicines and other supplies. The latter includes support services, overheads, staff development costs and depreciation. These cost elements pertaining to five rural health centres situated at Methan, Manpura, Varsila, Punasan and Meloj are presented in Table 2.

Table 2: Monthly Average- Different Cost Elements in Health Centres:

(1993, Sidhpur Health System)

(Rs.)

Items/ Health Centre	Methan	Manpura	Varsila	Punasan	Meloj	Total
Direct Cost						
LHVs Salary	3114.9	2677.5	2889.9	3114.9	2677.5	14474.7
Doctor's Salary	8460.0	5640.0	5640.0	5640.8	940.0	26320.8
Medicine	8299.8	2270.0	2985.9	3342.9	2777.5	19675.1
Other Supplies	141.1	296.7	104.8	155.6	158.1	855.5
Total	**20015.8**	**10884.2**	**11619.7**	**12253.4**	**6553.1**	**61326.3**
Indirect Cost						
Support	2043.1	2038.0	2034.0	1987.0	2144.5	10339.6
Overhead Cost	2007.0	1088.4	1162.0	1225.3	655.3	6132.6
Staff Dev. Cost	1000.0	544.2	581.0	612.7	327.7	3066.3
Depreciation	400.3	217.7	232.4	245.1	131.1	1226.5
Total	**5545.8**	**3881.3**	**4009.4**	**4070.1**	**3258.5**	**20765.1**
Total Cost	**25561.6**	**14765.6**	**15629.1**	**16323.4**	**9811.6**	**82091.3**
Per Contact Exp.	12.9	24.4	23.3	33.0	13.3	18.3

Note:

In the direct cost:

1. LHV's salary is only for 3 hours daily for curative services
2. Doctor's salary has been taken on the basis of the OPD clinic hours
3. Other supplies include stationery, disposables etc

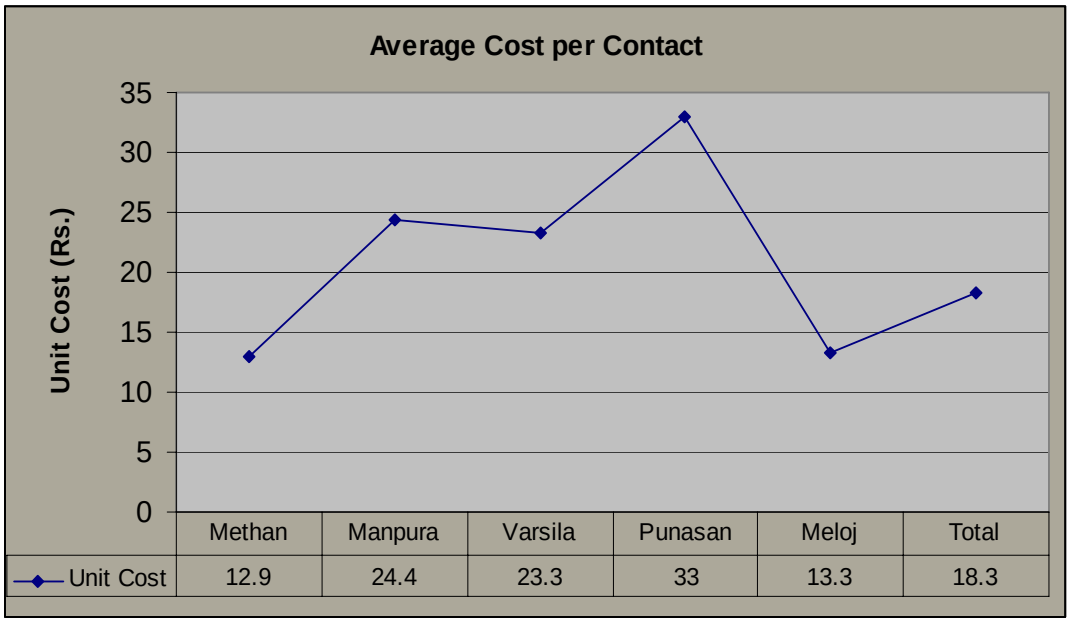
In the indirect cost:

1. Support cost include travel cost of LHVs, doctor, fuel and maintenance for clinic purpose
2. Overhead cost calculated as 10% of the direct cost
3. Depreciation calculated as 2% of the direct cost
4. Staff development cost calculated as 5% of the direct cost

(Definition of contact: Number of visits made by patients, including revisits)

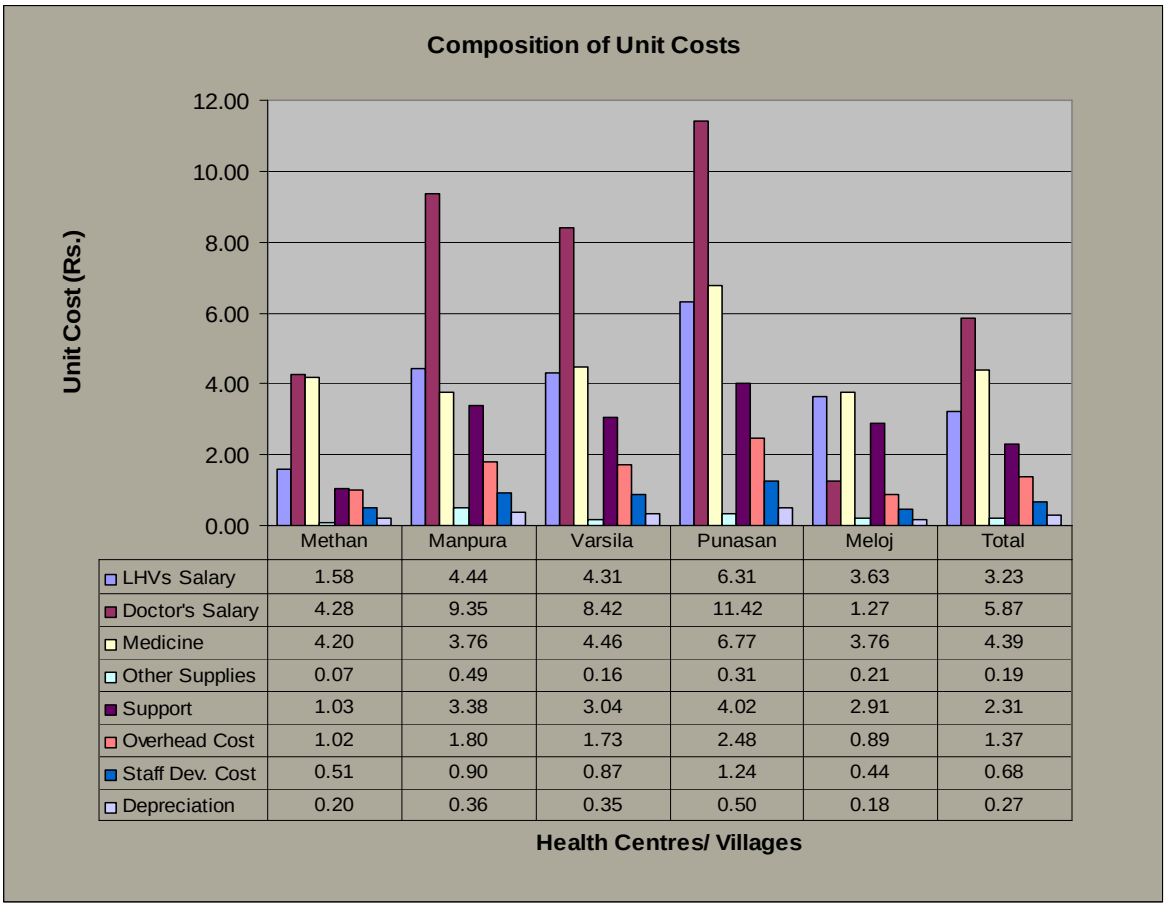
Unit Costs

In order to assess the behaviour of expenditure in different Health Centres/ villages, indicator related to the unit costs was adopted. The Chart given below shows the behaviour of total unit cost among different Centres. It shows that Punasan had highest unit costs while Methan and Meloj had lowest overall unit costs.



Composition of Unit Costs

Next Chart and Table shows broad composition of unit costs among various cost centres. It shows that main contributors to the unit costs were salary of doctor and LHV and medicines. While the first two fluctuated widely, especially in case of Manpura and Punasan. Unit cost of medicine was more uniform, excepting in case of Punasan.



	Methan	Manpura	Varsila	Punasan	Meloj	Total
LHVs Salary	1.58	4.44	4.31	6.31	3.63	3.23
Doctor's Salary	4.28	9.35	8.42	11.42	1.27	5.87
Medicine	4.20	3.76	4.46	6.77	3.76	4.39
Other Supplies	0.07	0.49	0.16	0.31	0.21	0.19
Support	1.03	3.38	3.04	4.02	2.91	2.31
Overhead Cost	1.02	1.80	1.73	2.48	0.89	1.37
Staff Dev. Cost	0.51	0.90	0.87	1.24	0.44	0.68
Depreciation	0.20	0.36	0.35	0.50	0.18	0.27

Operational Efficiency across health centres

As indicated in Table 2, despite the similarity in resources, the average cost per curative contact at these health centres differs. It is notable that this cost at Punasan is more than double than that of Methan. Given that both units have quite similar resources and serve similar size population, the large average costs reflect the inefficiency of Punasan health centre in the provision of curative service. In fact the analysis shows the health centre at Methan reported 20 % more curative cases than the average of all centres.

This data helps to identify both structural and managerial constraints reducing the efficiency of Punasan health centre relative to what

potentially might be achieved as seen in other health centres. There are differences in strategic villages served by Punasan health centre. Firstly it is a sector headquarters. Secondly, it has more distant villages with sparsely populated areas (density of population??), and hence accessibility to health centre headquarter has been identified as one of the major problems leading to low utilization at this centre.

The large difference in patient utilization suggests that the Punasan health centre is under-utilizing its staff resources, since they are treating only about one third of patients as at Methan. Area specific strategies are to be chalked out for Punasan centre to overcome this problem. For optimum utilization of staff, the Punasan centre could assign the time of its staff to outreach activities both to increase the efficiency in reaching patients and perhaps to market the services of the health centre by building up awareness of provision of quality services. Simultaneously the staff at the clinic could be assigned other tasks, which might be more productive and cost effective. The ANC, growth monitoring and curative clinics, which are being held separately, could be clubbed together and held on the same day.

Punasan health centre also depicted much higher drug expenditure. The drug costs per curative contact depict the difference in average cost of drugs provided to individual contacts at each health centre. The costs calculated from the total drug cost in Punasan health centre is 6.8 percent higher than the average drugs cost of Rs. 4.4 for all the centres. The morbidity profile at all these centres was more or less similar. The cost of drugs and consumption is dependent on the utilization pattern. Given similarity in case-mix, this suggests inefficiency in the use of drugs and supplies. The low utilized Punasan has much higher drug cost per curative contact. Though several explanations are possible, one of the analyzed

reasons is the practice of liberal distribution of drugs at Punasan health centre. Analysis of case sheets suggests that all centres routinely supplied different drugs but inadequate quantities of each drug were given (less than the desired course). Standardization of treatment policies including drug distribution is to be entrusted for ensuring standard care in health centres. This would enable cost recovery more rationally and rapidly.

It is also analyzed that, on an average 28.1 percent patients re-visit the centre for treatment follow-up. This shows that though average curative contacts are 4485 for three months, the real beneficiaries (patients) are only 3223. Further, in the total costs, the proportions of depreciation and maintenance expenses are relatively less, such that the difference between the two health centres reflects the higher cost for the doctors' time rather than any other cost.

Thus, this analysis suggests two key areas of management attention – allocation of resources according to service population and thereby expectations (targets) and the usage of drugs, which could provide the largest, pay off. Efforts to increase patient utilization (without increase in high capital cost) could also reduce average cost levels even in the most efficiency run health centre which still has an idle capacity to fill.

However, the lower utilization may result in higher cost per curative contact. But medicine cost will be corresponding to the patient utilization if they follow same policies, other things remaining the same. Another thing highlighted is that higher utilization necessarily does not reduce the average drug cost. Besides the catchments area, potential utilization of curative services may vary because of the cluster of services population.

The analysis suggests the influence of organization, marketing strategy and management of fixed and variable costs in the delivery of services. For management, analysis of average and total cost and their components can help to identify problems in delivery of services that may be solved without changes in inputs or structure. Better supervision and treatment protocols might be used to improve drug utilization.

5.5. Utilization levels, cost recovery and sustainability of health centres

In the light of the above analysis, which identifies the factors that could add to the efficiency at Punasan health centre, it becomes pertinent to explore sustainability implications. Thus, the particular aspect of sustainability forms the focus in this section. In this regard, it will be mentioned that all the health centres of our study have the practice of cost recovery through charging for medicines, OPD registration and doctor's consultancy. The extent of cost recovery for these centres is presented in **Table 3.**

The major source of revenue is medicine dispension, i.e., 69.61 percent of the total revenue. The next major source is OPD registration at 20.4 percent, third is doctor's consulting fee at 7.6 percent. Only 2 percent is contributed by sources other than these. In aggregate, these five centres derived nearly 91 percent of their total direct expenditure (Table 4). When we compare the health centres, Methan alone contributes 43.5 percent. The four centres contribute the remaining 42.5 percent of the revenue. However, the centres at Methan and Meloj have not only recovered their direct expenses, but also recovered a part of their indirect expenses. The recovery in medicines has been the major source in all these centres.

Table 3: Monthly Average Revenue Collection and Percentage of Cost Recovery in Health Centres (1993, Sidhpur Health System) (Tests, Delivery.)

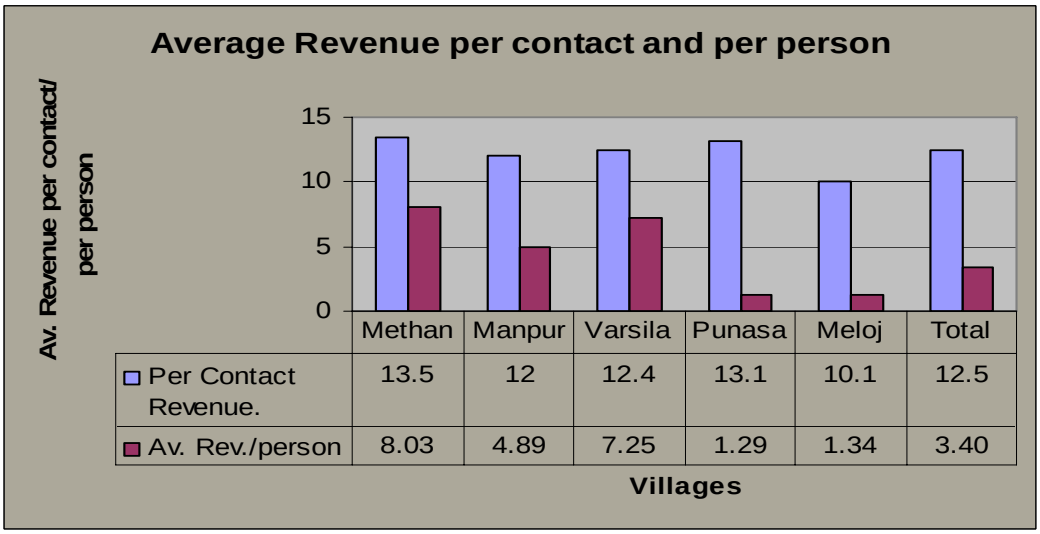
HEALTH CENTRE	METHAN		MANPURA		VARSILA	
ITEMS	Revenue (Rs)	Percentage Recovery	Revenue (Rs)	Percentage Recovery	Revenue (Rs)	Percentage Recovery
Registration Fee	5,015.0	161.0	2,042.0	76.3	1,773.0	61.4
Doctor's Consultation	1,590.0	18.8	381.0	6.8	984.0	17.4
Medicine	19,847.0	239.1	4,342.0	191.3	5,391.0	180.5
Other Supplies	224.0	158.7	471.0	158.7	165.0	158.7
Total	**26,676.0**	**133.3**	**7,236.0**	**66.5**	**8,313.0**	**71.5**
Per Contact Revenue	13.5		12.0		12.4	
OPD (No. of Patients)	1,428.0		415.0		481.0	

HEALTH CENTRE	PUNASAN		MELOJ		TOTAL	
ITEMS	Revenue (Rs)	Percentage Recovery	Revenue (Rs)	Percentage Recovery	Revenue (Rs)	Percentage Recovery
Registration Fee*	1,504.0	48.3	1,119.0	41.8	11,453.0	79.1
Doctor's Consultation	603.0	10.7	690.0	73.4	4,248.0	16.1
Medicine	4,105.0	122.8	5,386.0	193.9	39,071.0	198.6
Other Supplies	247.0	158.7	251.0	158.7	1,358.0	158.7
Total	**6,459.0**	**52.7**	**7,446.0**	**113.6**	**56,130.0**	**91.5**
Total Cost	6,459.0	39.6	7,446.0	75.9	56,130.0	68.4
OPD (No. of Contacts)	494.0		738.0		4,485.0	
Per Contact Revenue	13.1		10.1		12.5	68.4
OPD (No. of Patients)	399.0		500.0		3,223.0	

- Registration cost recovery means OPD registration fees against the direct cost of stationary/ expenses for registration. Since the registration is done by Volunteers so that the personnel cost is not included, and has been considered as community contribution in terms of services.

Cost Recovery

Charts below show average revenue per contact and per person. There is less gap between the two in case of Methan and Varsilla, while such gap was very high in case of the rest. This may be due to higher utilization or higher average number of contacts per person in Methan and Varsilla. This has policy implications as it reveals existence of ample scope of increasing utilization in the rest of villages. This may refer to both demand and supply factors.



The next Chart shows that cost recovery was highest in Methan and Meloj centres. In fact, Meloj had recovered more that what was spent.

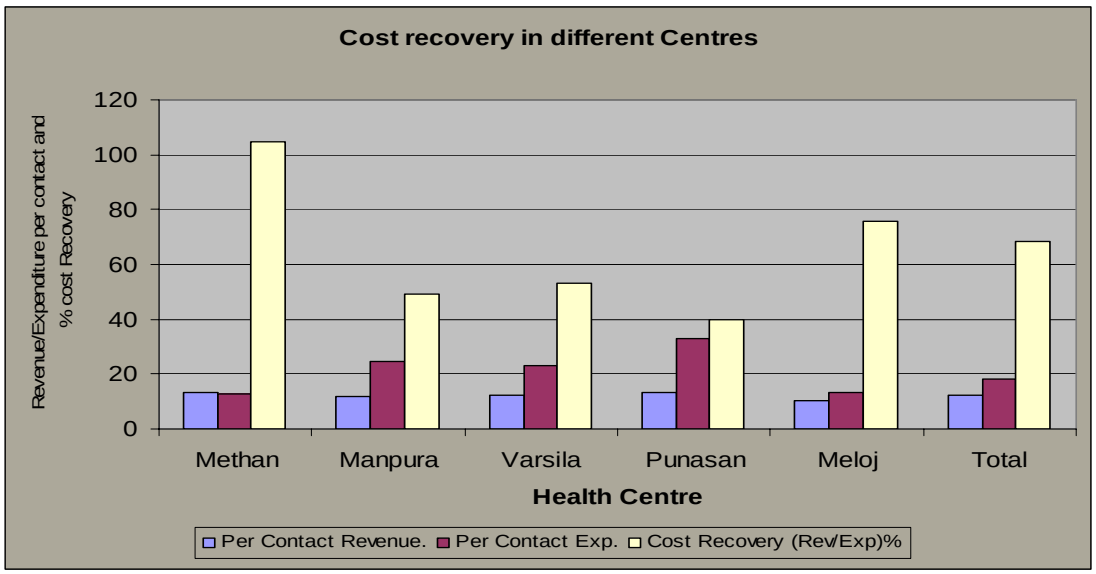


Table 4: Recovery according to sources and as a Percentage of Direct Expenses (Sidhpur Health System, 1993)

ITEMS/ HEALTH CENTRE	Sources of Recovery and as a Percentage of Direct Expenses					
	Methan	**Manpura**	**Varsila**	**Punasan**	**Meloj**	**Total**
Registration Fee	25.06	18.76	15.26	12.27	17.07	18.67
Doctor's Consultation	7.94	3.50	8.47	4.92	10.53	6.93
Medicine	99.16	39.89	46.39	33.50	82.19	63.71
Other Supplies	1.12	4.33	1.42	20.15	3.83	2.21
Total	**133.28**	**66.48**	**71.54**	**70.84**	**113.62**	**91.52**

However, the pace of cost recovery has a direct positive relationship with service utilization (OPD turnover). This is reflected in recovery both in OPD registration as well doctor's consultancy fee (refer Tables 3 & 4). Varsila health centre contributes the highest percentage in doctor's consulting fee, i.e. 11.2%. Besides, Methan Health Centre is earning 3.6% as ANC and delivery fee. The Varsila and Punasan health centres are earning, on this account, almost 3%. In other centres, the revenue from doctor's consultation fee is meager. Income from other sources is the highest in Manpura (12.7%), compared to 5.7%, 4.4%, 3.1%, and 1.7% in Varsila, Punasan, Meloj and Methan respectively.

Thus, Methan shows the highest utilization and thereby the highest cost recovery per patient treated. Punasan on the other hand shows the lowest percentage of surplus and thereby highest per curative contact medicine expenditure. It is therefore obvious that, increase in utilization of services will increase the revenue whereas low utilization results in increased expenditure.

There are two other important aspects, which also pertain to financial sustainability of these centres and the Sidhpur health system as a whole. These are (1) surplus per contact, which could be used to subsidize the deficit on other items and other centres in the system, and (2) period in which full cost recovery is achieved. In regard to the former, it is observed that the item of medicine provides good deal of surplus per contact. Thus, if we compare the cost and revenue of the medicine, it is very clear that Methan is getting 39.1% surplus i.e. Rs 5.80 curative contact as surplus. It is higher than all other four centres. In Manpura the surplus per curative contact is Rs 3.40. In Punasan, the surplus is very meager i.e. Rs 1.50 per curative contact. In Varsila it is Rs 3.60 per curative contact. In Meloj it is Rs 3.50. The average surplus of all the five health centres per curative contact is Rs 4.30. This kind of surplus generation on medicines is also corroborated by studies on health centres in other countries. Inline with some other studies on NGOs in India (Purohit and Gaur, 1994), this implication forms a sort of guideline for sustainability efforts for other NGOs in India.

In regard to the latter aspect, namely, the period to achieve full cost recovery, it is observed that all the centres began to recover the cost in the second month except Punasan health centre. This centre recovered the cost only in the third month, with a surplus of 22.8%. In 1993, the overall surplus from drugs alone is 98.6%. Thus the actual surplus comes to Rs. 19,395 for the 3 months. This implies that revenue from drugs covers 100% of its costs and 46.6% of other direct costs as well. In short, the total revenue from medicine itself contributes nearly 47.6% towards self-sufficiency. Although the major sources of revenues are medicines, registration fees, and doctor’s fees, but considering the current rural market of health services, it may not be possible to raise the revenues from the registration fees and doctor’s fees. Thus looking into the size of

revenue generated from each source and the different options available, two feasible alternatives strategies emerge from the analysis. One of this requires that for achieving self sustainability level for all centres, which is only 68.4 %, additional revenue of 31.6% be generated to achieve cent per cent self sufficiency. Considering the annual incremental cost in inputs (variable cost), an addition of 6.8% revenue has to be generated to set off additional cost. However, if we also include indirect costs and consider within the present curative status, fees should be raised by 31.6% for cent percent self-sufficiency. In other words, the present average revenue of medicine per curative contact of Rs 8.7 has to be raised to get an average of Rs 11.4 with a raise of Rs 2.7. This increase in pricing would off set the deficit to make it financially viable. At present, this deficit has been adjusted from the grant provided by the funding organization.

The second feasible strategy requires that within the present fee structure, curative contacts are raised by 63.5% to achieve 100% self-sufficiency with adjustment for increase in total drug cost and other supplies as well. It is imperative that increase in patients' turnover directly increases with the variable costs like drugs and other supplies by 46.1%. If other things remain the same, this marginal increase in variable cost would enable an increase in the marginal curative services to 63.5%. Considering the re-visits of 39.2% (number of individual patients re-visiting for curative services), this results in an increase of 11.7% in total cost, reaching 31.6% self-sufficiency by increasing efficiency of services within the given infrastructure and prices.

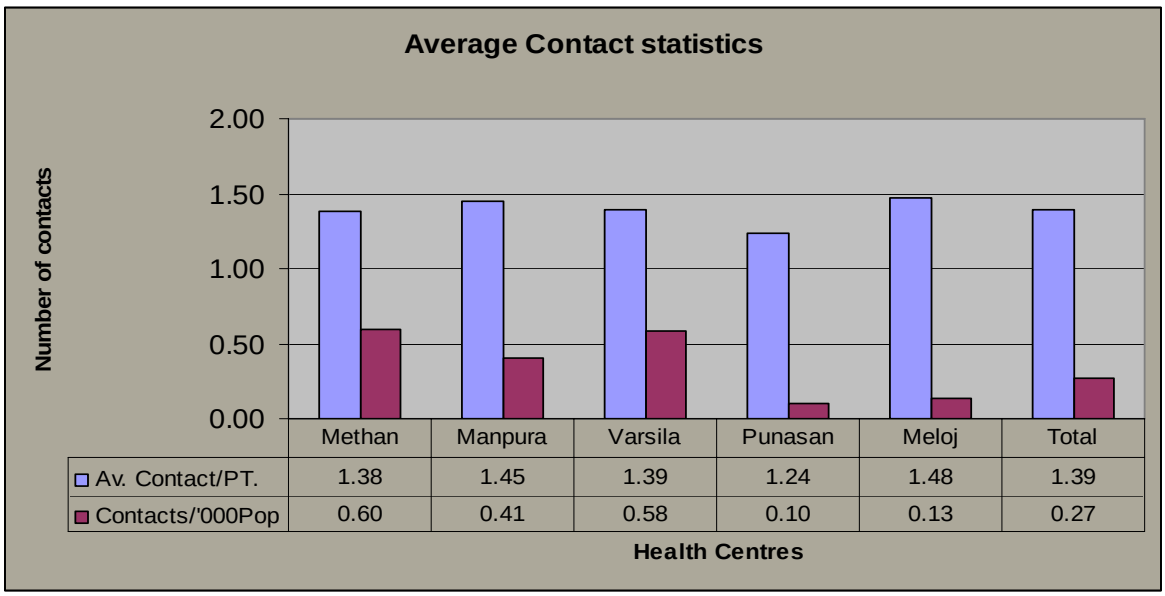
This analysis, therefore, indicates that the average current curative contact of 12 per clinic needs to be increased to 19.6 to reach the calculated self sufficiency level, keeping the current level of other PHC services (offered at no cost), however, intact. This also means that an

increase in OPD turnover marginally increases total cost, which in turn increases the total income. This increase in marginal income will be higher than the increase in cost, which results in higher self-sufficiency.

In sum, the current level of self-sufficiency being 68.4% and 31.6% yet remaining to be achieved, 63.5% more patient turnover is required. This would, in effect, mean that any addition of one patient's visit would contribute 0.5% increase in self-sufficiency level within the given average cost and revenue structure.

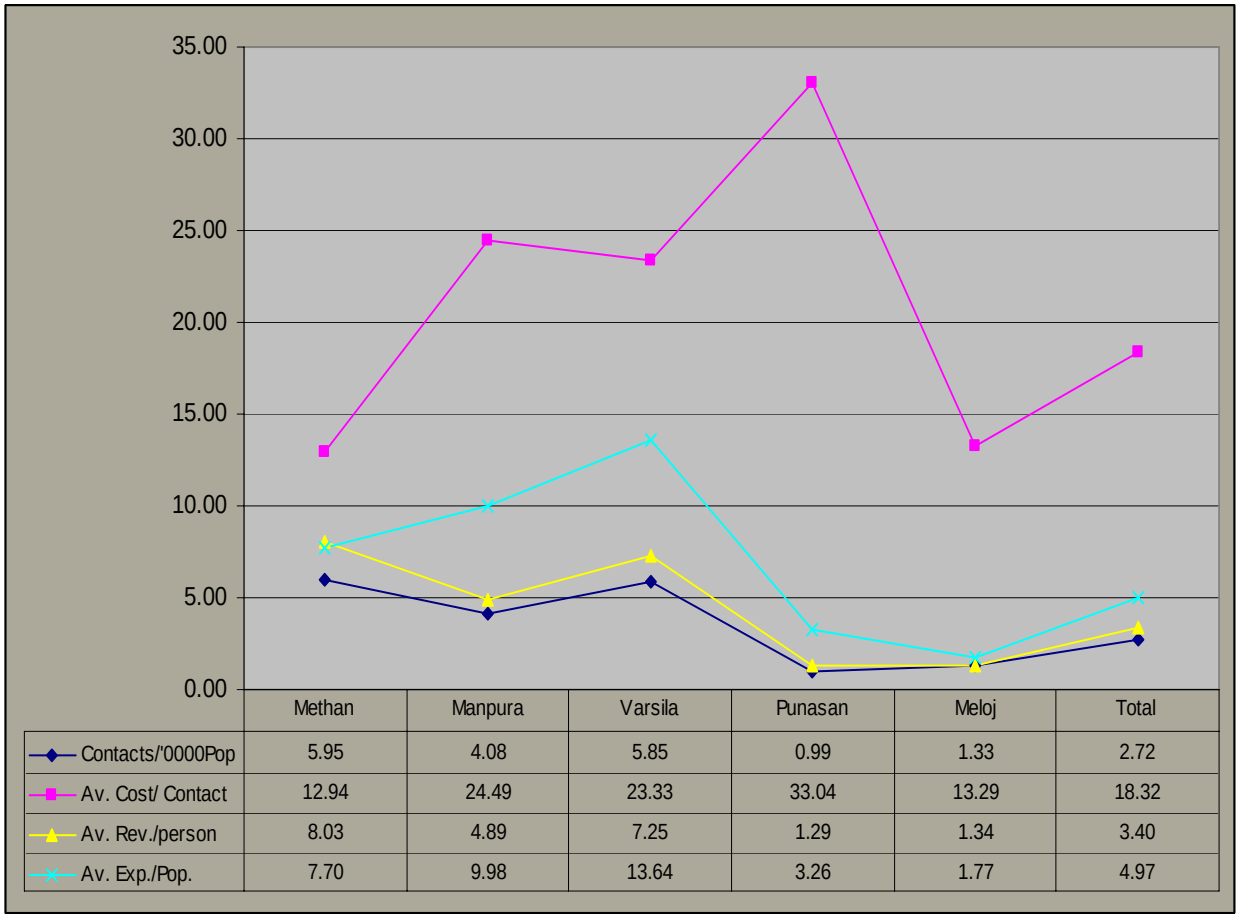
Discussion

One of the messages which emerge from the foregoing analysis is that in case of non-governmental sector, especially community health sector, certain key factors seem to be important. These are demand, availability, cost and revenue. Utilisation of services is result of demand and availability. The Chart and Table given below shows statistics related to average number of contacts per patient and average number of contacts per thousand populations. The average number of contacts per thousand populations varies quite significantly, from 0.10 in Punasan to 0.60 in Methan. The average contacts per patient, showing repeat visits, do not vary much. It ranges between 1.24 in Punasan to 1.48 in Meloj.



	Methan	Manpura	Varsila	Punasan	Meloj	Total
Av. Contact/PT.	1.38	1.45	1.39	1.24	1.48	1.39
Contacts/'000Pop	0.60	0.41	0.58	0.10	0.13	0.27

The Chart below shows four indicators together, that is, Average Contacts/'0000Pop, Average Cost/ Contact, Average Revenue/person, Average Expenditure/Population. Except, Average. Cost/ Contact all other indicators more or less show similar behaviour (except with reference to Average Expenditure/Population in case of Manpura). In case of Average Cost/ Contact, Manpura and Punasan are outlying. This shows that there are some problems with efficiency at the local health centre level. It may be added that in Punasan number of laboratory tests and OPD visits in terms of population is on higher side. Incidentally, Punasan has highest proportion of Ismail population. This shows that demand, utilization, efficiency, revenue may be affected by local features, including composition of population. Consequently, IEC and outreach factors are also important apart from efficiency and finance enhancement methods. This clearly, emphasizes role of an integrated policy and planning including cost and revenue factors.



	Methan	Manpura	Varsila	Punasan	Meloj	Total
Contacts/'0000Pop	5.95	4.08	5.85	0.99	1.33	2.72
Av. Cost/ Contact	12.94	24.49	23.33	33.04	13.29	18.32
Av. Rev./person	8.03	4.89	7.25	1.29	1.34	3.40
Av. Exp./Pop.	7.70	9.98	13.64	3.26	1.77	4.97

VI. CONCLUSION: POLICY IMPLICATIONS & RECOMMENDATIONS

The foregoing analysis of the Sidhpur health system suggests pertinent factors for having policy relevance for other NGOs aiming at self-sufficiency.

Policy Implications

The foregoing analysis shows that the three indicators, namely utilization, efficiency (unit costs) and revenue need to be taken together to evolve self sustaining system. None of these factors would be useful in isolation. For the purpose of sustainability of centres all of them need to be taken together to evolve future strategies, namely a) better availability of staff, medicines and diagnostic facilities, b) increasing number of contacts per person (that is in the whole population), c) enhanced efficiency of the health system in operation and d) enhanced revenue generation. In nutshell we need to evolve a series of strategies in respect of each of the villages depending upon their specific needs. Some of these are discussed below along with recapping the key findings.

The setting

To begin with, a sample study of 781 Households in the Project area showed various aspects of status related to availability, accessibility, utilisation of health services as well as expenditure incurred by the target population. Following were some salient features in this respect:

Morbidity and source of treatment

- 23.5% of selected Households reported sickness of at least 1 member of the Household in the last 15 days.
- 5.9% Population reported sickness in last 15 days
- Mean no. of days of sickness was 9.9 days.
- 8% reported No treatment and another 4.0% relied on Home treatment
- 66.3% consulted private clinic/hospital

- 15.1% consulted Govt. hospital, CHC/PHC/SC/UFWS
- 10.7% consulted AKHC/hospital

Hospitalization and cost incurred

- 18.6% Households reported hospitalization of any HH member in last 1 yr
- 2.4% spent upto Rs. 500 on hospitalisation, 1.8% spent Rs. 500-Rs.1000, and 9.6% spent Rs. 5001-Rs.10000.
- Mean hospitalisation expenditure was Rs. 5040.
- 12.0% Households were covered by health insurance scheme
- 7.7% Households availed financial assistance for hospitalisation in last 12 months, 11.9% Affordable cost

Accessibility and preference for Aga Khan Health facility

- Location of Aga Khan Health facility was found to be convenient-50.2% reported it to be within the village and for another 37.2% it is within1 km. from their home.
- 27.1% consulted Aga Khan Health facility

Reasons for choosing AKHC for general treatment

- 48.5% due to availability of drugs, 4.5% friendly providers, 18.7% less waiting time, and 39.6% reported overall good services.

The foregoing data shows that the demand for services exists and people are willing to access services. Most of them prefer private services and services of AKHS are held in high esteem. Consequently, there is enough scope of raising revenue if services are organised efficiently.

Future Implications

As such, one aspect related to mobilisation of resources, which has important bearing on sustainability of services has positive indications for future. This, of

course, needs efforts for IEC, community mobilisation and inculcating a sense of ownership in people.

Self sufficiency

The self sufficiency ratio is total revenue divided by the total receipts is given below. This shows how far a health centre was able to sustain itself. This is important as the ultimate aim is cent per cent self sufficiency in the long run, the current gap needed to be filled by the resources from the project itself. This ratio ranged between 28% to 76% in respect of different Health centres at different times.

Operational Efficiency and cost recovery

To assess status of efficiency and cost recovery, available data was analysed in different ways as discussed below.

- The health centres were small entity so slight variation in the salary of Doctor or LHV tilted costing results. Similarly, slight variation in output- OPD attendance or tests also altered cost of centres considerably.
- The composition of costs, thus, revealed that this was highest in Punasan centre and lowest in Methan. Main reasons for higher cost at Punasan were higher cost of salary of doctor, higher cost of medicines and lower output. The output of this centre was about one-third of one of the centres (Methan).
- Cost recovery as a percentage of direct expenditure was worked out. It shows that two centres (Methan and Meloj) had recovered more than the direct costs involved. As evident, Manpura had lowest proportion, that is, 16 percent.
- Juxtaposition of Average Contacts/'0000Pop, Average Cost/Contact, Average Revenue/ person, Average Expenditure/ Population shows that except, Average. Cost/ Contact all other indicators more or less showed similar behaviour. Here also, the notable exception was Average Expenditure/Population in case of Manpura.

Key messages

Location of health facility

Firstly, it is important that NGOs initiate a health system at appropriate locations. This may be strategic from the point of view of providing necessary inputs in places where the governmental health facilities are either absent or defunct. The Sidhpur health system as discussed above carried out demand assessment before initiating the project.

Monitoring for proper management

Secondly, proper planning and monitoring system should be in the place. Monitoring system would be specifically helpful in the proper management of the system. For this, relevant information based on both primary data (interviews, FGD with the population, etc.) and secondary data (records, study of financial statements, etc.) needs to be collected from time to time based on the nature of the information.

Quality of services

Thirdly, there should be an in built consideration pertaining to creditability of the NGOs' services. This is possible by means of providing appropriate quality of services, which is backed by dedicated professionals.

Efficiency and cost recovery

Fourthly, from the very initiation of any health system by an NGO, the consideration of cost recovery should be built in and operational efficiency analysis should be conducted to look into points of efficiency and inefficiencies with a view to exploit the former and monitor the latter.

Enhanced utilisation

Finally, different strategic options should be considered as a follow up of the operational efficiency analysis. In the particular case of Sidhpur health system, for instance, popularizing services to enhance patient turnover thereby increasing fee revenue emerged as an important strategic option.

In nutshell, sustainable, cost-effective and quality health system solutions can only be achieved if these are built upon partnerships among key stakeholders, namely consumers, governments, health policy analysts, clinicians, health professionals, academicians and researchers.

In conclusion, the findings of the OEA enabled the project to identify the areas where efficiency can improve. Accordingly decisions were taken to streamline the project management, resulting in increased operational efficiency by rationalizing and optimizing the use of resources. This increased productivity, and reduced the unit cost of services. It also identified where the Community Health Financing (CHF) can work to enhance the operational self-sufficiency. Thus several CHF methods were worked out. It may be noted that where both OEA and CHF were adopted simultaneously, sustainable result prospects improved. It is evident from the findings that Methan and Manpura had most efficient health centres at the same time, the cost recovery was maximum.

Not only managerial efficiency is required to optimize the use of inputs, but also alternative financing is necessary for self-sufficiency to sustain the rural health systems, and both have to be inbuilt while planning. Cost recovery should be built in, and operational efficiency analysis to be done periodically to streamline management. Strategic options could be thought of as a follow up of the OEA, e.g. Sidhpur health system: like increasing fee revenue or popularizing services to enhance patient turnover and

introducing variety of alternative financing methods for self sufficiency which emerged as important strategic options.

In conclusion, the most important factors for program sustainability are effective management and active community participation. The two-fold approach adopted in Sidhpur, namely more efficient use of resources and finance enhancement, together with different methods of local financing was the most successful. A mix of combination of these strategies is needed to sustain a rural health system.

Epilogue

The foregoing analysis of Sidhpur health system related to the initial period of the project. Later, measures were adopted to raise demand through IEC, outreach activities. Through community participation, ownership increased as a result the revenue system could be streamlined. The net effect was achieving self sufficiency of the project and enhanced peoples' satisfaction in the target area.

Specific Contributions

Sustainability of rural health system, particularly community based health systems are of paramount importance to bring about overall positive health of the population. In order to understand the how the rural health system can sustain, various methods are to be deployed to develop strategies for containing cost and generating revenues. The present research on community based health systems bring out sustainability issues and challenges; and highlights the usefulness of using operational efficiency analysis to identify efficiencies and inefficiencies of the health systems for optimizing inputs. It also suggests community financing as an

option to generate collective ownership and financing for sustaining the health system.

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The following learning is are useful to those who looks for sustainable rural health systems;

1. The sustainability of program and finance is highly influenced by the degree of community participation.
2. Sustainability strategy should be the integral part of project operational plan.
3. The program should be need based but demand driven.
4. Community ownership in planning, implementation, management and financing with an emphasis on self help is an indicator for sustainability.
5. Quality and continuity of the services are important for sustaining the interest of community.
6. Fee for services is found to be an effective method of cost recovery for operational costs.
7. Progressive sustainability strategy needs to be in built for monitoring the project progress.
8. Services of volunteers, community financing and sponsorship of events/programs are another way of alternative financing.
9. Accessibility, availability, acceptability, affordability and appropriate technology are key factors for rural health programs.
10. Management competency is an important factor for effective implementation and hence sustainability.
11. HRD techniques are crucial to sustain staff motivation and build community human resources.

However following issues need to be addressed;

1. Demands for new health facilities/services grows at a faster rate that what can be sustained.
2. The cost recovery mechanisms, such as user service charges, have to be stepped up gradually. This delays the achievement of the break even point.
3. Sustainability takes time. The funding agency should, therefore support for longer term.
4. Expectations of various partners, government, individuals etc. often do not conform to the reality.
5. Competition with providers of low quality services affects the sustainability.
6. With the emergence of market economy, it is difficult to recruit dedicated development professionals, which would adversely affect sustainability.

Future Scope of Work

The research with the focus on sustainability of rural health system with twin approach; operational efficiency analysis to identify areas require operational improvements and community financing to generate more resources has given promising result in the stay area. In order to establish a health system capable of effectively addressing the priority health needs of the population, but which is also financially self-sustaining need to integrate operational efficiency and community financing as an integral part during the planning process. Sidhpur as a case showed that to achieve the of the project had used operational efficiency analysis and introduced a variety of community financing mechanisms. These approaches had enabled the project to improve the operational self-

sufficiency of the health system from 16.4% in 1994 to 75.5% in 1996. The health system projected to achieve 100% operational self-sufficiency by the end of the project period. The research describes the interventions, which have enabled the project to achieve its goal, analyses the enabling factors and discussed the lessons from the project, which may have more general applicability.

There is a scope for further research in this area to explore more options on sustainability of rural health programmes, exploring innovative community financing options with community ownership. This would help encourage the community to participate and own the health programmes, which are need based, but sustainable. Operational research in this area would give more options and results for wider applications.

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Annexure- 1: Using OEA and a Variety of Financing Mechanisms to Ensure the Long-term Sustainability of a Health Program

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"Using OEA and a Variety of Financing Mechanisms to Ensure the Long-term Sustainability of a Health Program"

Aravind Pulikkal & Hugh Annett

Health gains of primary health care interventions are threatened by a decline in the coverage and quality of health programmes due to the decreasing availability of financial resources, including, bi-and multi-lateral donor assistance. This paper describes a response to this situation.

The Sidhpur Health System Development Project is a project of the Aga Khan Health Service, India. The project operates in 23 villages with a population of 38189 in Sidhpur area of Gujarat State. The goal of the project is to establish a health system capable of effectively addressing the priority health needs of the project population, but which is also financially self-sustaining. To achieve this goal the project has used operational efficiency analysis and introduced a variety of health financing mechanisms. These approaches have enabled the project to improve the operational self-sufficiency of the health system from 16.4% in 1994 to 75.5% in 1996. The health system is projected to achieve 100% operational self-sufficiency by the end of the year 1998. The paper describes the interventions, which have enabled the project to achieve its goal, analyses the enabling factors and discusses the lessons from the project, which may have more general applicability.

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Aga Khan Development Network

The Aga Khan Development Network is a group of institutions working to improve living conditions and opportunities for specific regions of the developing world. The Aga Khan Health Services, a major functionary of the Aga Khan Development Network, is one of the most comprehensive, non-profit health care systems in the developing world.

The goal of AKHS,I is to improve the health of the target population with special focus on the underprivileged population through a sustainable and effective health system in partnership with the government and other health providers in the area.

In order to meet the objective of developing a self-sustaining health system on a pilot basis in Junagadh and Sidhpur Area of Gujarat, the Aga Khan Health Service, India, (AKHS,I) studied the health problems existing in the area and the unmet health needs of the targeted population, to evolve cost effective options to develop a subsystem. AKHS,I was mainly concentrating on 25 villages in and around Junagadh and 23 villages in around Sidhpur with a strategy confined to providing primary health care to the people. The system was to be expanded to provide diagnostic and maternity services.

Paying capacity of the community

Before initiating the project, to work out mechanisms for sustainability, the paying capacity of the community had been assessed through community surveys and Focus Group Discussions. The analysis clearly brings out the lack of much-needed health facilities in the villages. The current expenditure on health care services was quite high, (Rs. 50-500 per sickness, and Rs. 600-1500 per delivery). Every single respondent expressed his/her willingness to contribute both towards setting up a facility and thereafter towards its upkeep including medicines, diagnostic treatment, and even the doctor's fees, according to their paying capacity. The major reasons for

coming forward to make such contributions were that the facilities would provide services at the doorstep and save them the frequent transport charges as well as time, provide quality services including diagnostic and would cost less than the current expenditure in terms of private doctor's fees, transport and other expenses.

After studying thoroughly AKHS,I established 15 Health Centres, 3 Medical Centres and 4 Diagnostic Centres in Junagadh and Sidhpur Health System Project areas with community contributions. These contributions varied from 50% to 100% for establishments in different areas.

The need for Operational efficiency and AHF

Finance enhancements are the methods commonly adopted to generate more revenues to off set the operational deficits. But sustainability not only depends on finance enhancement methods, but it also needs to understand the inefficiencies of the system to optimise the inputs and thereby reduce operational cost. In short both efficiency improvements by rationalising resource allocations and finance enhancement methods have to be adopted simultaneously to sustain the programs and projects. There is a threat of decreasing efficiency if vigorous cost containment is adopted. To raise finance excessive dependence on user fees may tend to out price, thereby the access to the services may adversely be affected. To address these issues OEA will help identifying the efficiencies and inefficiencies in the system and AHF will help in raising operational self sufficiency, so that the programs and projects can sustain for the long run.

Operational Efficiency: Concept and Measurement Issues

After setting up the health system, AKHS,I aimed at improving the operational self-sufficiency of the entire system. To sustain, managerial efficiency to reduce operational cost and AHF methods for improving self-sufficiency were focused. To achieve this periodic

operational efficiency analysis was undertaken.

The concept of operational efficiency requires that similar strategies aimed at achieving the same service output for comparison. Such comparison basically would identify the factors that contribute to efficiencies (or inefficiencies) across similar types of services. Thus, to measure operational efficiency it is necessary that a detailed break-up of total cost is available. Utilising this information and dividing it by total service output estimate of average cost of a particular service output could be derived. The differences in average cost per unit of the same service output are analysed by looking into various factors that may have bearing upon the individual cost elements. Such identification of these factors will provide the idea about the relative efficiency of different service units (Alexander et al., 1997, Turvey, 1968) and help in improving the management of health resources (Berman, 1986). This may be possible owing to identification of factors that contribute to higher or lower costs in the provision of the same service by different health units. It is likely that if certain factors, namely, under-utilisation of similar equipment's, inappropriate utilisation of staff time, costly and inappropriate prescriptions etc. are adding to higher costs of measurements.

The measurement of operational efficiency, thus, requires computation of total costs and its break-up into different items. In the present analysis the costs have been broadly classified as direct and indirect costs. The former is inclusive of salaries of local health workers (LHV), doctors, medicines and other supplies. The latter includes support services, overheads, staff development costs and depreciation. These cost elements pertain to five rural health centers situated in the project area.

Operational Efficiency across Health Centres

Despite the similarity in resources, the average cost per curative contact at health centres differ. Notably this cost at Punasan is more than double

that of Methan. Given that both units have quite similar resources and serve similar size population, the large average costs reflect the inefficiency of Punasan health centre in the provision of curative service. In fact the analysis shows the health centre at Methan reported 20 per cent more curative cases than the average of all centres.

This data helps to identify both structural and managerial constraints reducing the efficiency of Punasan health centre relative to what potentially might be achieved as seen in other health centre. All the same, there are differences in strategic villages served by Punasan health centre. Firstly it is a sector headquarters Secondly, it has more distant villages with sparsely populated areas, and hence accessibility to health centre headquarters has been identified as one of the major problems leading to low utilisation at this centre.

The large difference in patient utilisation suggests that the Punasan health centre is under-utilising its staff resources, since they are treating only about one third of patients as at Methan. Area specific strategies are to be chalked out for Punasan centre to overcome this problem. For optimum utilisation of staff, the Punasan centre could assign the time of its staff to outreach activities both to increase the efficiency in reaching patients and perhaps to market the services of the health centre by building up awareness of provision of quality services. Simultaneously the staff at the clinic could be assigned other tasks, which might be more productive and cost effective. The ANC, growth monitoring and curative clinics, which are being held separately, could be clubbed together and held on the same day.

Punasan health centre also depicted much higher drug expenditure. The drug costs per curative contact depict the difference in average cost of drugs provided to individual contacts at each health centre. These costs were calculated from the total drug costs with total contacts. The per curative contact drug cost in Punasan health centre is 6.8 per cent higher than the average

drugs cost of Rs. 4.4 for all the centres. The morbidity profile at all these centres was more or less similar. The cost of drugs and the consumption is dependent on the utilisation pattern. Given similarity in case-mix, this suggests inefficiency in the use of drugs and supplies. The low utilised Punasan has much higher drug cost per curative contact. Though several explanations are possible, one of the analysed reasons is the practice of liberal distribution of drugs at Punasan health centre. Analysis of case sheets suggests that all centres routinely supplied different drugs but inadequate quantities of each drug were given (less than the desired course). Standardisation of treatment policies including drug distribution is to be entrusted for ensuring standard care in health centres. This would also enable cost recovery more rationally and rapidly.

It is also analysed that, on an average 28.1 percent patients re-visit the centre for treatment follow-up. This shows that though the average curative contacts are 4485 for three months the real beneficiaries (patients) are only 3223. Further, in the total costs the proportions of depreciation and maintenance expenses are relatively less, such that the differences between the two health centres reflects the higher cost for the doctors time rather than any other cost.

Thus, this analysis suggests two key areas of management attention - allocation of resources according to service population and thereby expectations (targets) and the usage of drugs, which could provide the largest, pay off. Efforts to increase patient utilisation (without increase in high capital cost) could also reduce average cost levels even in the most efficiently run health centre which still has an idle capacity to fill.

However, the lower utilisation may result in higher cost per curative contact. But medicine cost will be corresponding to the patient utilisation if they follow same policies, other things remaining the same. Another thing highlighted is

that higher utilisation necessarily does not reduce the average drug cost. Besides, the catchment area, the potential utilisation of curative services may vary because of the cluster of service population.

The analysis suggests the influence of organisation, marketing strategy and the management of fixed and variable costs in the delivery of services. For management, analysis of average and total cost and their components can help to identify problems in delivery of services that may be solved without changes in inputs or structure. Better supervision and treatment protocols might be used to improve drug utilisation.

Utilisation Levels, Cost Recovery and Sustainability of Health Centres

In the light of the above discussion which identifies the factors which could add to the efficiency at Punasan health centre, it becomes pertinent to explore sustainability implications. Thus the particular aspect of sustainability forms the focus in this section. In this regard it will be mentioned that all the health centres of our study have the practice of cost recovery through charging for medicines, OPD registration and doctor's consultancy.

The major source of revenue is medicine dispension, i.e., 69.61 percent of the total revenue. The next major source is OPD registration at 20.4 percent, third is doctor's consulting fee at 7.6 percent. Only 2 percent is contributed by sources other than these. In aggregate these five centres derived nearly 91 percent of their total director expenditure .When we compare the health centres, Methan alone contributes (43.5 percent). The remaining 42.5 percent of the revenue is contributed by the other four centres. However, the centres at Methan and Meloj have not only recovered their direct expenses, but also recovered a part of their indirect expenses. The recovery in medicines has been the major source in all these centres.

However, the pace of cost recovery has a direct positive relationship with service utilisation (OPD turnover).

This is reflected in recovery both in OPD registration as well doctor's consultancy fee. Varsila health centre contributes the highest percentage in doctor's consulting fee, i.e., 11.2 percent. Besides, Methan Health Centre is earning 3.6 percent as ANC and delivery fee. The Varsila and Punasan health centres are earning, on this account, almost 3 percent. In other centres, the revenue from doctor's consultation fee is meager. Income from other sources is the highest in Manpura (12.7 percent), compared to 5.7 percent, 4.4. percent, 3.1 percent, and 1.7 percent in Varsila, Punasan, Meloj and Methan respectively.

Thus, Methan shows the highest utilisation and thereby the highest cost recovery per patient treated. Punasan on the other hand shows the lowest percentage of surplus and thereby highest per curative contact medicine expenditure. It is therefore obvious that, increase in utilisation of services will increase the revenue whereas low utilisation results in increased expenditure.

There are two other important aspects which also pertain to financial sustainability of these centres and the Sidhpur health system as whole. These are, (1) surplus per contact which could be used to subsidise the deficit, on other items and other centres in the system (2) period in which full cost recovery is achieved. In regard to former it is observed that the item of medicine provides good deal of surplus per contact. Thus, if we compare the cost and revenue of the medicine, it is very clear that Methan is getting 139.1 percent surplus i.e. Rs. 5.80 per curative contact. It is higher than all other four centres. In Manpura the surplus per curative contact is Rs. 3.40. In Punasan, the surplus is very meager i.e. Rs. 1.50 per curative contact. In Varsila it is Rs. 3.60 per curative contact. In Meloj it is Rs. 3.50. The average surplus of all the five health centres per curative contact is Rs. 4.30. This kind of surplus generation on medicines is also corroborated by studies on health centres in other countries. In line with some other

studies on NGOs in India (Purohit & Gaur, 1994), this implication forms a sort of guideline for sustainability efforts for other NGOs in India.

In regard to the latter aspect, namely, the period to achieve full cost recovery, it is observed that all the centres began to recover the cost in the second month except Punasan health centre. This centre recovered the cost only in the third month, with a surplus of 22.8 percent. In the first quarter of 1993 the overall surplus from drugs alone is 98.6 percent. Thus the actual surplus comes to Rs. 19,395.00 for the 3 months. This implies that revenue from drugs covers 100 percent of its costs and 46.6 percent of other direct costs as well. In short, the total revenue from medicine itself contributes nearly 47.6 percent towards self-sufficiency. Although the major sources of revenues are medicines, registration fees, and doctor's fees, but considering the current rural market of health services, it may not be possible to raise the revenues from the registration fees and doctor's fees. Thus looking into the size of revenue generated from each source and the different options available, two feasible alternative strategies emerge from the analysis. Firstly, the self-sustainability level for all centres, which is only 68.4 percent. Secondly, an additional revenue of 31.6 percent, is generated to achieve 100% percent self-sufficiency. Considering the annual incremental cost in inputs (variable cost) an addition of 6.8 percent revenue has to be generated to set off additional cost. However, if we also include indirect costs and consider within the present curative status, fees should be raised by 31.6 percent for cent percent self-sufficiency. In other words, the present average revenue of medicine per curative contact of Rs. 8.7 has to be raised to get an average of Rs. 11.4 with a rise of Rs. 2.7.

The second feasible strategy requires that within the present fee structure curative contacts are raised by 63.5 percent to achieve 100 per cent self-sufficiency with adjustment for increase in total drug cost and other supplies as well. It is

imperative that increase in patient's turnover directly increases with the variable costs like drugs and other supplies by 46.1 percent. If other things remain the same, this marginal increase in variable cost would enable to increase the marginal curative services to 63.5 percent. Considering the re-visits of 39.2 percent (no. of individual patients re-visiting for curative services), this brings in an increase of 11.7 percent in total cost, reaching 31.6 percent self-sufficiency by increasing efficiency of services within the given infrastructure and prices.

This analysis, therefore, indicates that the average current curative contacts of 12 per clinic need to be increased to 19.6 to reach the calculated self-sufficiency level, keeping the current level of other PHC services (offered at no cost), however, intact. This also means that an increase in OPD turnover marginally increases total cost which in turn increases the total income. This increase in marginal income will be higher than the increase in cost which results in higher self-sufficiency.

In sum, the current level of self-sufficiency being 68.4 percent and 31.6 percent yet remaining to be achieved; 63.5 per cent more patient turnover, is required. This would in effect mean that any addition of one patient's visit would contribute 0.5 percent increase in self-sufficiency level within the given average cost and revenue structure.

The finding of the OEA enabled the project to identify the areas where efficiency can improve. Accordingly decisions were taken to streamline the project management, resulted in increased operational efficiency by rationalising and optimising the resources. This increased productivity, reduced the unit cost of services. It also identified where the AHF can work to enhance the operational self-sufficiency. Thus several AHF methods were worked out. The highlighting factor is that both OEA and AHF adopted simultaneously brought sustainable results.

Alternative health financing

Since the beginning of the Health System project, it has tried and tested different ways and means of alternative health financing with a mission of sustainability; a means to self help.

A range of all viable mechanisms with specific approach considering the socio-economic status and availability of other resources (including land, labour, material, capital and organisation) have been explored and some of them were found very fruitful while a few are under trial. The most important characteristic of sustainability of programme is effective management and community marketing for its active involvement. The two-way approach adopted in Sidhpur namely cost-cut method and finance enhancement method, where on one hand, desirable/outputs and on the other, local financing using different mechanisms was most successful.

In Sidhpur, alternative financing has taken three forms- cash, in kind and services. One can identify various means of funding which fall in this category.

Identifying potential donors

Each community has a few well-placed individuals who can be potential donors depending on their capacity to donate/ contribute land, building, materials, stationery etc. The community's involvement in the activities is very important, contributing towards a "feeling of ownership". Though donations can be limited in nature and influenced by the socio-economic status of the area, they have a significant role, mainly in capital accumulation, as well as for different Programmes. This contributed in establishing facilities in the range of 50% - 100% cost.

Sponsorship of event/ Programmes

Another source of funding is sponsorships for events or Programmes. A number of Programmes like immunization sessions, Health Education, different training programmes, Medical check-ups etc. are funded/ sponsored by individuals, community and organisation. This contributed 55%

of the operational cost but 65% of the special program cost.

Pre-paid package service schemes

A lump sum amount is charged for a particular package of services to be availed within a given time. For e.g. Ante natal care, Intra natal care is packaged with a limited amount and the amount is collected at the time of the first contact or visit and then a series of services are provided. Such packages should ensure timely, standardized quality service availability for being successful. This method increased revenue by 20% which contributed 12% of the increase in operational self-sufficiency.

Other fund raising activities

Organizing health and non-health related activities like exhibitions, concerts, film shows, etc. either publicly or categorically to raise funds. The applicability of this programme is mainly dependent on the nature of the area and the programmes. This had poor response due to rural areas.

Voluntary Services

Any community based programme, be it health, environment, education or culture will need to involve the local people very actively not only during the implementation of a certain activity but also at the planning phase and to a certain extent at the decision making phase. Voluntary efforts are inevitable to ensure the sustainability of such programmes in the long run. Such voluntary efforts/services are very positive and encouraging methods of alternative financing. Another innovative method of alternative financing for rural health services is being proposed by Aga Khan Health Service, India; the Community Medicine Fund (CMF). This method significantly contributing to reduce the unit cost of PHC services by 28%.

Community Medicine Fund

Community Medicine Fund means, the community is contributing towards the medicine expenditure of the area to a unit or institution in the form of medicines or equivalent cost,

to ensure timely availability of (selected) curative services and medicines. It could have different forms such as contributory; subsidised or donations. Separate mechanisms could be worked out for each form considering the socio-economic status and health awareness of the area population. The fund can be accumulated for the community, by the community through collective contributions/ donations. The size of the fund can be determined by analysing the area health needs, feasible solutions and drug policy and usage. If proper coverage and awareness is there in the community, the fund can be accumulated from each household - a fixed (small) amount on a quarterly basis; (it can be worked out by dividing the total medicine amount required for one quarter divided by number of households in the area/villages). In this case, very small amount is to be borne by each family (Rs.10-40) quarterly, which will contribute towards the operating expenses. It is to be assumed that in a rural PHC set up revenue from the medicine distribution is more or less equal to operational/ recurrent cost.

Co-operative financing

It is based on the principle of willingness and ability to pay for health through different forms of community organisations existing in the area such as Milk co-operatives, Credit Co-operatives, Mahila Mandals with some income generating programmes. In most of the villages milk production is one of the major occupations and the milk is sold through the village co-operatives. On exploring the options available for making the health services sustainable through sustainable sources, it is assumed that if a financing method is developed where the villagers may have to contribute 3 to 8 paise per litre to be deducted through these milk co-operative societies and the same could go to the health account. Thus the quantity of milk given by a member will decide the amount allocated for his/her account. A sum of deficit amount would be available on a mutually agreed but periodic basis to the centre to achieve the operational self sufficiency. This will be a simple method without any

additional efforts and will enable the health centres for meeting the operational expenses and in turn optimising the utilisation of the facilities. As it a commitment of an organisation (co-operative) to an organisation (health centre) it would be a more sustainable source without incurring any additional administrative cost. This contributed to meet all deficits (48%) of the health centre and became self-sufficient.

Other sources

User's fees:

User fees are levied from the patients/beneficiaries of services. Though the recovery of the total cost is not possible, it contributes significantly towards operational cost. As a major source of revenue, it contributes 30-40% of the operational self-sufficiency.

Material/ Aid from other agencies:

Seeking materials and aids like posters, pamphlets, booklets, vaccines, delivery kits etc. from other agencies/sources both government and non-government is an effective method of alternative financing for controlling recurrent costs for supply.

All these health financing mechanisms are possible only if the progressive transition has taken place from Medical to Health to Social model (people's health in people's control). Marketing of services, institutions and programmes are to be given due emphasis for the success of these programmes. The success, once again, depends on socio-economic status, health awareness of the population and credibility of services and outlets. Somehow a feeling of "Consumer Surplus" is to be created for, not withstanding how much one pays, the quality of services is uniformly provided which will increase the number of entrants. However the replicability of each mechanism has to be decided based on the area analysis. 15% of the supplies cost is taken care of by this source.

Policy Implications

The foregoing operational efficiency analysis suggests pertinent factors for increasing efficiency of the Junagadh and Sidhpur health

system, some of which also have policy relevance for other NGOs aiming at sustainable health systems. Both managerial efficiency to optimise the use of inputs and alternative financing for self sufficiency is required to sustain the health systems.

Firstly, it is important that NGOs initiate a health system at appropriate locations. This may be strategic from the point of view of providing necessary inputs in places where the governmental health facilities are either absent or defunct. The Junagadh and Sidhpur health system as discussed above carried out demand assessment before initiating the project.

Second, there should be an inbuilt consideration pertaining to marketing of the NGOs services. This is possible by means of providing an appropriate quality of services, which is backed by dedicated professionals.

Third, with the initiation of any health system by an NGO, the consideration of cost recovery should be built in and operational efficiency analysis should be conducted to look into points of efficiency and inefficiencies with a view to exploit the former and monitor the latter.

Finally, different strategic options should be considered as a follow-up of the operational efficiency analysis. In the particular case of Sidhpur health system, for instance, increasing fee revenue or popularising services to enhance patient turnover emerged as two important strategic options.

Annexure- 2: KAP Study on Family Planning in Junagadh and Sidhpur Project Areas

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Aga Khan Health Service, India

Executive Summary:

Aga Khan Health Service, India has identified Family planning services as a priority, based on the need expressed by the community. The present document provides an analysis of knowledge and practices of family planning in Junagadh and Sidhpur Health System project areas of AKHS,I. The study shows that in both the areas, the knowledge of different FP methods among the currently married women is about 90% which is comparable to that of Gujarat state. The knowledge of male sterilisation is higher in Sidhpur area (49.9%) as compared to Junagadh (25.8%). In Sidhpur, the contraceptive prevalence is 48%, where as it is 65% in Junagadh. Female sterilisation is most popular method, followed by IUCD, vasectomy, condoms and oral pills. However, spacing methods are more popular in Sidhpur than in Junagadh area. Majority of the current users have received FP services from Government sources followed by the private institutions. In Sidhpur, a considerable percentage (26%) of the study population has received services for sterilisation and IUCDs from private institutions.

Amongst the study population, 52 and 35% of the currently married couples are non users in Sidhpur and Junagadh respectively. About two third of these couples are between the age group of 20 to 39 years and 85% of them are already having one or more children. The major reasons for non acceptance include dislike of available methods, fear of complications or side effects, spouse or family members against FP, desire for more children etc. To effectively reach out these non users, the program should aim to promote client centred IEC for informed choice, improve access to the need based FP services by expanding

contraceptive choice like female condoms and emergency contraceptives. It should also ensure the quality of contraceptives and services to reduce related complications or side effects provide regular follow ups, counseling and referrals for the needy. Moreover, as most of current users are females there is a need to address gender issues to have wider acceptance.

Introduction

Health and Family Welfare Services in Gujarat, as in other states, are provided by a network of governmental and non governmental organisations in accordance with the National Family Welfare Policy. The national FP programme started in 1951 with a clinical approach, was followed by an extension education approach in 1963-64. During the seventies, the community oriented service network was developed and FP services were offered as a part of the overall package of health services. The program heavily relied on sterilisation, but temporary contraceptive methods such as the IUCDs, condoms and pills were offered under cafeteria approach. Mass media and interpersonal communication systems were used to educate the couples about the various methods (Ref. 5). Later, in 1994 after the Cairo International Conference on Population and Development, the focus of FP has shifted by moving away from demographic goals to become more client centred and need based under the RCH program. As a step towards this, India adopted a target free approach to make the programme more qualitative and responsive to individual needs.

Aga Khan Health Service, India (AKHS,I) was established in 1986 to provide health care services to the target population through extension approach with the support of strategically located health facilities. The organisation is committed to the primary health care approach in conformity to the policies and priorities of the government.

AKHS,I initiated Junagadh Sidhpur and Health System Development project (JHS and SHS) with a view to

develop a sustainable health system in Gujarat. Specific objectives are to ensure and improve the target population's access to health promotion, disease prevention and basic curative and diagnostic services. The project targets a population of 80,000 and an additional 85,000 people benefit from the primary health care services of these projects. Besides, four diagnostic centres in the project area cater to the diagnostic needs of around 9 Lac population.

During planning the Junagadh and Sidhpur Health Systems Project, the community expressed the need for good quality family planning services. The present study has been conducted to assess the Knowledge, Attitude and Practices (KAP) in the community so that AKHS,I can contribute towards strengthening the family welfare programme in both the project areas by providing selected family planning services.

Objectives of the study

The specific objectives for the present study are;

1. to assess the current level of knowledge and attitude towards family planning;
2. to study current practice of various family planning methods in the different socio-economic settings; and
3. to assess the need for strengthening family planning program.

Methodology

The study derives data from the survey conducted by AKHS,I through CORT, Baroda during the second quarter of 1996. The main objective of the survey was to collect and update information on different AKHS,I programmes in the project areas. Two types of questionnaires were used; one for census information to collect socio-economic and demographic profile of the population and the other for KAP on family planning of the currently married women in the age group of 13 to 49 years.

Sample Composition

The census survey covered a total

number of 10,174 households in 47 villages. Sample households for studying the KAP on FP were selected using systematic sampling technique with a random start from the census list. Thus from Sidhpur area 417 and from Junagadh area 511 currently married women were interviewed (i.e. about 9 per cent of total households).

Demographic Indicators

Table. 1 shows the characteristics of population in the study areas. In both the project areas the sex ratio of females was higher than those of Gujarat and India. The percentage of unmarried population is more than the married. As such, more than 41 per cent of population above 15 years of age was earning. The per capita income in Sidhpur area was higher than that of Junagadh. The literacy rate of both the areas is higher than the state and national averages. The CBR, CDR and IMR of both the areas are lower than that of Gujarat state.

Knowledge, Awareness and Practice of FP Methods

The third All India Survey (ORG, 1990) and National Family Health Survey, Gujarat, 1993 survey on family planning practices has revealed that about 90-100 per cent of currently married women knew about female sterilisation. Similarly around 67, 68 and 60 per cent of currently married women are aware of the IUCDs, condoms and pills respectively in Gujarat, which well compares with the present study results.

The KAP analysis of FP in both the areas revealed that majority (90%) of the currently married women has knowledge of at least one FP method (Fig. 1).

Knowledge and awareness about the female sterilisation is highest amongst all FP methods. Among all acceptors, over 84% are female sterilisation acceptors. Though the awareness regarding IUCD, oral pills and condoms is high (>59%) in both the areas, practice is very low i.e <5%.

Among the different methods of contraception, the women have perceived the maximum disadvantage or inconvenience with

tubectomy followed in order by IUCDs, Oral pills, condoms and vasectomy. The common complaints reported for all methods include body pain, back ache, weakness, menstrual problems and White discharge (annex I).

Though the ideal interval between two pregnancies is a good indicator of couple's attitude towards childbearing, the actual reproductive behaviour may differ from the stated desires. Nearly, half of the women in Junagadh and more than that in Sidhpur have perceived the ideal interval between two pregnancies as three years. About one third of women mentioned the ideal interval as two years or less (Table 2).

The contraceptive prevalence in Junagadh is 65% while it is 48% in Sidhpur. (Table 3 and Figs. 2 & 3) Among the different FP acceptors, 85 to 89 per cent have accepted permanent methods. Majority of them have two or more children (Table 4) and the average age at acceptance was 35 or more. Most of them responded that the purpose of using spacing method was to delay or prevent child bearing. In Sidhpur, more than two third couples are using spacing methods to prevent child bearing as they already have two or more children (Fig. 4) as opposed to 65% Junagadh. Further, majority of them (90%) are using spacing methods for the last five years or more. In Junagadh, community wise FP acceptance shows that the Ismailis are the highest followed by Hindus and Muslims. Though the Ismailis constitute 24.2 % of the JHS population, they are 48% of the permanent and 68 % of the spacing method users of the area. Further analysis shows that within the Ismaili community, 72 percent (i.e. 61.2% have adopted permanent methods and 10.8 % spacing methods) of the currently married couples have accepted FP methods (Table 5).

Though the Hindus constitute 68 and 66 percent of JHS and SHS population, more than half of them are non users. As such the Muslims constitute 12 % and 7.3 % of the JHS and SHS population but 53 and

79 % of them are non users (Table 5).

Among the total non users of SHS area, more than two thirds have two or more children. One fifth of them are not using any method with the desire for more children (Table 4).

Contributing Factors with users and non users of FP Methods

The correlation analysis to find out different factors contributing for acceptance and non acceptance of FP methods show;

Permanent Methods:

In both the areas, mostly users are between the age group of 30- 39 years. Women falling in the low socio economic strata are the major acceptors of permanent methods.

Spacing Methods:

Majority of them are between the age group of 20 to 29 years and better educated compared to the users of permanent methods. In JHS area, Muslims are not using any spacing method. In both the areas, occupational level of women is found to be positively correlated with the use of spacing methods.

Non- Users:

In all the three castes i.e. Hindus, Muslims and Ismailis, the age specific analysis shows that majority of the non users are in the age group 20-29. There is a negative relationship found between the age, education and non users. It is noted that there is a positive correlation between the total number of living children and the number of non users.

In both areas, acceptance of permanent methods is found to be negatively related to women's educational level, whereas use of spacing methods is positively related. Further, the couples having children more than three are the maximum users of family planning methods. Most of the women have perceived FP as sterilisation, have accepted more in the age group of 30 to 39 years, whereas spacing methods more in the age group of 20-29 years (Fig. 11). On the whole,

in both the areas majority of the acceptors for all methods are females.

Sources of contraceptive supply

FP services are provided by a network of government institutions (urban family welfare centres in urban areas and primary health centres and sub-centres in rural areas). In addition to these government outlets, FP services are also provided by a number of private hospitals and clinics as well as non governmental organisations. More than 74% of the sterilisations are carried out in government hospitals and PHCs. While, 60% of IUCD insertions are provided by private practitioners.

Further, the source for acceptance of FP services shows that 98 per cent of JHS and 74 per cent of SHS acceptors of permanent methods have received services from the government PHCs, while private hospitals, clinics and private doctors cater to only 2 per cent in JHS and 26 per cent in SHS (Fig. 12). The main source for spacing methods are again public hospitals followed by private sources (Table 7).

Complication\ Side Effects Reported

Around half of JHS and 14 per cent of the total users in SHS reported health problems due to the acceptance of FP methods. Due to this a higher percentage of FP methods users in JHS area are seeking medical assistance from health workers. (Table 7 & Fig. 13)

Reasons for not accepting FP methods

The major reason for not accepting any FP method was the desire for one or more children. About one tenth of non users in both the areas dislike the available FP methods. A considerable percent (8 to 16) of women have fear of side effects. In SHS, a significant proportion responded that they never thought of using any FP method (Table 8).

Discussions

Family Planning Programme has long been recognised for its importance in controlling population growth and improving the overall

health status of women and children. In 1951, India formulated the world's first official family planning programme in the very first five year plan. Experts from countries like Indonesia, South Korea, Malaysia and Thailand came to India to study the pioneering initiative. Today their success rate is much higher than that of India. Although the achievements of the Indian family planning programme can not be belittled, as CBR and TFR has declined from 42 to 27.5 per 1000 and 6 to 3.5 in 1951 to 1996. The CPR has increased from a mere 10 per cent to 45.4 percent in 1997. The number of births averted has also increased from 40,000 to 169 million during 1991. Despite these achievements, India is far from the National Health Policy goals of CBR of 21 and CPR of 60. Several experts have commented on the weaknesses of Indian FP Programme and have suggested that it should be more client oriented, quality centred and efficient, effective and affordable to the people (Ref.: 5. 6 & 7).

Statistics show that age of women and level of contraceptive use are closely linked, as age increases the use of contraceptives also increases. The NFHS showed that only 5 per cent of married women aged 13 to 14 and 7.1 per cent of married women aged 15 to 19 were practising contraception. The adolescents are either unaware of contraceptive usage or their access to these services are restricted.

Even though the government provides a large part of the health care services available in the country, the NGOs have also played an important role. They are reportedly more successful in providing the health care services that have a greater impact. Factors contributing to their success seem to be the efficiency of grass root level workers, accessible medical facilities, a high level of community participation and integration with other developmental activities. Without using more resources than what the government uses in its programme, NGO programmes also report better utilisation and higher impact on health status.

AKHS,I has identified FP services as a priority, based on the need expressed by the community in JHS and SHS project areas. The study reveals that knowledge of FP is nearly equal in both the areas. In both the areas, currently married women are mostly familiar with female sterilisation, followed by male sterilisation, the IUCDs, the pills and the condoms. Traditional methods like safe period and withdrawal for contraception are less known.

At the time of survey, about half of currently married women in SHS and more than that in JHS were practising one of the FP methods. Female sterilisation was the most popular method, followed by IUCD, vasectomy, condoms and oral pills. Current use of contraception is higher in JHS than in SHS area. However, spacing methods were more popular in SHS than in JHS.

The public health system meets most of the FP need in both the areas. The private sector is the next main supplier for spacing methods. However, considerable percent of couples are obtaining spacing methods from shops and other NGOs.

The above analysis of recently married women indicates that there is a need of an effective FP programme in both the areas. The study shows that more than half in SHS and 35 per cent in JHS area are not using any FP method because of one or the other reason. In both the areas, about two third of non users are between the age group of 20 to 39 years and around 85 per cent of them are already having one or more children. These high percentages are of the potential clients for FP program and gives an indication about the scope for AKHS,I to strengthen FP programme.

According to the study findings there are four main reasons for non-acceptance: limited range and choice of contraceptives, lack of IEC and counseling, poor quality of services and inadequate facilities. AKHS,I can contribute towards strengthening the family welfare programme by providing appropriate interventions in these four areas and can cater the population in need (Table 9).

Data analysis also indicates that 19 per cent of FP users in JHS and 7 per cent in SHS require medical attention for side effects and complications. By providing IEC, counseling and referral services to these affected users AKHS,I can further contribute to a more effective family planning programme.

Thus the intervention should aim to promote client centred IEC for informed choice; improve access to the need based FP services by expanding contraceptive choice like emergency contraceptives and female condoms for preventing unwanted pregnancies and control the spread of RTIs including STDs and HIV. It also should ensure the quality of contraceptives and services to reduce related complications/ side effects; provide regular follow ups, counseling and referrals.

Moreover, in both the areas, majority of the FP method users are females, which calls for the need to address the gender issues while implementing the programme.

Conclusion

The study findings suggest that there is a demand for good quality FP services. To be more effective, AKHS,I should aim to supplement the existing government FP program. As it is one of the priority of the government, there is an opportunity to integrate this with public health system for sharing resources and facilities to minimise duplication. All the supplies, support and training can be made available from the government sources. Further, to provide more quality contraceptives, AKHS,I can socially market male and female condoms and IUCDs for which it can develop linkage with *Parivar Seva Sansthan* - an agency promoting different FP services. Focused attempts are required to promote child spacing methods among the age group of 20-29. As a significant proportion of population getting the services from the private sources, there is an opportunity to introduce fees (value) for services and supplies, if good quality supplies and services are made available.

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Annexure- 3: Evolution of a sustainable rural health care system with community participation and dairy co operative financing: An NGO experience in India
(Monograph Published by Aga Khan Development Network, Kenya-1997)

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AKHS-India

Aga Khan Health Service, India (AKHS,I) has been involved in the delivery of primary health care (PHC) service to selected populations in Gujarat, Maharashtra and Andhra Pradesh. It has initiated a Health System Development Project in Junagadh and Mehsana districts of Gujarat. The aim is to develop an organisationally and financially sustainable health system to meet the priority health needs of the target population. For providing primary and selected secondary level services, it has established fifteen Health Centres, three Medical Centres and four Diagnostic centres in these Project areas.

In North Eastern part of Gujarat, Sidhpur is one of the selected areas of its operation. In Sidhpur, 23 localities with a population of around 38,189 were identified in need of quality, comprehensive health care. The community in Sidhpur approached AKHS,I to aid it in developing an effective health care program in the region. The Local Health Board of AKHS,I was already engaged in conducting some selective health care activities. Four Health Centres of AKHS,I (one room facility), were in operation in this area. These centres offered basic curative services and preventive, promotive services like immunization of children and pregnant women, growth monitoring of children, etc. These activities were carried out by one Multi Purpose Worker (Male) with assistance of the volunteers of the Local Health Board. Realising the growing need and demand for comprehensive quality health care and recognizing the

inherent potential of the local community, AKHS,I decided to develop a decentralized, community manageable health system, based on PHC in the area.

In order to achieve this long term goal, a two phased programme was envisaged - planning cum preparatory phase and intervention phase. The main objective of the two year planning phase (1991 - 1993) was to gather complete base line information of the area in order to effectively plan for the establishment of the total health care system. This phase experienced a comprehensive Health Needs Assessment to identify the unmet health needs of the community, the means of redressal of their health problems, study knowledge, attitude and health practices and expectations and the paying capacity of the community.

A need was felt to adopt a specific approach for extending the services to far and remote areas of the project. After thorough study and experiment, the project evolved a new approach called the **Health Sector Approach** based on the principle of efficiency. Each sector meant a decentralized, independent unit of village/villages, with top down support, demarcated for carrying out Primary Health Care activities to its defined population.

This Health Sector Approach was introduced to bring in self sufficiency by making the services more efficient and cost effective. Hence forth the entire project area was divided into nine sectors following the criteria (See concept paper on Health Sector Approach). The four health sectors introduced initially were Manpura, Methan, Punasan and Varsila. Each of these villages had a health centre with one room facility operating in the village catering to the population in that particular village, the other target villages in the sector and also extended services to the population in the allied villages. Each of these centres was equipped with a specially trained Lady Health Visitor and a visiting doctor (on fixed days) for providing PHC services and basic curative services.

This pattern of service delivery continued for one year, with increasing number of people utilizing the services of the four health centres. Demand for more such centres started coming in from other sectors, as people grew increasingly aware of the need for basic health care service within accessible limits. Group meetings, meetings with community leaders and volunteers provided the forum for articulation of community health needs. They expressed the desire to have health facilities established within their reach. This entire process of articulation of needs and creation of demand took an year's time. It was a slow process which emerged as a result of a series of discussions and deliberations.

Looking at the growing demand for health services and community initiative the project further expanded its activities and discussions were held to establish health centres in rest of the five sectors in a phased manner. With increase in the range of activities, it was felt necessary to induct some more LHVs to make service delivery more effective. Subsequently 5 more LHVs were inducted into the project. Initially the new sectors started functioning with preventive and promotive services.

Thereafter the specific area needs were identified and discussed, which synchronised with the need to establish nodal centres at strategic locations in each sector for addressing basic health needs of the community at village level, by providing first level contact care. This increase, in the number of sectors helped matching of services to local needs and introduction of area specific approaches, and it also helped the LHVs to concentrate better on their allied populations.

Simultaneously the project staff along with the Local Health Committees, volunteers and community leaders of the respective villages conducted health awareness drives in the allied villages. These drives were intended to provide the necessary health education to these people and at the same time were a marketing strategy aimed at demand creation. The efforts proved fruitful

as more and more people became aware of the project activities, and utilization of services at the health centres grew.

At the same time people also started demanding for creation of additional facilities and upgradation of existing ones. The notable feature was, that people were willing to pay for quality health care services. Meloj, Metrana and Samoda were three such villages, from which there was an urgent demand for creation of health facilities. The Meloj Sector with a population of 5761 exhibited keen interest to set up a health facility at Meloj. Community Leaders and volunteers showed good initiative in taking up responsibilities and expressed willingness to contribute towards health facility development. After detailed deliberations, AKHS,I took a decision to open a health centre in Meloj. The community was appraised regarding the need and demand of the area and discussions were held with different community leaders to explore the possibility of community financing.

The response from the community was highly encouraging. People contributed in different ways. Community leaders, volunteers and staff, jointly identified a room for the health centre. All this seemed to further boost the enthusiasm of the community leaders as they got together to mobilize more resources. Donations began to come in from the target villages as well as other service and allied villages.

Thus, with a strong community back up, the opening of the Meloj Health Centre took place on 1st November 1992 with complete community financing. The program turned out to be a grand success with a high level of involvement of all communities. The most encouraging feature of the occasion was the positive approach of people from all walks of life; they came forward in large numbers to offer donations/ contributions and assistance.

As time passed, community felt a need to have their own building with indoor facility specially to cater to the

needs of Natal Care. The leaders and volunteers from all sects who were involved in managing the programme again started planning and mobilising more resources and in May 1994 they laid the foundation for a new building for the Health Centre. Community contributed giving what ever they could in terms of money and material. Project staff gave technical inputs and guidance. Two years later the Health Centre building with well equipped indoor facility was ready and started functioning from 14th July 1996. The community is now empowered to manage the health programmes in their sector, including the health facility. With the opening of new Health Centre building at Meloj the Sidhpur project now has seven Health Centres out of which five health centres have indoor facility for Natal Care, catering to the basic health needs of the area. All the facilities have been developed with community participation.

AKHS,I has learnt over the period of time that to make the programmes sustainable, the community has to take initiative in organising, managing and financing the facilities and services, there by evoking a collective ownership hence streamlining their health seeking behaviour. As a result household health expenditure and opportunity cost of the treatment would reduce and the productivity of the individual would be improved. A pricing system was evolved in consultation with community for the services. All these efforts led to, improved utilisation of the facilities.

Experience showed that significant increase in User fees reduces the utilisation of a particular facility with a shift in demand for alternatives even for poor quality care. It was also learnt over a period of time that user fees with quality improvements leads to a higher utilisation of facility amongst the population served by the facility. Thus it was planned to sustain health care without greatly reducing access to OPD care and induce a shift in demand from poor quality providers to quality providers of health care especially by those willing and able to pay for care.

Operational Self Sufficiency of Meloj

The operational cost analysis of the health centres in Sidhpur Health System showed that Meloj had 36.6 per cent operational self sufficiency. The major cost of delivering selected curative services in both the health centres were personnel cost, followed by medicine, and the rest was for support and other expenses. On the other hand around 56 percent of their total revenue was generated through medicines followed by other curative services.

Dairy Co-operative Financing

In the project area different forms of community organizations exist i.e. Milk Co-operatives, Women's organisations to cite a few, which are quite active. In most of the villages milk production is one of the major occupations and the milk is sold through village co-operatives. 40 to 50 percent of the households are members of the co-operatives. The total production of milk from these health centres is 4250 litres per day supplied to a milk co-operative society.

On exploring the options available for making the health services sustainable it was noticed that if a financing method is evolved based on the principle of willingness and ability to pay these villagers may have to contribute 5 to 8 paisa per litre under the different options available namely usual user fee, usual user fee plus medical charges and charges only for medicines to be deducted through the Milk Co-operative society. The same amount could go to the health account and would be retained by the co-operatives. Thus the quantity (ltrs) of the milk supplied by a member would decide the amount allocated for his/her account. A sum of deficit amount would be available periodically to health centres to meet their expenses. Through linkages, the co-operatives could pay the amount directly to the health facilities. This would be a simple method without any additional efforts. It would enable the health centres for meeting the operational expenses. This in turn would optimise the utilisation of the facilities

and have an organisationally and financially sustainable rural health care delivery facility and system.

In this system, the accounting procedures would be easy and formalities would be one time. The fund could be partly or fully utilized for meeting the operational expenses of the Centre. Depending upon the willingness and ability to pay operational self-sufficiency analysis was undertaken to decide the size of co-operative financing requirement and subsequent decisions.

Advantages

This financing would have certain advantages:

- Collection mechanisms would be easy and fool proof.
- Collective responsibility of all the households.
- Institutional (Co-operative) commitment rather than individuals.
- Efforts to sustain the linkages will be minimal.
- Indirect payment will not make the individuals feel burdened.
- Timely collection and disbursement would be possible.
- Indirect utilisation of the facilities and services.
- More sustainable source.
- A small fraction will extend great contributions.

Disadvantages

Certain disadvantages perceived are:

- Changes in Governing body may change priority.
- Non-co-operation of General body members could be a threat.
- Organisational cautions needed for continuous services.
- High expectation of the members.
- Political disturbance

The management body of the Dairy co-operative in consultation with Health Sector Management Committee (HSMC) decided to simplify the method of collecting house hold contribution. Instead of collecting the amount from the individuals, the society decided to fund directly from it's profit. Generally this profit is distributed to shareholders according to the quantity of milk given by them to the

co-operative in a year. Accordingly the profit of the individual house holds and members are deducted. Thus ultimately the contribution by each household to the fund comes in proportion to the milk they supply to the co- operative. Besides making the accounting system simple, this will also avoid the govt. audit problems. The cost analysis done for the year 1996 showed the requirement of Rs. 30,000/- (Thirty Thousand Only) per year to sustain the current level of services to make the health sector self sufficient. Accordingly in a formal function, on April 1997, the District Dairy Co-operative president handed over the contribution, a cheque of Rupees thirty thousand to the Chairman of AKHS,I for the accounting year 1997-98.

In a nutshell the evolution of Meloj Health Centre is the best example of community involvement and empowerment in identifying their health problems and finding solutions for the same. The experience of Meloj in organizing, managing and financing health facilities could be replicated elsewhere, by those who look forward to establish community run health systems.

Operations Manual

This operations manual is introduced for the systematic implementation of the Dairy co-operative Financing Scheme (DCF) and is based on the concept paper of" co-operative financing method", discussions held with the Health Sector Management Committee and Dairy co-operative society of Meloj.

Legal Status

For this financing, the general body and the governing board of the co-operative passed resolutions, and the district co-operative body has approved it. This has also got legal sanction by the registrar of co-operatives.

Fund Management

The Sidhpur Health System project has a Health Sector Management Committee of the community representatives approved by AKHS,I. It is responsible for implementing and managing the health programs

and services in the Health Sector including Health Centre. The fund management also the responsibility of the committee. To maximize representation from all communities members are nominated by consensus from the major communities of the village. The co-operative also have nominated two managing body of members in to the committee so as to have better communication.

The following are specific guidelines for the reference of the committee;

- HSMC in consultation with Project management committee can take required decisions to manage the health fund.
- A bank account will be opened in the name of Aga Khan Health centre, Meloj in the Development Credit Bank, Sidhpur.
- Two out of following four signatories can operate the account.
    a. The convener, Health Sector Management Committee, Meloj.
    b. The Chairman, Local Health Board for Sidhpur.
    c. A member, Finance committee for Projects.
    d. A Director Designate, Aga Khan Health Service, India.
- All transactions except petty cash expenses be done by cheque.
- HSMC will deposit all revenues in this account at least fortnightly. It includes DCF, any donations received by HSMC and income from the Health centre and other community health programs. This has to be reported in the monthly MIS.
- All the direct operational expenses of the health programs and Services of the Meloj sector will be done from this account. This would include expenses incurred on:
    a. Administrative expenditure of the Health Centre.
    b. Medicines.
    c. Salary of LHV and sweeper.
    d. Extra duty allowances and travel of LHV.
    e. CHV and HSMC meetings at sector level
    f. Salary of Medical Officer (Part time).
    g. Vehicle expenditure for the doctor's visit.

h. Photocopy, telephone bills, stationery and other miscellaneous expenses.

- The following expenses will be borne by AKHS,I.
  a. Salary of LHV supervisor.
  b. Supervision and monitoring expenses.
  c. Training and HRD expenses.
  d. Subsidy given for Hepatitis-B immunization.
  e. Printed stationery and supplies by AKHS,I.
  f. Other overheads of the Project (if any)
- Money required for day to day expenses will be withdrawn from the bank in advance as grant. The amount should not exceed Rs. 1000/-. Thus at no given point should the cash in hand be more than Rs.1000/-.
- Any unbudgeted expenses and expenses more than Rs.1000/- excluding the indicated expenses require formal sanction from the PMC.
- The committee will maintain the necessary books of accounts at the Health Centre according to AKHS,I policy. It should be made available to the authorized persons whenever asked for and for statutory requirements.
- The committee will prepare and submit monthly finance and programme MIS reports to the project office. The LHV will provide the necessary assistance to the committee.
- On quarterly basis, the project office will undertake the cost analysis and the information will be shared with the committee.
- The operational deficit financing of the health sector will be done by the committee. The committee can decide the ethical means to generate funds through different sources in consultation with the PMC. Any means of fund accumulation without the written consent of PMC is unacceptable. Proper accounting and receipt procedures need to be followed for fund accumulation. The fund collected for the health sector, needs to be deposited in the bank account within a week's time.

Services to the Families Registered

As an incentive to the shareholders of the co-operative, special benefits are to be offered. It has been decided that all the households who are currently supplying milk to the co- operative will be registered to get the benefits under this scheme. The list of households will be provided by the co-operative to the committee. The committee will issue a health card to the registered families. The card is non transferable. All the relevant information of the family members will be recorded. The members will have to bring the card whenever they want to avail any services from the centre. In case the original card is misplaced or lost a fine of Rupees.5/- will be charged for a duplicate one.

Benefits to the Registered Families

- Doctors' consultation fee and case fee will be waived.
- Antenatal care free of charge.
- 10 percent discount in delivery charges.
- Diagnosis of tuberculosis (Sputum Exam) free of cost.
- Screening for diabetes and hypertension once in a year for those above 35 years of age free of charge.
- 20 percent discount for selected routine tests in Aga Khan Diagnostic Centre, Sidhpur.
- Guidance for referral care to the needy.
- PHC services to females in age group 15-45 and children below 5 years.

Records to be Maintained

All the necessary records and registers will be maintained at the centre. This will be the responsibility of the committee and staff. In addition, the following registers /records will have to be maintained for DCF;

- The family health card needs to be issued to all the registered families with relevant information of family members.
- The register with details of the registered family members and the information on care they have received will be maintained. This will be updated regularly whenever the family member

takes benefit under this scheme.

- Books of accounts will be maintained according to the policy of AKHS,I.

Reports to be submitted

Besides, AKHC has to submit one special report on the co-operative health fund quarterly. This should include a detailed analysis of families who benefited from under the scheme, information on benefits they got and the information on finances. The project office will analyze the status and effect of the scheme on the utilization of the services. Also this will help to understand the self sufficiency level. Half yearly basis the scheme will be reviewed and a report will be submitted to AKHS,I.

Reporting Relationship

To give more autonomy to the committee, a decentralised approach has been adopted. The LHV will report to the HSMC and the HSMC will report to PMC. The LHV has to follow the institutional guidelines to maximise the program outcomes. The LHV supervisor and the visiting Medical Officer will technically guide, train and supervise the LHV.

Personnel Policy

The personnel and administrative policy of AKHS,I will be applicable to the staff posted at Meloj also.

Community Health Volunteers

The CHVs will play the role of link persons between AKHS,I and the community. They will follow the roles and responsibilities as envisaged in the concept paper “Health Sector Approach" for the care of people residing in selected households allotted to them. They will report to LHV and will work under her technical guidance.

Service Timings

The LHV who is primarily responsible for implementation of health programmes in the sector will provide the services as per the monthly plan. The plan has to be prepared in consultation with HSMC. However, at this stage she should spend 50% of the working time for out reach services. This can be reviewed as and when required. The visiting Medical Officer will visit on fixed days thrice a week for three

hours. The centre will observe the official holidays of AKHS,I.

Nature of Services

All the services as per the policy of AKHS,I, will be provided in the Meloj sector. It includes;

1. Preventive and promotive services like
   a. MCH programs.
   b. Normal Delivery Care at the centre.
   c. Control of Communicable diseases
   d. Control of Non Communicable diseases.
   e. Health awareness programmes

2. Basic Curative services.
   a. Referral services.
   b. Basic Diagnostic services at Health Centre.
   c. Subsidized referral to the diagnostic services (Radiology & Pathology) at AKDC Sidhpur.

Pricing Policy

According to AKHS,I policy there should be a users fee system for the services provided. The HSMC in consultation with PMC can develop appropriate pricing. As and when required it can be revised without restricting the access. Appropriate concessions or welfare ships are needed to be developed for the needy.

Surplus Revenues & Its Utilization

The HSMC can use the surplus revenue generated with permission of PMC for;

1. Secondary level care of poor patients.
2. To give the subsidy to poor patients.
3. Deposited to SHS for cross subsidization in other health sectors of the project area.
4. Expenses for development of HC and replacements of instruments.
5. Further expansion of the services.

List of Abbreviations Used

AKHC	Aga Khan Health Centre
AKDC	Aga Khan Diagnostic Centre
AKHS,I	Aga Khan Health Service, India.
CHF	Co-operative Health Financing
CHV	Community Health Volunteers
HSMC	Health Sector Management Committee
LHV	Lady Health Visitor
MCS	Milk Co-operative Society
MIS	Management Information System
PHC	Primary Health Care
PMC	Project Management Committee
SHS	Sidhpur Health System

Annexure- 4: Upholding Reproductive Rights above the “Two Child Norm”:

Aravind Puikkal

February 2006

Background

Though the policies were declared, several states believed that controlling the family size will tame the population growth. Urging couples to adopt a two-child norm will reduce the rate of population growth, which is the main obstacle for swift progress of India.

Introduction of this norm and the widespread fascination for it in India is actually drawing inspiration from China's one child policy. Using norm-based population policy, China has achieved considerable success in reducing its population growth rate.

Thus, it is believed that a government-enforced norm on restricting the number of children will encourage couples to adopt contraceptive measures. Grassroots political leaders who adopt these measures would be considered as `role models' and it is presumed that other couples from the community will follow them (though how far the community still sees the politicians as role models is debatable).

The success of using such a norm depends on certain assumptions. For instance, the local political leaders or role models would set examples on issues like number of children, independent of the babies' sex and also that contraceptive services are universally available. The norm also assumes that these pre-conditions are applicable to women and men equally. Finally, the norm assumes that reduction in numbers necessarily leads to an improvement in the overall development status.

Drive for population stabilization

Genesis of the two-child norm can be traced back to the results of the 1991 census, when several states started debating on population issues. Population growth was the new challenge for the policy makers who looked to deal with this problem by bringing in Constitutional changes. While the role of central government's is suggestive and guiding in nature, several states started with various novel ideas to stabilize population.

Although coercion is not part of official policy, the governments' firm instance on "meeting the family-planning targets" often leads administrators and health-care personnel to resort to pressure tactics that comes close to compulsion [2]. Those guilty of coercion assume that such measures would reduce population growth to a level best suited for boosting socio- economic development of the state and thereby the nation.

Examples of such strong-arm tactics are: verbal threats, making sterilization a condition of eligibility for anti-poverty programs, depriving mothers of more than two children of maternity benefits, reserving certain kinds of health care services to persons who have been sterilized, reserving certain social services for two or less than two children and forbidding persons who have more than two children from contesting panchayat elections, etc.

Many sociologists argue that these assumptions are baseless and that implementation of population control measures has to take ground realities into consideration. Preference for male-child is a social reality in India; couples openly root for male child despite their social standing. Women have very little say in the matter. Sociologists point out that, using coercion may encourage undesirable practices like verification of the foetus' sex and subsequent abortion of the female foetus. Increase in the rate of induced abortions among women who aspire to be community or a political leader is also foreseen. This would lead to poor health and other complications, denial of marital relationship and desertion of women by men leaders and many other social complications. These complications, may adversely affect the status of women, which is an important determinant of development, and hence the norm may actually end up causing more harm than good. Due to all these reasons, plan for introducing the two child norm bill was quietly shelved in some states.

Resurgence of the "Two- Child Norm" Bill

After nearly a decade long silence, discussions resurged for introducing the two child norm as a quick fix solution to check the growing population in the country and followed with;

- Parliamentary Consultative Committee meeting (2003) supported the bill
- National Council of Health and Family Welfare- the highest decision making body of the Ministry comprising the State Health Ministers- resolved that the two-child norm for legislatures be adopted (2003).
- Central Health Minister Mrs. Sushma Swaraj told the Lok Sabha during Question Hour "The Bill was pending in the Rajya Sabha and if there is a consensus among all political parties, the government would be prepared to introduce it in this session itself." (April 2003)
- Supreme Court decision upholds Haryana State's two-child norm policy for all communities (July 2003)
- State Health Ministers' conference held urged the Centre for a legislation barring those with more than two children from contesting elections (August 2003).
- The then Deputy Prime Minister of India Mr. L. K. Advani announced that the Norm is the need of the hour to check the growing population of the country
- The then Prime Minister Mr. Atal Bihari Vajpayee convened a meeting of the Chief Ministers of the four States (Rajasthan, Madhya Pradesh, Uttar Pradesh and Bihar) to review the performance of their family welfare schemes.
- A private member Bill in Rajya Sabha sought to make this a norm for the country

With all these developments, the discussion on the two child norm became prominently alive.

Two- Child Norm in Indian States

A few Indian states have adopted the two-child norm as a quick-fix solution

to "population explosion." Rajasthan State, a trendsetter in the country for introducing two-child norm, started implementation in Panchayats and municipalities in 1992. Orissa was the second state after Rajasthan to introduce the two-child norm. In Madhya Pradesh though the two-child norm was introduced in the year 2000, it was made effective from the Republic Day in 2001. The state population policy links the rural development schemes and income generating schemes to family planning.

Several other states like Haryana, Andhra Pradesh, Orissa and Himachal Pradesh decided to apply this norm to Panchayat bodies. Today, six Indian States have debarred couples, with more than two children, from contesting elections for local/ village governance bodies- Panchayats. Himachal Pradesh, however, recently dropped the norm, after learning the consequences and facing opposition from the civil society.

Some states are also trying other alternative measures to stabilize the population. For instance, Maharashtra state recommended withdrawal of subsidized food facilities under the Public Distribution System (PDS), and education facilities and welfare schemes for couple who crosses the two-child mark. Uttar Pradesh government's policy disqualifies persons who married before achieving legal marriageable age from getting government jobs, and Panchayats are being encouraged to better family planning performance with promise of an additional 10 % of financial assistance. Recently, Uttar Pradesh also revealed bizarre modes of trying to improve family planning coverage: drugging men for sterilization, giving gun licenses in exchange for sterilization cases, conducting sterilization camps for over a thousand men in one venue. Rajasthan government not only denies government jobs to people with more than two children, it stops promoting those who have already got a job and are in this category.

The Madhya Pradesh policy stresses: "From January 26, 2001, persons marrying before legal age of

marriage will not be eligible for government employment". This approach may however harm women more than men, holding them responsible for the social evil of child marriages, over which they have no control. This would violate the women's right to livelihood and equal opportunities. However, due to the efforts of the civil society, recently, the Chief Minister of Madhya Pradesh promised to withdraw the norm. This indicates the readiness of the State in thrashing out the issues related with the two-child norm and reduces its consequences.

Gujarat government however adopted a different approach. It formed a sub-committee for before formulating law on a two-child norm. This received substantial media coverage and protests started pouring in from different corners of the state. In mid-July 2001, Gujarat government organized a one-day State level consultative meeting with UNFPA's support to debate on the two-child norm. State officials, representatives of media, and many leading NGOs in Gujarat were invited to the meeting. The voice of the opponents of the two-child norm was clear: First, it was opined that the norm was not needed for attaining population stabilization in the state, as fertility had started dropping and was not much higher than two children per woman. Second, such a measure would violate basic human and reproductive rights of women and men and therefore such a law should not be enacted. Third, it was felt that such a law would be anti-poor and anti-women. It was imperative to address their needs instead of considering punitive measures to achieve any goal. It was also felt that such a law would lead to a boost in sex-discrimination and female foeticide, which were already cause for concern in Gujarat. However, during March 2005, the state government passed a bill imposing two-child norm for Panchayats. The norm is in incubation, now the government is hesitant of implementing it.

Some of the above examples exemplify how Indian States are

going ahead with population stabilization policies and programs. Most of these provisions and actions are against basic human rights and the ICPD plans of action could have adverse effects on the life of certain sections of the society. It is imperative to assess the logic behind such a norm, experiences of implementing it and the impact it has on the lives of human beings particularly women, children, socio-economically weaker sections and the youth.

However, In India southern states like Kerala and Tamil Nadu have achieved much faster declines in fertility than China has achieved in its 'one child policy' and the related measures (Sen:1995) without employing coercion.

Consequences of the Norm

Civil society, women's organizations and people from the different walks of life have voiced their concerns against the two-child norm. But, despite the resistance and protests, the government continues to implement this norm. Empirical evidence on the status of women is clear from the study conducted by Mahila Chetna Manch of Bhopal in five states namely, Andhra Pradesh, Haryana, Madhya Pradesh, Orissa and Rajasthan between July 2001 and March 2002. While the study is unable to report the positive impact of the two-child norm on the women health and status, it has brought out a number of disquieting facts. The study notes that the norm and violation of reproductive rights is complex and not always statistically quantifiable. Yet, there are examples of abortion, divorce, extra-marital affairs (because the legal wife was sent to her natal home to hide the third pregnancy or child) and of giving away of children for adoption.

Cases of desertion and bigamy were also found where the husband does not want to compromise and considers his wife dispensable. Further, cases of pre-natal sex determination and induced abortion, children being given away for adoption leading to compulsory separation between the mother and child, women were subjected to violence, etc [3] were also many.

These findings were reinforced at a Public Tribunal in Delhi [4]. At the Public Tribunal, many women came forward from Andhra Pradesh to tell their story of how the two-child norm had affected their lives and their health. The average age of women undergoing tubectomy in Andhra Pradesh is now as low as 22 years (against the internationally recommended lower limit of 26) and rate of hysterectomy in coastal Andhra Pradesh is rising, a state which many experts attribute to early and in-expertly conducted tubectomy operations. There were many women who were now in their early twenties, who had undergone two double puncture laparoscopic tubectomies and had still not received their promised Green Card. During the past 4 years, over eight lakh tubectomies were conducted in Andhra Pradesh but there are no records to indicate the failed cases and no efforts to track these women whose health is jeopardized.

Some of the other consequences of implementation of the two child norm are briefly discussed below.

Impact on sex ratio of children- The sex ratio of children (0 to 6 years) has been dropping rapidly in India. Developed states like Punjab, Haryana and Gujarat are the places where the drop in sex ratio of children has been the most rapid. Experts opine that this reflects the very poor status of women and the girl child in society. A study by an organization, SUTRA (an NGO based in Himachal Pradesh), shows that the districts with the highest juvenile sex ratio have the highest disqualifications to those with the lowest sex ratio shows none or very few disqualifications. This clearly indicates that a two-child norm actually increases the risk of sex selective abortions.

Affect on children- The two-child norm can add to the burden of a distorted sex ratio by promoting pre - determination of foetus sex and induced abortions. There have been recorded instances where children have been disowned or given away in adoption. In some cases children were found to have been hidden and

thereby deprived of immunization or attendance at the Anganwadi. Some state governments have proposed to deny state support to all babies born to a couple after the first two. These are clear instances of the violation of the rights of the child.

Impact on young persons- India is proud to be a young country today with over 50% of its population under the age of 25. However, it is this young population that is hit by the two-child norm. Those who are currently having children are mostly young. Therefore, the young persons who have a third child after the date of election notification will be the ones who stand to be disqualified. Older people with more number of children, do not loose anything with the two- child norm. On the other hand, evidence at the People's Tribunal was unequivocal on this count and there were many instances from Rajasthan, Haryana, and Himachal Pradesh where youth willing to provide new leadership to their communities were suddenly disqualified when their older and more entrenched opponents used this norm to settle political scores.

Impact on participation of women and dalits in governance- The 73rd Amendment of the Constitution was aimed at providing women and socio- economically weaker sections an opportunity to participate in governance. Over the last ten years, there has been an increase in participation of these hitherto under-represented sections of society in democratic institutions. The Mahila Chetna Manch study reveals that in those states where two-child norm is in place, a disproportionately high number of women have faced disqualification. In socio-economically weaker sections, this proportion becomes even higher. The examination of state level data from Haryana (the only state where such data was available) shows that nearly three fourths of all disqualifications were due to the two-child norm. Experiences in Rajasthan and Madhya Pradesh only highlight the misuse of this norm to harass opponents. There was also indication that the norm could be circumvented and avoided through manipulations, which are easier for

those with political or financial influence.

Impact on the participation of weaker and marginalized section in governance- It is well known that the poor and the marginalized have more children than those who are well off or in the majority. In economic terms, more children mean more resources to earn for the poor. A two-child norm thus affects the poor and the marginalized far more than it affects the rich. This section of the society are also those who are furthest away from health services, thus infant mortality rates are also high. What these people urgently need is the assurance of child survival, the assurance of livelihood and services for family planning, rather than a two-child norm.

Former UNFPA India Representative Mr Francois Farah's statement during 2002 throws some light on the complexities of such a norm and its effect in the population. He said, *"One is not sure to what extent the provisions of such a bill are implementable in the first place. The logic that consists of getting rid of the poor (through different disguised distorted population policies) in order to eradicate poverty does not stand scrutiny, is unethical and may eventually be counterproductive not to say explosive in a multi-fertility patterns environment".*

There is no evidence to show that a selectively applied two-child norm has any impact in reducing the 'population growth rate', anywhere in the world. However, there is undeniable evidence that it causes harm to women, children, youth, the poor, and the marginalized. It can only serve the political interests of those who are older in age and those who are already entrenched in the existing power structures in the Panchayat system.

To summarize, the introduction of this norm evoked mixed response from the government and public. A two-child norm is against the basic spirit of equality, which is constitutionally guaranteed in our country. The issue of two child norm is very sensitive especially in a country which is still bound by traditional socio-cultural norms.

Looking into the complexity of the implementation of the bill, one is not sure to what extent the provisions of such a bill should be implemented. More debate should take place on this issue and also on promoting sustainable equitable and humane social policies for a positive population outcome as established by a number of countries and societies across the globe.

Outcries in India against the "Two-Child Norm"

Statement by J R D Tata- leading industrialist (1991)

"….the attempted curtailment of population growth through negative measures should be replaced by positive measures such as education, skill development, science and technology, investments for such purposes.

He also wrote to Mr. Chandrasekhar, the then Prime Minister of India, "…had our efforts to achieve population stabilization been more successful, the progress India has made in different spheres would have resulted in a dramatic improvement of the basic standard of living of our people".

A society, laden with traditional socio-cultural norms, has defined its own perspective for the need of children. This comes as an obstacle in the way of development and has given rise to the debate on population policies and "two-child norm". This is not new to India. Concerns for the same have always been reflected by people from different walks of life about population stabilization programs and the way it is implemented in India.

Now, the two-child norm introduced by several states has evoked a mixed response. The public appears divided on the issue. One side of the argument justifies the two child norm as a need of the hour. Many also feel that beginning with elected representatives would serve as a model for others. Compared to China's experience a leading politician perceives that it has followed democratic principles, "of

the politicians, by the politicians and for the politicians." The other school of argument led by the sociologists, women's activists and human rights activists consider this norm as a violation of the basic human and reproductive rights of the people and its consequences are in multiples. At the outset imposing such norms affect the poor, the non-literate, socially disadvantaged and marginalized groups. It would have adverse effects on women's health and promote immoral acts in the society.

Given this scenario, the question is how to address this sensitive issue dealing with the two-child norm, especially in a situation where the culture demands that the couples should have at least one male child. Government of India, UNFPA at both central and state level and the civil society has taken several initiatives to advocate the ill effects of the two-child norm and consequent retaliation to coercion.

The following sections present a glimpse of the efforts made by different constituencies in the country against the two-child norm:

Government's response for population stabilization

***Government of India's response to ICPD*:** Government of India has responded positively and taken necessary steps to address the health and population development issues. Following the International Conference on Population and Development (ICPD) in 1994 at Cairo, the Government of India changed maternal and child health approach to reproductive health approach in consonance with the ICPD Program of Action. Taking in the principles of the call of action, the government adopted a new population policy in March 2000, which aimed t o stabilize population growth rate by strengthening reproductive health services and thereby voluntary acceptance of family planning for small family. The government also adopted a target free approach to family planning programme and repositioned the

programme as family welfare programme.

State Governments' Initiatives & Centre's Response: Several states developed state-specific population policies. Most of these states got caught in the number game and adopted a family planning mode to reduce birth rate; however, a few states opted for a development al approach to address the population concerns. Rajasthan, without any policy direction, announced the two-child norm and started implementing the norm as a quick -fix solution to check the growing population in the state. Several states followed suit. Thereafter, at the central level a few senior politicians favoured and endorsed the two-child norm adopted by few states and encouraged others to follow the model. Though there were intermittent attempts and statements in favouring coercive measures and incentives for increasing family planning acceptance, by and large, the central government was not in favour of any such measures.

Centre to the States- Don't Drive on Two Child Norm: On learning the consequences of the two-child norm imposed by some states, the central government wrote to the states to reconsider their decision. This letter from the central Government, advising state counterparts against reliance on coercion, inspired the news paper headline, "Don't coerce on 2-child norm, Centre tells states," in *The Times* of *India* of 29 August 2002. In addition to India's National Population Policy, the letter and accompanying notes cited Principle 8 of the Cairo Program of Action: "Reproductive healthcare programs should provide the widest range of services without any form of coercion." Thus the issue of introducing the two child norm by the centre got a lukewarm response from the ministry and it was in cold storage.

Dr Manmohan Singh, Prime Minster of India (July 2005)

"Coercion or giving incentives have only marginal impact and sometimes

may even cause resentment and non-acceptance of the programme. I sincerely believe that coercion of any kind to achieve population stabilization is unacceptable in a free society."

Central Government upholds the human rights: In July, 2005, while chairing the first meeting of the reconstituted National Commission on Population, the Prime Minister of India discouraged introduction of any coercive steps to curb growing population. Instead he suggested forming a task force to look into these issues. The proposed task force would focus on Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan, which constitute about 40 per cent of the country's population. Stating that it is "coercive," the Health Ministry planned to ask the states to scrap the policy, which "penalizes" those who have more than two children.

National Human Rights Commission Steps In: The National Human Rights Commission (December 2004) showed a red signal to the idea of promoting the two-child norm through coercive means. The NHRC said coercive methods have shown to be less effective in stabilizing population, and draw resources away from health priorities. It added that in keeping with the spirit of the National Population Policy 2000, steps should be taken to prevent all forms of coercive population control measures and the two-child norm, which targeted vulnerable sections of society. In a set of recommendations on health care, the NHRC has sought "reversal of all coercive population control measures that violate basic human rights."

Rural Development Ministry asks the States to scrap the norm **:** Thereafter, the Union Minister for Panchayati Raj Mr. Mani Shankar Aiyar wrote to the states, where the norms are introduced, requesting to withdraw the two-child norm as it adversely affected women's empowerment, young people, Dalits and weaker sections, and encouraged female foeticide.

Health Ministry Stands For Non-Coercive Approach: On this issue, the Union Health Secretary Mr. P K Hota said, "We are not in favor of any coercive methods. We would rather give options to couples. What's required is quality health service." Speaking at the inauguration of the World Population Day 2005, the Health Minister Dr. Ramadoss stressed on the need to stabilize population through voluntary birth control. "We (the Central Government) are against enforcing the two child norm as it goes against the fundamental freedom of an individual. People should opt for small families voluntarily," he said. He further added "because the judiciary is also supporting the norm, we will evaluate all aspects before taking a decision." Health Ministry officials maintained that under the proposed National Healthcare Mission "there would not be any scope for coercion in family planning." "The thinking in the present government that family planning should be voluntary in nature and not by force" said a source.

Lok Sabha Speaker expresses anguish over the consequences of the Norm: In March 2004, Lok Sabha Speaker Somnath Chatterjee, while delivering the Ninth J R D Tata Memorial Oration drew attention to the lopsided child sex ratio and strongly criticized the two-child norm. He said: "--the questions that emerge are: Is population stabilization being achieved at the cost of female lives? Do punitive population policies contribute to this?"

UNFPA in India:

Promoting Human Rights above "Two- Child Norm"

UNFPA Initiatives at Central Level

"Propagation of a two-child norm and coercion or manipulation of individual fertility decisions through the use of incentives and disincentives violate the principle of voluntary informed choice and the human rights of the people," **–** declaration of January 2003 Colloquium on Population Policy: Development and Human Rights, organized by UNFPA, India's

National Human Rights Commission and the Ministry of Health and Family Welfare.

UNFPA has always been in the forefront in promoting rights based policies and programs for population and development in India. It works closely with the Central Government, selected State Governments where IPD projects are implemented and with other stakeholders and opinion makers through out the country. It has developed partnership with the national Government, Non Governmental Organizations (NGOs), the media and professional associations to increase awareness about the human rights implications of implementing the two-child policy and other coercive policies and provisions. During 2001-2003, the country witnessed a number of advocacy efforts supported by UNFPA against two child norm and other incentives and disincentives, where these advocacy efforts encouraged a healthy dialogue between the States and civil society.

UNFPA advocated and supported the central and state governments in developing policies and programs that are fundamental to the people's rights, choices and empowerment. Its successful dialogue in those states where there was no policy, lead to Gujarat state government developing its own State Population Policy. Thereafter, on Government's request, UNFPA also helped develop a state specific gender equity policy in Gujarat. In Maharashtra, UNFPA's support in framing its population policy statement and the process is leading to policy formulation. Here, UNFPA India office, in particular the Assistant Representative Ms. Ena Singh played a crucial role in the processes and formulation of these policies. These policies were progressive, forward looking and women-friendly following rights based approach; and for time, these polices served as model for other states. Now discussions are in progress for Policy support in the States like Bihar, Uttaranchal, Orissa, Maharashtra, Kerala etc.

Former UNFPA India Representative Mr. Francois Farah (2003)

"Such quick-fix population policies will not work. It not only violates human rights, they fail to address the issues and also will be counter-productive."

UNFPA interactions with States: Initially, when Rajasthan introduced this norm, UNFPA's role was more of an observer. When other states started embarking on the norm, UNFPA started dialogue with the Centre and States to have a healthy debate on the issue of two-child norm. Mr. Farah addressed several meetings in the States, where he convincingly discussed consequences of the two child norm and coercive family planning.

In Rajasthan UNFPA supported NGOs and civil society members to analyze the consequences of the norm for debates and discussions. UNFPA initiated constructive dialogue with the Chief Minister and stressed a rights-based approach to population. It also played an active role in supporting advocacy with the national and the Rajasthan Commission on Women to examine population policy from a rights-based perspective and design programs accordingly.

Another such intervention was in early June 2001, when Gujarat State Government announced plans to enact a law limiting family size to two children. UNFPA supported the government in organizing a state level consultation s and an NGO-meet on the "two-child norm." State officials, media and nearly 30 leading Gujarat NGOs participated in these two meetings. The media widely disseminated these concerns and other concerned department Women & Child Development took a firm stand against such a law. The government then decided to withdraw the proposal. Thereafter, on two occasions, the proposal was mooted again along with an insurance scheme for those couples who opt for sterilization after two children. As a result of UNFPA's advocacy at various levels with political leaders, civil society and

bureaucracy, none of these proposals had seen light.

UNFPA efforts in Haryana and Madhya Pradesh harnessed advocacy efforts against the two-child norm with help of civil society and NGOs. When the Supreme Court of India approved the "two-child norm" in Haryana, former UNFPA Representative Mr. Farah published an article in *The Times* of *India* on 3 August 2003, titled, "The two-child norm is a loaded dice". He wrote: "Only an enabling environment that emphasizes effective reproductive health services, gender equality leading to women's participation in reproductive decision-making and positive social change that values girl children, can equip *Panchayats* to become true leaders and role models at the grassroots."

Working with Media: UNFPA has been working with Indian media against coercion in family planning. These have taken the form of interviews, workshops and open dialogue with numerous opinion makers and senior editors, on the harmful effects of the "two-child norm." *The Times* of *India* of 30 July 2001 reported that "the Constitution of India promises fundamental rights to every citizen. This leaves the family and not the state to plan the number of children they want to have. The proposed declaration of the State governments violates of human and reproductive rights." For example in Gujarat, the print Media especially *Times of India* published two articles on the two- norm and its consequences.

Conducting research: On understanding the emerging scenario, as a part of broader UNFPA strategy to discourage coercion, UNFPA supported a five-state study in 2002 on the effects of the "two-child norm" – *Panchayati Raj and the Two-Child Norm: Implications and Consequences.* It covered five States, where this norm was being implemented. The findings provided a basis for work with the central Government to advocate the irrelevance of incentives and disincentives in all concerned states. Among findings-,

the "norm" has serious implications, creating obstacles to the entry of women and disadvantaged groups into *Panchayats.* The study concluded: "The manner in which fertility decisions are impacted by the law is not in keeping with the rights-orientation articulated in the Plan of Action of the International Conference on Population and Development."

UNFPA in the press: The 2 July 2003 edition of *The Hindu,* reported, "Two-child norm brings little relief for women." Former UNFPA Representative, Mr. Farah discouraged "two-child norms", in a speech in Haryana, a state with such a policy. Under the headline, "Two-child norm only a quick-fix solution: UN expert," *The India Post* of 9 August 2002 quoted Mr. Farah telling a Haryana audience, “the two-child population policy is not pro-active, but damaging."

The study on the "two-child norm" also figured in a column of *The Times* of *India* on 29 August 2002, titled, "Weighted against women." The writer, a senior Indian journalist, mentioned the success of NGOs and women's groups in making governments abandon already-announced plans for two-child policies in Maharashtra, Gujarat, Delhi and Uttar Pradesh. These news lines encouraged more debates in other States.

UNFPA's Executive Director, Ms Thoraya Obaid, later spoke to Indian Media. On 16 November 2002, *The Press Trust* of *India,* reported, "Two-Child Norm Needs to Be Reconsidered: UNFPA Executive Director". The news agency quoted her: “The two-child norm adopted by some Indian states needs to be reconsidered as it is a coercive way of controlling population.…Incentives and disincentives being offered under the two-child norm 'simply won't work as it does not give free choice of family planning to women and therefore are not in line with the agreements reached at the ICPD in 1994 and also India's National Population Policy which is based on the spirit of the conference."

The Executive Director also discussed efforts on the "two-child

norm" in *The Times of India* of 21 November 2002. The first issue discussed in the article, 'Thoraya's Theme Song,' was the contradiction between the "norm" and the rights-based approach of the Cairo Program of Action.

UNFPA worked with the National Human Rights Commission: to organize a colloquium in January 2003 for government leaders, and state officials and others from various parts of India. The forum adopted a Declaration on Population Policy-Development and Human Rights that was a significant turning point in the policy framework in India on human rights and reproductive health. "Propagation of a two-child norm and coercion or manipulation of individual fertility decisions through the use of incentives and disincentives violate the principle of voluntary informed choice and the human rights of the people."

The agreement during the Colloquium was heralded in a blistering headline in the 11 January 2003 edition of *The Hindu*- "Rights based approach better in population stabilization". The report highlighted adverse effects on the propagation of a two-child norm and how manipulation of individual fertility decisions violated the principle of voluntary informed choice and the human rights of the people, particularly the rights of the child. The report also noted that the use of contraceptive targets resulted in undue pressure being put on clients by sellers. It called upon State Governments to exclude discriminatory and coercive measures from the population policies that had been framed, or are proposed. This colloquium helped to put the issue of two child norm not only a family welfare issue, but human rights also.

UNFPA and its publications: Soon after the colloquium, UNFPA in collaboration with Ministry of Health and Family Welfare and National Human Rights Commission brought out a brochure and a poster on, "Uphold My Reproductive Rights." To be born, to be safe and to choose with dignity are salient points from

the declaration. The brochures and posters were sent to *all* State Governments as well as NGOs and development partners at the national, state and district levels. The posters w ere widely disseminated and were highly appreciated by all. It is noteworthy that in Gujarat, more than 3000 posters and brochures were supplied on demand. Though it was on reproductive rights, it was more seen in the context of 'right to be born' and made an impact upon the sex selective abortions and declining female sex ratio also.

Ministry of Health & Family Welfare and UNFPA jointly produced another poster and a brochure mapping sex ratio in India based on 2001 census data. These were widely disseminated through out the States, where sex ratio was reported to be low. It served as a sensitization tool for at all levels, giving an overview of the declining sex ratio at a glance. The posters and brochures also indirectly harnessed the grave consequences of implementing two-child norm.

During this period, UNFPA in India made considerable efforts to bring the two-child norm issue at the fore front of development forums for healthy debates.

Political mapping – stand taken by political parties and by some of the key individual MPs and MLAs
Views of various political parties

The two-child norm became very prominent during the reign of Bharatiya Janata Party (BJP). Initially BJP government at the centre was not in favour of the coercive measures. Former Union Minister of Health, Mr. Shatrughan Sinha had said in 2002, "When you penalize parents by withholding rations or free education for a third child, as is being suggested by some states, you actually are depriving the child and we do not support that at all," However, when Mrs. Sushama Swaraj took over as the Union Minister of Health, the Ministry started talking about the need for introducing some strong steps including the two-child norm for

stabilizing population. Soon BJP- ruled states also started talking about the norm.

Nonetheless, it is worth mentioning that Gujarat, a BJP ruled state, though discussed about the two child norm, declared a progressive policy with out any stringent measures to curb the population growth. Later, after 2 years of policy implementation, the State also declared the two-child norm. It is said that more than population stabilization, the bill was promoted for political reasons.

At present, by and large the United Progressive Alliance Government at Centre is not in favour of the two child norm. Over all the present Central government is looking for stabilizing the population through voluntary choices, instead of any punitive actions.

One of the allies of the ruling alliance at Centre- Communist Marxist Party (CPM), which has a strong base of labour class in India, is also against of any coercive family planning program. The Lok Saba Speaker Mr. Somnath Chatterjee (CPM) has said that linking the two-child norm with the right to contest elections to the Panchayati Raj Institutions deprives the right to contest elections. Women, Dalits, Adivasis and the OBCs (Other Backward Classes) formed an overwhelming 80 per cent of those disqualified. Vigorous pursuit of the two-child norm is likely to have the most undesirable consequences as it could degenerate into sex-selective abortions.

Another prominent Political ally at the centre- Indian Communist Party of India (CPI) has expressed resentment on the two child norm. CPM Political leader, Ms. Brinda Karat of the women's wing, the All India Democratic Women's Association and Rajya Sabha member said "Such norms always work against the weaker sections of society. Such norms are undemocratic. …denies weaker sections and their democratic rights."

The scenarios in the States are different. The BJP ruled states like Gujarat, and Madhya Pradesh have introduced this bill. At the same time the introduction of this bill was done in Rajasthan, when the Congress was ruling the state. The states like Delhi and Haryana are ruled by the Congress, where the norm is in place. Andhra Pradesh introduced this norm when a regional political party was ruling there and now it's continuing even during the reign of Congress. The States like Madhya Pradesh (BJP Government) has expressed its intention to review the two- norm for reversal. But Rajasthan (BJP Government) has shown no inclination for reviewing their decision and is adamant on it. Gujarat (BJP Government), though has declared the norm, the implementation of the norm has been incubated for some time. Orissa (Local party-Janata Dal) government is implementing the norm, where no logic has been given while introducing it. Andhra Pradesh, Delhi and Haryana (all Congress ruled States) governments have not taken any decisions about the reversal of the norm, though the same party is ruled at the Centre. It is thus understood that it is more of a regional perception and influence which is promoting the two-child norm against the national understanding.

In this scenario it is difficult to point out any particular political party for promoting this norm. However, at the centre, the present government seems to be averse to the idea of promoting two- child norm and there exists an opportunity to work with the Central government in pursuing the States to re- look into such coercive policies and decisions.

Initiatives by the Civil Society

Due to increased awareness about the consequences of the two child norm, several NGOs, press and civil society members are raising their voice against the norm. Reputed Indian newspapers came out with more than 100 news articles.

In the aftermath of the Supreme Court's judgment upholding the Haryana legislation on a two children norm that debarred violators from

becoming Panchayat leaders, there have been repeated outcries in the press as how inimical it is to the interest of the poor especially to women. Mr Mohan Rao (EPW, August, 16 2003), has described the judgment as ill-informed and "many steps backward."

Memorandum to Union Minister

Memorandum

- detailed fact sheet on population,
- the negative impact of imposing the two-child norm for elections,
- the limited impact of the norm on India's population growth
- arguments against penalties against China's one-child policy.

A memorandum was submitted to the Union Minister of Panchayati Raj on misconceptions regarding economic prosperity, population size and policy lesion s of population stabilization. Some of the prominent signatories to the memorandum were A R Nanda, former Secretary, Ministry of Health and Family Welfare who is now with the Population Foundation of India; A K Shivakumar of the United Nations Children's Fund; Nirmala Buch of the Bhopal-based Mahila Chetna Manch; Jean Dreze, Economist and National Advisory Council Member; and Imrana Qadeer, Professor in the Centre for Social Medicine, Jawaharlal Nehru University.

The Memorandum said that any policy or legislation that bans couples with more than two children from contesting elections is discriminatory and against democracy. The memorandum highlighted that the norm negates the spirit of 73rd Constitutional Amendment that seeks to heighten people's participation in the grass root democratic institutions of Panchayats and empower.

While referring the National Family Health Survey-2 (NFHS) finding, imposing penalties is unnecessary when most people, particularly women, even the poorest living in rural areas and belonging to minority groups, want to have fewer children, without any punitive action.

The memorandum also mentioned about the misconceptions of a population explosion, rather than ground truths and empirical evidence has been shaping public perceptions and influencing decisions. Fertility transition in India is well underway. Population-growth and birth rates continue to fall across India and in all states. Replacement level, or close to replacement level fertility, has been achieved in Kerala, Tamil Nadu, Karnataka, Goa, Andhra Pradesh, Himachal Pradesh, Delhi and Punjab.

In Orissa, the National Alliance of Women's Organization, (NAWO) organized two-day state level convention on 'two-child norm: Its implications and consequences on women' March 6-7, 2005. It is now launched, a year- long campaign to create awareness against the norm amongst Panchayat representatives of Orissa. District level advocacy and sensitization workshops with PRI members on two-child norm are also being organized.

However, there seem to be no coordinated effort s in Orissa. Awareness campaigns are organized sporadically by the NGOs– as and when funds are made available. People are also reluctant to take up the issue as the act was framed at the time of Chief Minister, Mr. Biju Pattanaik.

Elected Representatives Oppose the Proposed the Norm

Till 2003, only activists and some civil society members were raising objections about the two-child norm. Some elected representatives also started raising objections: *The Times of India*, Lucknow, 9 August 2003 reported a movement in Uttar Pradesh - Pradhans against two-child norm by Manjari Mishra- While the State Government waits for a politically suitable time to make two-child norm mandatory for sarpanchs much like Haryana, the idea to "count your children before they are born" has found little favour with this 52000-odd strong army in Uttar Pradesh.

"Why only sarpanch, Why not start with ministers?" Mishra questioned in her article. "If the Government actually wants to control the population graph, it should begin from the top and first teach the ministers and legislators a thing or two about family planning," she reported. A reality check, her comrade, not willing to named, points out, could prove to be a major embarrassment to the UP government specially as the Minister for Family Welfare, Phagu Chauhan happens to be a proud father of seven.

Public Opinion about the Number of Children One Should Have

Should you have a second child? …..An article published in rediff.com by Zelda Pande on September 29, 2004 had invited readers view on the subject. The following some of the views posted by readers' show how the public feels about the issue of number of children, one should have:

How many children does one like to have? "Given today's population problem, one has the responsibility to play his part in controlling it. So, I would say 1 to 2 children is appropriate……" Tanveer on 29th Sept 2004.

India's Population is exploding. Do we need a second child? "Whatever be the merits of having more kids, one cannot escape the reality of India's exploding population. We are already 100 crores, and soon will be 170 crores. China adopted 1 child policy in early 70s itself and today progressing leaps and bounds, while we are way behind in not following the same." Jagan on 29th Sept 2004.

How many children? "…And all those reasons for having 2 children..... our population is the biggest cause for backwardness of our country... If we do not realize this, our children will not live to see the natural resources of this planet and we will be blamed." Chaitanya on 30 th Sept 2004.

2 kids…2 much:"… India faces the major problem of population explosion and will very soon overtake China. The reason why china's birth rate has reduced is only

its strict single-child norm. We have to bring down our population growth rate quickly. ……if a husband and wife have one kid, the number is reduced by half as far as that family is concerned. If everyone starts doing it, the population can one day, be brought down to half." A khil on 30 th Sept 2004.

One is Enough: "There may be a 1001 reasons for having two or more kids, but the question is whether this country has the resources to be able to take the weight of a multi-billion human population. The answer is NO. …….Considering we have already crossed the billion mark, it is high time all of us recognize that we should not become baby producing machines. …….. So instead of justifying two kids, we should go all out to spread the message that one kid is more than enough." DC on 29th Sept 2004.

Most of these respondents are educated and computer literate. The above comments and views shows how such individuals feel about the population issue! Here more than the rights issue, resources, and other factors are the major concerns for limiting the family size to one or two. These views are though not a representative sample of the total educated population, it indicates general views on the need for adopting a small family, whether it through a coercion or voluntary, is not a concern to them. These views are also indicative, why public protests are forth coming against the two child norm.

In support of Supreme Court Judgment

Although several arguments were put against the two child norm, a few members were supportive of the norm. Press aired its views. *Economic and Political Weekl*y in November 1, 2003 published an article entitled, Two-Child Norm - In Defense of Supreme Court Judgment by P N Mari Bhatt. The article supported the Supreme Court's judgment and questioned the outcries of civil society members. In the publication Mari Bhatt questioned the consequences of the norm in Haryana. "…The ban may help to avert a Bihar- like situation cropping

up everywhere. Although fertility-reducing effects of this legislation are unlikely to be large, it would at least help to spread the message that community leaders should be practicing what they preach. "

Supporting the Norm & Coercion

The Statesman, New Delhi, 29th August 2003 published a report by K B Sahay: "Protest against Disincentives Politically Motivated". Sahay reported: T he high population growth is due to government's failure to provide adequate health care and schooling to the people; and use of disincentives to promote family planning is anti-child, anti-women and anti-dalit. Hence, the protesters demand that instead of using disincentives, the government should provide good and adequate health care and education to all and especially to the under privileged class. And these development measures itself, the protesters assert, would automatically bring down the birth rate. However, Mr. Sahay's arguments are flawed on many counts [5];

Factors like male child preference, politics of caste and communal vote bank, religious fundamentalism, male non-cooperation in family planning and political apathy are, for example, some of the major and well-known socio-political hurdles in the success of population control programs in India. So to insist that literacy, health care and poverty alleviation would alone check our population growth as many intellectuals and activists are in a habit of asserting is grossly erroneous. A large percentage of pregnancies in India are as a consequence of husbands 'sexual aggression' and wives' inability to say "no". And the worst suffers of this "biological phenomena" are the women and the helpless children.

IMA praises the Norm

Despite the massive and ongoing drop in India's birth rate, Indian Medical Association President Dr. Sudipto Roy called for adopt ion of a Chinese-style coercive one-child policy. The IMA had just passed a resolution urging Indians to have,

voluntarily, only one child per family. According to a Press Trust of India (PTI) story April 17, Dr Roy said, "…a high-level delegation of the IMA recently visited China and was impressed by the way the country has managed its population growth so effectively. The IMA strongly feels that India has no option but to resort to a one-child norm statutorily to ensure that it does not move towards total anarchy." Though Dr Roy suggested that the IMA itself was going to call for statutes to enforce a one-child policy, *The Times of India* reported April 24 that IMA Secretary-General- Mr Vinay Agarwal disavowed any such plan.

Hindustan Times, Jaipur, 25th July 2005 wrote: "State not to review 2-child norm". It reported Rajasthan government has struck a discordant note with Prime Mister Dr Manmohan Singh's thrust against any coercive measure for achieving population stabilization. The disagreement between the Centre and the State has surfaced over the latter's two child norm for Panchayati Raj Institutions (PRIs), barring people with more than two children to contest for elections or hold any position in the PRIs.

Reversal of the Two Child Norm

After leaning the consequences of the two child norm implemented in the state, Himachal Pradesh and Madhya Pradesh Government took a decision to withdraw the norm. This was welcomed by the civil society, women's groups and many other human rights' organizations. The press too lauded the decision. The civil society's efforts and success in reversing the norm in the states have wider applications. It has shown the maturity in upholding human rights and equity, beyond a coercive family planning program. The learning of these States would be useful for other States.

These above cited examples are not exhaustive. There are several undocumented and on going efforts at various levels which are not culminated. Even if it is a daunting task to convince different layers of policy makers, it is equally important to keep pace of the efforts with the

political developments, in a country as vast and varied as India.

The contributions of UNFPA in India to spread awareness about the consequences of implementing the norm from both population stabilization and human rights perspective are gaining recognition. Its support to developing strategic coalitions for achieving population stabilization by upholding human rights is appreciated at various levels of stake holders. These efforts need to be sustained and vigorously persuaded.

Some sensitive issues in advocating against the two child norm

Formulating effective strategies for advocating against the two-child norm in India is the need of the hour. Essential considerations:

Politics and the norm*:* Politicians representing various levels at governance structure of the society consider this as an opportunity to show their concern about the development and wish to demonstrate themselves as model for others by adopting this norm. They consider this as a progressive step at their end. Since it is politically routed, advocating against the norm would have implications like neglecting the politicians' feelings and actions.

Bureaucracy and the norm*:* The Bureaucrats who are managing the policy reforms are not forth coming to oppose the two child norm due the sensitivity attached to it. They consider that this norm is of political interest and going against the norm would bring criticisms from the political circles and doubt their integrity in the governance structure. Too much advocacy for the Bureaucracy would not yield expected results.

Religion and the norm: Politicians try to settle scores against some religions who are practicing polygamy and have large number of children. Certain political sects think that imposing this norm will dilute their political representation by debarring them from the political process.

***Population stabilization and the norm*:** The population goal of reducing TFR can be achieved through family planning programs either through voluntary or coercive measures. The question is how to bring down the TFR without promoting family planning practices? In order to bring down the TFR 2.1 from the current level of fertility, specific approaches are to be adopted. It is clear that the couples from lower socio-economic strata have more number of children due to varying reasons. It is believed that some sort of incentives, disincentives or coerciveness is required to bring their fertility level down so that they can lead a healthy life. Politicians think that this norm would help to spread the message for small family norm. Those who argue against the norm are considered politicizing the issue for self motives and are stamped as anti poor.

Population vs. Development: A major concern for the overall socio economic development of the country is the alarming growth of population. The increased population consumes more resources for its subsistence; as result of this, development investments are limited. Thus, slowing population growth is a pre-requisite for development. Two-child norm is considered as an option and opposing it is considered as anti development approach.

***Human Rights vs. Two Child Norm*:** Several studies show that the implementation of two child norm is a violation of human rights and reproductive rights of individuals. As per the constitution every individual has a right to decide about the number of children one would like to have. But then why to universalize education, immunization, etc, if one does not like to go for it? If it is for a development benefit, why not have a two-child norm for benefit of the society at large? However, advocating against the norm has been treated as anti- government. Activists/ groups raising slogans are blamed for over-reacting at the behest of international organizations who want to control the nation's resources and policies.

***Two child norm and women's health*:** Empirical evidence from literature and experiences reveal that the implementation of two child norm has had adverse effects on women's health. But the politicians and others, who are favouring the norm, consider this as a pro-women strategy- restricting number of pregnancies and children to those who do not have any control on their reproductive decisions due to male dominancy.

***Internal v s. External*:** Indian politicians consider the norm as a step adopted by them for the national interest. Advocating against the norm creates apathy with them, thereby isolating such agencies or people as anti- nationals. Many feel that it's an internal matter of the country and external forces/ agencies should not interfere in the matter.

The above are some of the perceived sensitive dilemmas due to which many organizations and stake holders are not forthcoming to take the advocacy efforts ahead.

Bank of Arguments for advocacy against the two- Child Norm

The bank arguments should consider the factors described in the previous sections to have better acceptability. It should contain more facts and figures about the larger consequences of the norm, besides human rights issues.

It needs to be recalled that significant demographic transition is occurring in the county. To hasten this required investment in health, education, food and employment are required, not counter-productive punitive measures. If parts of the country have already demonstrated success in population stabilization through changing demographic trends, why is there a need at this juncture to introduce stringent laws that will only push back this momentum?

***Is it possible to achieve the Population stabilization goals with out coercion or some legal steps to promote family planning*?**

Population growth is not a jugglery of a statistician but is a national concern. There is a need to identify the basic reasons for population boom and the possible solutions. It is estimated that about 20 percent of the family planning needs are a still unmet, if they are met through timely and quality services; the total fertility rate would significantly reduce. About one out of four women wants to prevent or postpone her next pregnancy, but is not using contraception. This shows the need for meeting family planning needs rather than imposing norms.

Does the norm have any implications in the society and declining sex ratio?

In a country like India, where the social status of women is low, the decrease in number will further lower their status. The sex composition is an important indicator and a measure of equity between males and females prevailing in a particular society. Changes in the sex ratio reflect the underlying changes in the socio -economic and cultural patterns. Negative sex ratio in states and districts with higher literacy and economic levels is not an artifact, but a reality.

Does two child norm has any adverse effect on Women's health?

Given the low decision making power that women have they will be forced to go in for abortion, violence, psychological trauma etc.

Should we follow Chinese model for Population stabilization?

It is true that the population growth rate has come down in China over the last fifty years. However even if one compares the decline in population growth rate in China since the one child norm was universally applied, to the decline in population growth rate in Kerala one finds that the decline has been marginally more in Kerala. China however has a few problems, which have assumed alarming proportions today. The rate of sex-selective abortion has increased manifold and the number of girl children has reduced so drastically that the norm had to be relaxed some years ago to enable

couples with a girl child to go in for a second child. China is contemplating a law banning sex-pre selection. On the other hand, there is shortage of brides, and incidents of rape, abduction and other kinds of violence against women is also on the rise.

***How it affects the Human rights*?**

The 73rd and 74th constitutional amendment sought to strengthen India's democratic governance by providing constitutional recognition to local self-government bodies. The State's legislation on Panchayati Raj that introduces punitive measures on the basis of the two -child norm deprives them of their constitutional rights by barring them from contesting elections and thus hindering their participation in the political process. The 73rd Constitutional Amendment that made it mandatory to have 33 % women as panchayat heads and members. The act also mandated quota for weaker sections and adivasis in direct proportion to their numbers in the area. The objective was to create space for women and economically and socially marginalized sections to participate in the political process.

However, this progressive effort of the state government to restore the rights of the marginalized has been thwarted by the two-child norm that bars persons from contesting elections. This norm violates several Directive Principles of the Constitution of India as well as several International Covenants that India is signatory to, including the ICPD Declaration.

***Does this norm reduce the population momentum*?**

India is experiencing Population momentum due to young population (Age pyramid of India). Even if we adopt any harsh steps to reduce fertility, there would be a population momentum in next 3 to 4 decades and hence there is need of ensuring qualitative steps for population stabilization. Currently about 23 percent of the population consists of adolescents. It is vitally important to ensure the long term measures to increase age at marriage, age at first pregnancy, spacing between

pregnancies through awareness generation in this group. The norm will not serve the purpose; instead invest more in increasing access to quality family planning services, so that people can accept the family planning services at their own choices.

What are the implications on women due to the norm?

Women, in particular, suffer the consequences of this policy even though they have no autonomy when it comes to family size or sex composition. Few have the power to make choices around contraception while access to safe contraceptive methods and services is another matter altogether.

Extent of unethical practices to get rid of third pregnancy

Preference for male off-spring in the Indian society is a known fact. The two-child norm promotes sex determination tests, more so during the second pregnancy, accordingly some couples resort to abort and wait for a son.

Does the norm go against the younger and marginalized community participating in the governance process?

It is anti-young because young people who have more than two children will be neglected and disqualified from contesting in elections. Imposition of the two-child norm and the disincentives proposed, has had disastrous consequences on the already marginalized population, particularly of women, dalits, adivasis and the poorer sections who bear the brunt of welfare measures being withdrawn by the state government.

What impact will the political persons have on the masses?

This constitutes less than one percent of the population. As per the policy elected representatives should not have more than two children. They are to be the role model for the people. Considering the small percentage they are in they will not have any effect on population growth.

What role can religious bodies play?

Evidence is available which shows that certain sect of community are resistant to adopting family planning method. There is a need of social mobilization in this section.

The experience of recognizing the role to religious leaders, as was done in Iran can be useful for a population which is ill iterate and can be approached through beliefs and faith. Resistant communities do not accept the benefits of small family, hence in such case the need is to organize special programs through the involvement of the community leaders and provide good quality reproductive & child health services including family planning. Educate them about the benefits of a small family. Until now, there has been an emphasis on female oriented awareness generation approach. As men play a major role in decision-making, efforts must be made to increase the male participation in family welfare programs.

Where is the balance: women empowerment and desire for large families?

In areas, where child mortality rates are high, parents choose to have many children. Program should ensure child survival, so that the couples will automatically opt for less number of children. Where women lack self-esteem, employment, schooling, and/or the full legal and social rights of citizenship, they depend on children for status and security. Educate and empower women and provide equal opportunities. Empowered women are likely to adopt small family. Also, reproductive health clinics help promote self-esteem by demonstrating that a woman's life is worth preserving.

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[1] The draft population policy prepared by the Dr. Swaminathan group in 1994, that suggestion was made that State governments should formulate their own population policies. Andhra Pradesh prepared a State population policy in 1997 and Rajasthan in 1999, before the National Population Policy was approved in February 2000.

[2] Dreze and Sen, India" Economic Development and Social Opportunity (1995) See also Gita Sen and Carmen Barroso. "The Women's Movement and Reproductive – health Policies" (1994)

[3] Panchayati Raj and the "Two Child Norm" : Implications and consequences, a summary of the preliminary findings of exploratory studies in Andra Pradesh, Haryana, Madhya Pradesh, Orissa and Rajasthan, Mahila Chetna Manch, January 2003

[4] Public Tribunal, New Delhi, 31st August 2003

Annexure- 5: The Pradeshik co-operative dairy federation sustainability strategy and plan

Aravind Pulikkal

A week long independent study was undertaken to understand the concept of sustainability and strategies for RH/FP programs. PCDF works in two districts; Meerut and Sitapur in U.P. The Pradeshik Co-operative Dairy Federation (PCDF) is committed to develop a sustainability strategy and plan for the Reproductive Child Health Project funded under SIFPSA. The following strategy and plan has been used as the basis for discussion and to develop a final strategy and plan.

I. Key sustainability principles

A broad definition of sustainability includes programmatic, institutional, financial sustainability and community support. Elements include:

- Institutional sustainability including organisational capacity, human resource development, effective management, Institutional sustainability, planning and evaluation systems, flexible and responsive structures.
- Programmatic sustainability including program design, quality of services, broad range of choices for RCH, strong and effective referral networks, appropriate data and MIS systems, quality training programs.
- Financial sustainability including capacity to plan to manage financial diversification, strong financial accounting and cost analysis systems, ability to raise revenue, implement social marketing, community financing schemes and leverage funds.
- Community sustainability including involvement of community in supporting the project and the institution, community mobilisation, broadening linkages and networks to support the institution and its objectives.

Sustainability is not an end share but an on-going process, which should be incorporated in the design or initiation of a project. Sustainability is also an attitude and belief that sustainability is imperative, desirable and achievable. This attitude reflects a business like approach to

management of funds, cost effective operations and a quality service orientation. Specific objectives for sustainability should be based on a solid baseline assessment, including internal analysis of systems, resources, strengths and weaknesses, as well as external marketing analysis.

II. Building on the institutional strengths of the dairy co-operative for sustainability

Co-operatives are organised economic networks that provide their members access to markets for milk and milk products. A co-operative society also plays a key role in improving member's businesses and contributes to the health and well being of all people in the village. PCDF has an extensive infrastructure and an excellent record of achievements upon which to build a sustainable program of health and family welfare.

PCDF's strategy for sustainability will be developed on the strengths of the co-operative networks through its three tiered system: the diary co-operative societies (DCS) at the village level, the Dugdh Utpadak Sahkari Sangh (DUSS) at the district level and the State Co-operative Dairy Federation at the state level.

Through its initial grant from SIFPSA, PCDF has already demonstrated in Meerut and Sitapur its effectiveness in covering 65 villages covering a population of 180,000 through village health workers (VHWs) to expand access to quality RCH services.

III. PCDF sustainability objectives

- To develop cost recovery and other revenue to support recurrent costs at the village level and contribute to financial sustainability;
- To develop an expansion plan for quality services that can be sustained;
- To generate strong community participation and support for RCH;

- To strengthen institutional systems and capacity for sustainability.

In developing the sustainability strategy and workplan two groups of projects have been used;

Two mature project in Sitapur and Meerut, New projects starting up in 6 other districts.

A. Strategy for Financial Sustainability

PCDF will utilise four primary strategies for financial sustainability:

1. Contraceptive social marketing
2. Development of corpus fund
3. Establish fees for services
4. Donations through income tax exemption

1. Contraceptive social marketing

Project in Sitapur and Meerut will implement contraceptive social marketing as an immediate priority. All VHWs and supervisors will be trained in contraceptive sales and marketing. A monitoring system for commodities and fees will be developed and implemented to track sales, revenues and commodities. VHWs will be motivated to increase sales if they are allowed to retain a small percentage based on commodities sold. PCDF will work closely with Hindustan Latex Limited and the SOMARC project for logistics, commodities and training.

2. Development of corpus fund

In the 8 districts covered by the PCDF projects, 20,000 litres of milk per day are collected at milk depots. PCDF is considering a small charge per litre of milk to develop a corpus fund. This fund would ultimately be used to support recurrent costs, such as salaries of supervisors and VHWs. COMPFED (Bihar) has demonstrated the success of a corpus fund in partially supporting the costs of VHWs. Other dairy co-operatives generate fees through milk collections for social and health programs. The development of a

corpus fund would be done in consultation with district milk unions and dairy co-operative societies. A rate of funds mobilised and growth rate should be calculated.

3. Establish fees for RCH services

   PCDF plans to develop a policy for fees and to use the baseline survey as a database upon which to segment the market. Fees may be charged for registration, services or commodities. VHWs and supervisors will be trained in record keeping and simple accounting. Most important, provider attitudes and biases against charging fees to clients will be addressed through training programs. The marketing assessment will provide data on client attitude, willingness to pay, sensitivity to fees and structuring of a fee schedule.

4. Donation through income tax exemption act

   The income tax exemption act enables businesses with additional income or profits to contribute back to their communities and reduce their tax burden. PCDF will identify the most likely groups back to their communities and reduce their tax burden. PCDF will identify the most likely groups (profitable milk unions) and provide information abut the RCH program to interested DCS and milk unions. PCDF will also develop a brochure about the RCH program to educate interested groups on how to support the project.

B. Strategy for Programmatic Sustainability

1. Provide quality RCH services through CHWs

   VHWs should be selected on the basis of their credibility and as trusted members of their communities. They play a key role in ensuring client satisfaction, ensuring informed choice and the availability of chosen methods. Increasingly, the ability to meet the client's needs requires a broader range of services, including safe

motherhood, child health, nutrition, ORT, etc. Periodic reviews of quality services will be undertaken to obtain direct feedback from clients, observe client counseling and review of service data.

2. Establish strong referral linkages:
   PCDF will work closely with district medical officers in order to obtain commodities. It will also formalise linkages with PHCs to ensure quality referral sources. Linkages for other procedures such as post-abortion care, permanent methods, other RCH services will also be developed.

3. Provide quality training for supervisors and VHWs
   Trained supervisors and VHWs are essential to client ensuring a quality sustainable program. PCDF will work closely with UPAA to provide training of supervisors and managers. It will also develop its own training capacity to undertake field based training of VHWs in order to provide on-going training and TA closest to the field.

4. Development of MIS systems
   PCDF will finalise a data system that enables the project to track its own services, supplies and revenue. Quarterly review of data will be undertaken to analyse data trends and utilise data for decision-making.

C. Strategy for Institutional Sustainability

1. Operationalisation of human resources development plan
   PCDF has developed a formal plan to select and hire the best qualified managers, supervisors and VHWs. Its objective is to deploy decision-making and responsibility to the level closest to the field. Assistant project coordinators and supervisors will be trained and accountable for field decisions. Personnel policies governing project staff will be developed and Operationalised. Team building and problem solving will be a focus of managers and supervisor's monthly meetings.

2. Managing for cost effective services

Managing costs and the ability to provide cost effective services is important for sustainability. PCDF will undertake a cost analysis of the two mature projects in Meerut and Sitapur to use as a basis for cost per unit of services and provide comparative data on services costs. IT will then utilise this cost data in planning for improving cost effectiveness and will apply lessons to the new projects.

D. Strategy for Community Participation and Support

1. Community Participation

Project supervisors are in frequent contact with dairy co-operative societies and the villages they serve. Project supervisors will hold monthly meetings with dairy co-operative societies to formality solicit their inputs and involve them in project planning. Project co-ordinator and APOs will also meet regularly with district milk unions to mobilise their support for the RCH project. The project will undertake village based IEC activities and work collaboratively with government schemes and other organisations to link programs, such as income generation and literacy, to provide a wide range of services to the villages.

2. Non-monetary contributions

PCDF leaders and managers will work closely with other officials to mobilise support for RCH project. PCDF will develop a system to document non-monetary contributions to the project at the DCS, district milk union and state level. These include other services and in-kind contributions and time spent by PCDF officials. Community events supported by PCDF also contribute to project visibility, acceptance and sustainability.

IV. Cost Analysis and discussions

Meerut project covers 8 lakhs population with 65,000 eligible couples. The total project cost is Rs

2.5 crores for 5 years. The average client cost is estimated as Rs. 385/-. The cost allocation shows 39.9 % for personnel, 7 % for support (office equipment & supplies), 6.9 % for training and 46.2 % for supervision and monitoring which includes VHWs costs also. VHWs cost itself constitute 34 % of the total project cost.

Sitapur project covers a population of 2.5 lakhs, and the eligible couples are 35,000. The project cost is Rs 1.71 crores for 5 years. The average client cost is estimated to be Rs 470/- (excluding State Coordinator's salary). The cost allocation and breakdown of the project shows, 40 % for Personnel, 10.4 % for office equipment/supplies, 4.7 % for training and 44.9 % for supervision and monitoring (includes VHWs costs). The VHWs cost comprises 30 % of the total project costs.

Though the population coverage of both the projects are vastly different affecting the number of eligible couples as well as the overall project cost, the cost allocation breakdown shows an almost similar pattern. However, the unit cost variation between the projects can be looked into. The support and personnel cost for Sitapur however is higher than that of Meerut. In both the districts, financial allocation for the VHWs comprises almost 1/3 rd of the total project cost. The following strategies can be explored for bringing sustainability.

1. <u>Progressive Sustainability Strategies</u>

   VHWs cost constitutes almost 1/3 of the total project cost. PCDF can develop a plan for phasing out these VHWs costs with community resources and service fees progressively. This itself will bring about 35 % operational self sufficiency level over the years of project period. If each of the VHW covers on an average 5 clients per day at the rate of Rs 2/- as service fee for on an average of 20 working days, each of them can recover Rs 200/- as against their honorarium. This target can be

revised downward or upward with potential possibilities.

2. Integration and Networking with Other Local Health Providers

   In order to maintain the long term sustainability of the objectives of the project, integration strategies of the health service delivery system with the local health providers, governmental and non-governmental should be worked out. For example, training responsibilities could be handed over to Governmental agencies delivering similar services. This will result in recognition and standardization of skill assuring their long term productivity.

3. Performance based incentives for technical staff (providers)

   To increase the overall efficiency of the health staff in terms of quality and quantity of work done, an incentive system based on their performance can be introduced. This will indirectly reflect on the sustainability of the organization, specifically on the reduction of human resource turnover and satisfaction of the staff/ clients and also will help to cover more clients and areas, wherever possible, with less number of VHWs.

4. Building and Strengthening of Corpus Fund

   In a favorable environment, a corpus fund could be used to support the recurrent cost and reduce the donor dependency. The Government of India allows under Donor and Tax Department rules that the NGOs can invest surplus funds generated into interest bearing government bonds or deposit accounts in nationalized banks. Income from it is tax exempt and can be placed in a Corpus Fund for organizational use. Aggressive marketing, transparency in operations and greater credibility is required for the same.

5. Strengthening of Marketing Strategies

   In a competitive local market providing similar services,

financial sustainability can be achieved only when the clients identifies PCDF as a quality and dependable provider. To charge a higher fee for services becomes easier, only once the demand is set. Innovative and assertive marketing strategies should be therefore used to create the demand.

6. Budgeting and setting targets

Monitoring of financial investments and income generation as against the organizational expenditure can work as a regulatory mechanism if the duration is set periodically.

7. Development of Checklist for Assessment

A sound checklist should be developed at the outset as a project design tool. This could be used for self assessment tool as well, so as to monitor the progress in developing and using sound management tools for achieving sustainability. Training needs can also be gathered from the checklist.

V. A case of Meerut Project for sustainability options

Multiple strategies to reduce operational cost and operating revenues needs to be ambitiously followed to sustain the project (Table -1-5). The VHWs can charge service fees @ Rs. 2/- per client contact. On an average 5 clients contacts are estimated daily for 20 days per month. To begin with 1 client is charged in the first, then 2, 3, 4 and 5 in the subsequent years. Thus in the fifth year onwards all contacts are charged, which brings a modest level overall self sufficiency level. This will recover 80 % of the VHWs costs in the fifth year of the project.

Development and support cost i.e. the staff cost except VHWs can be progressively scaled down over the years, by phasing out the development and support staff. The project needs to experiment this over the years by institutionalizing and integrating the development and support cost like training, supervision and project management. Only the supplies and the VHWs cost should be provided by the end of the project

to demonstrate PCDF's capacity to sustain the programs. This may be experimented in the new districts.

VI. Downstream Cost Implications

Assumptions: Current funding ends after 5 years and PCDF need to provide the services to its member communities to maintain credibility amongst its community. The clients are PCDF/ related members. PCDF has a shared vision and objective to sustain project. It has developed a sustainability plan to continue the project programs. It has built institutional capacity. They can contribute substantially towards project sustainability.

The project can be scaled down to its member communities to continue to serve them with quality RH/ FP services where operational costs of the project may be only 20-25 % of the current operational cost. Once a capacity is built among the staff, PCDF needs to institutionalize and integrate this project with their structure. For this scenario, a separate analysis can be undertaken to work out strategies and milestones.

VII. Indicators for Monitoring

- % of operational cost recovered through different sources over a period
- Community contributions, Service fees and Institutional contributions
- Sponsorships of events and Fund raising
- % of operational cost reduced through different methods over a period
- Reduction in personnel costs
- Reduction in support costs
- Reduction in training costs
- Reduction in supervision and monitoring costs
- Progressive self sufficiency level of the project over a period
- Reduction in unit cost of services
- Increase in the revenues generated
- Reduction in the institutional overheads

Annexure- 6: Improving child survival programmes in a rural health care system: experience in India

Arvind Mathur[3] & Aravind Pulikkal[4]

ABSTRACT

The health gains of primary health care interventions are threatened by a decline in the coverage and quality of health programs due to decreasing availability of financial resources. The Aga Khan Foundation has been supporting the primary health care program of Aga Khan Health Services, India with matching 1:1 support from USAID. The goal of the project is to establish a financially and organisationally sustainable health system capable of effectively addressing the priority health needs of the project population in selected villages and provides basic preventive, promotive and curative health services to more than 70,000 residents in 48 villages in two widely separated project sites. Both the project sites surpassed the end of project targets a year before the matching grant was due to expire. The immunization rates among under one are 91%. The rates of both severe malnutrition and LBW have reduced by 40% and 70% respectively. 82% new born were weighed and 83% were fed colostrum. The project has an IMR of 48.6 per thousand live births as against 70 in India. To achieve the goal the project has implemented some innovative approaches for systematic project planning and implementation that include health sector approach model and systems for community participation, support systems, intensive IEC activities to convert the need into demand, analytical approach to program planning and management. To achieve the financial sustainability the project has used

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operational efficiency analysis and introduced a variety of health financing mechanisms. The paper describes the interventions that have enabled the project to achieve its goal, analyse the enabling factors and discusses the lessons from the project which may have more general applicability.

The Aga Khan Development Network and the Aga Khan Foundation

The Aga Khan Development Network (AKDN) is an independent self-governing system of agencies, institutions and programmes that operates to help people of all faiths and origins in the poorest areas of Asia and Africa to improve their living conditions and opportunities. The AKDN builds and supports institutions and programmes that respond to the challenges of social, economic and cultural change, and seeks to build permanent capacities to sustain development. The AKDN is committed to excellence and equality of opportunity, and seeks to empower people to take charge of their own lives and environments.

An institutional member of the AKDN, The Aga Khan Foundation (AKF) is a funding agency, but also involves itself actively in the intellectual genesis and evolution of projects and programmes, as well as in learning from the experience it funds. AKF seeks to promote sustainable and equitable social development in Asia and Africa. The Foundation pursues this goal by evolving innovative approaches to selected generic problems of development, and by testing these approaches through grants to organisations that share its goal. The purpose of these activities is to develop principles and management approaches for social development that can be applied more broadly both by the Foundation's grantees and by other agencies: i.e., AKF is searching for ideas and methods that are replicable. AKF aims to create a critical mass of focused and innovative projects, complementing each other within and across sectors, in order to make a significant contribution to social development. AKF strives to cross-

fertilise ideas and interventions, most often at the community level, through the provision of technical assistance and the documentation and dissemination of lessons learned.

AKF Health Strategy

The foundation's health strategy is based on a commitment to improve the equity, effectiveness and efficiency of health care in developing world. AKF gives special attention to addressing the health needs of children and women at high risk of preventable diseases and death. AKF's early investments in health focused mainly three strategic areas: the development of community based primary health care programmes (PHC); appropriate PHC technology; and community- oriented manpower development. The underlying assumptions of the AKF Health strategy are:

- Health programs will be more effective and sustainable if they integrate medical care, health promotion and disease prevention services; strengthen linkages between medical care facilities and community based PHC programs; and give greater emphasis to addressing other determinants of health, such as water, sanitation, education, income and the environment, as well as health care;
- PHC programs will be more effective and sustainable when they operate within a health system context where NGOs, the private sector, and government health services collaborate to ensure complementarity and maximise coverage and referral support for defined population groups; and
- Health organisations will be able to organise more effective, low-cost and sustainable PHC programs for improving health in poor rural or urban communities in the developing world by strengthening health management and information systems and by involving communities in planning, managing and financing PHC activities.

In the context of implementing its health strategy, AKF gives special attention to four principal themes:

Health System Development: AKF focuses on improving health status by encouraging better utilisation of existing health delivery services and creating stronger links between community-based PHC initiatives and health care facilities (hospitals, clinics, etc.). Conscious of the need for greater integration between curative and preventive care, the Foundation has supported development of integrated health systems that incorporate environmental health interventions.

Sustainability: AKF promotes the sustainability—especially financial sustainability—of community-based health programmes as well as the sustainability of the overall health care delivery system by supporting community participation and contributions in cash and kind.

Management Strengthening: The managerial efficiency of AKF-sponsored projects and programmes is increased by applying tools such as the PHC Management Advancement Program.

Action-oriented Health Research and Policy Advocacy: AKF supports action-oriented research that contributes to a more profound understanding of how to enhance and sustain health status improvements in poor communities and disseminates the results and lessons learned from AKF-financed initiatives to encourage programme replication and, where warranted, changes in health policy.

Background and Description of the Project: The Aga Khan Foundation has been supporting the primary health care programmes of the Aga Khan Health Service, India (AKHS,I) since 1988. In 1994, with matching support from USAID's Office for Private and Voluntary Co-operation (PVC), AKF financed the "Junagadh and Sidhpur Health System Development Project". This project has enabled AKHS,I to provide basic preventive, promotive

and curative health services to more than 70,000 residents in 48 villages in two widely separated project sites in Gujarat State. The goal of the project is to establish a financially and organisationally sustainable health system capable of effectively addressing the priority health needs of the project population in selected villages. The purpose of the project is to provide affordable, integrated health promotion, disease prevention and selected primary, secondary and tertiary clinical services. The services are targeted to reach vulnerable groups, i.e. women in the reproductive age group and children less than five years of age.

Findings: The project has used innovative approaches to organise and manage the health system and services, and introduced a variety of health financing mechanisms to ensure financial sustainability. These managerial and financial approaches have contributed to achieving a 90% coverage rate with basic health services and financial self-sufficiency of 60%. Both project sites surpassed the end-of-project targets for financial sustainability and health service coverage one year before the Matching Grant was due to expire. (Figures at the end of text depict the yearly achievements for child and maternal health indicators in two project sites). These are intermediate results over a period of three years but their long term impact and sustainability may need to be assessed. Increasing community awareness regarding vaccine-preventable diseases through mass media, intensive and routine immunisation programmes and health education by health workers appear to be the principal interventions that contributed to increased immunisation coverage rates, decreased levels of malnutrition and reduced numbers of low birth-weight newborns. Child Survival and Safe Motherhood interventions (CSSM) have been continuously strengthened through good referral and high quality health service support. While there have been a few communicable disease outbreaks in the State of Gujarat, there have been negligible or isolated cases in the project area. As

a result of high level of immunisation coverage the area is almost a polio free area. In addition, the project has achieved 60% operational self-sufficiency.

The following sections describe the approaches that have been adopted to increase financial sustainability.

THE SUSTAINABILITY ASPECTS

The Project sustainability In the AKDN context, sustainability is expressed in terms of:

- programs;
- institutional operations; and
- financial self-sufficiency

(a) ***Programmatic Sustainability:*** Programmatic sustainability includes meticulous program planning, need-based but demand- driven programs and services, quality and range of services, efficient and effective referral and technical back-up systems.

(b) ***Organisational Sustainability:*** Organisational sustainability includes organisational capacity and political commitment, need-based logistics and infrastructure, capacity to manage and market, surveillance systems, human resource management and development and flexi-time approach to respond to the growing and changing needs of the environment.

(c) ***Financial Sustainability:*** Financial sustainability includes capacity to plan and manage financial resources, financial and cost tracking systems, ability and potential to generate revenues and alternative financing mechanisms.

(a) <u>Programmatic Sustainability:</u>

AKHS,I has identified the conditions that make a child vulnerable to diseases and ailments and developed family health care packages. These packages are designed to cover the general health needs of the community and the special needs of mothers and

children. The project generates demand for these services through information, education and communication (IEC) strategies and social marketing approaches. Maternal health has been addressed through anaemia control programs for the women in reproductive age group and pre-and postpartum services. Since children with mothers in ill-health are often at high risk, the project's child survival strategy begins by addressing maternal health issues and then moves to provide immunisation, growth monitoring and school health interventions for young children.

The following are among the programmes offered:

- Child Survival & Safe Motherhood (Immunisation, Growth Monitoring and Promotion, ANC, PNC, Referral and Counseling)
- Family Welfare
- Control of communicable and non-communicable diseases
- Basic curative services
- Diagnostic services
- Referral system
- Program support systems

The objective of the project is to address preventive and basic curative needs of the families living in a catchment area through awareness programs and community and facility-based services. Protocols and check lists have been developed and implemented to ensure the quality and range of services provided.

Health staff spends about one-third time delivering basic curative services; the remainder is spent on disease prevention and health promotive activities that meet community needs. The community health worker manages routine and minor health problems, supported by a visiting doctor. Back-up diagnostic and facility-based services are available on referral. This approach has ensured the timely and appropriate delivery of basic health care.

The package of child survival services is constantly being improved. Check lists have been developed and implemented to

maintain and improve the quality. Gender sensitive approaches have been initiated. Prophylactic Hepatitis B immunisation was started. Introducing and maintaining these programs call for systematic planning, supervision and assessment. Surveillance systems monitor key indicators, e.g., the prevalence of the six vaccine-preventable diseases, coverage with TT, under-five and under-one mortality rates, etc. This system works as a monitoring device to evaluate the effectiveness and programmatic sustainability of the programme.

(b) Organisational Sustainability:

Organisational sustainability has been increased by introducing management systems and procedures that reflect quality standards, ethics and practices. At the community level, the project focuses on developing human resources, enhancing the capacity of broad-based community organisations, and encouraging the participation of women in the community governance systems. The project has empowered community organisations to manage their village health facilities and to alter their behaviours to improve and sustain health gains. Community participation has been strengthened and promoted through a network of volunteers. Community Health Volunteers (CHVs), who live in the community, play an important role in assuring the delivery of basic health services. CHVs at least one per villages are identified and trained by the project staff. In the future, the project plans to introduce one Community Vaccinator (CV) in each sector. In the coming years, these approaches should ensure organisational sustainability through community ownership. High levels of community involvement should also reduce the unit cost of health services. Also, since the project collaborates closely with the government on programs such as child survival, safe motherhood and family welfare, many basic costs, e.g., materials and commodities, are kept to a minimum,

(c) Financial Sustainability:

The Project has adopted a two-fold approach to achieving financial sustainability. First, the project seeks to contain costs without sacrificing effectiveness and programme comprehensiveness. Second, the project works to develop innovative revenue generating methods while ensuring access to those most in need. This approach has enabled operational self-sufficiency to increase from 16.4% in 1994 to 68 % in 1997.

Methods include cost-containment mechanisms, resource mobilisation, alternative financing schemes, in-kind contributions from the government and donor agencies, and user fees. Cross-subsidisation between (a) different geographical areas and (b) secondary and primary facilities are fundamental to financial sustainability. The table of annexure1 provides utilisation of health centres for primary health care services (basic curative, preventive and deliveries) and operational self sufficiency of centres achieved through them. It is significant to note that the PHC services contributed 30-40% to self sufficiency. The income generating diagnostic services contribute another 20% as a mean of cross subsidisation to primary health services and remaining comes from Alternate Health Finance mechanisms.

To develop mechanisms to ensure financial sustainability, the paying capacity of the community had been assessed through community surveys and Focus Group Discussions (FGD). The analysis revealed the absence of village-based, highly desired health services and an expression on the part of the respondents to contribute to establishing facilities and maintaining operations and thereafter towards its upkeep including medicines, diagnostic treatment, and even the doctor's fees, according to the paying capacity. The major reasons for coming forward to make such contributions work that the facilities would provide services at the door step and save them the frequent transport charges as well as time,

provide quality services including diagnostic and would cost less than the current expenditure in terms of private doctor's fees, transport and other expenses.

Alternative Health Financing

Since the beginning of the Health System project, it has tried and tested different ways and means of alternative health financing with a mission of sustainability; a means to self help. By considering the socio-economic status of the community and the availability of other local resources—land, labour, materials, a range of mechanisms was explored. Many have been tried, some were found very fruitful; others are still being tested. The approaches tested in Sidhpur and their results are listed below. When reviewing these mechanisms in the context of Sidhpur, it is important to emphasis that financial sustainability depends on effective management and active community involvement as well as financial resources. The alternative financing has taken three forms-cash, in kind and services.

- **Programme Sponsorship** takes place when individuals, the community groups or organisation support an event or programme. Immunisation sessions, health education programmes, different training programs, medical check-ups, etc. have been supported in this fashion. This approach contributed 55% of the operational cost and 65% of the special programme cost. Each community has a few well placed individuals who can donate/contribute land, building, materials, stationery etc. Donations are limited in nature and influenced by the socio-economic status of the area but often play a significant role in raising capital to establish facilities.
- **Pre-paid package service schemes** call for a lumpsum payment for a package of services. A maternity care package has one price that entitles the purchaser to antenatal, deliver care and

postpartum services. A one-time fee paid during the first trimester entitles the women to all services. This package has ensured timely, standardised quality service, increased revenue by 20%, and contributed a 12% increase to operational self-sufficiency.

- **Other fund raising activities** consist of health and non-health-related activities like exhibitions, concerts, film shows, etc. The applicability of this program depends on the economic potential of the area and the perceived value of the programs. This approach has had a poor response in rural Sidhpur.
- **Voluntary Services** call on community members to participate in the planning and management of social programmes. Difficult to mount and sustain, voluntary efforts can increase the sustainability of community-based initiatives. Such voluntary efforts/ services are very positive and encouraging methods of alternative financing.
- **Community Health Funds** require the community to contribute to the commodity costs of an operating health centre. In a rural PHC set up revenue from the medicine distribution is more or less equal to operational/recurrent cost. The fund can be raised through collective contributions and donations. The size of the fund can be determined by analysing the area health needs, pharmaceutical requirements and pharmaceutical policy and rational use. If the community is fully aware and supportive, each household can be asked to contribute a small amount on a quarterly basis (The amount can be determined by dividing the total pharmaceutical requirement by number of households in the area/villages). A very small amount is contributed by each family, e.g., INRs.10-40 quarterly, that can cover operating expenses.
- **Co-operative financing** is based on the willingness and ability of community organisations to pay for health care. In Sidhpur, milk co-operatives, credit co-operatives, Mahila Mandals

receive and distribute income. In most of the villages of Sidhpur, dairy farming is one of the major occupations and the milk is sold through the village co-operatives. On exploring the options available for making the health services sustainable through sustainable sources, it is assumed that if a financing method is developed where the villagers may have to contribute 3 to 8 paise per litre to be deducted through these milk co-operative societies and the same could go to the health account. Thus the quantity of milk given by a member will decide the amount allocated for his/her account. A sum of deficit amount would be available on a mutually agreed but periodic basis to the centre to achieve the operational self sufficiency. This will be a simple method without any additional efforts and will enable the health centres for meeting the operational expenses and in turn optimising the utilisation of the facilities. As it a commitment of an organisation (co-operative) to an organisation (health centre) it would be a more sustainable source without incurring any additional administrative cost. This contributed to meet all deficits (48%) of the health centre and became self-sufficient.

- **Other sources** come in the form of user fees and donations from agencies. **User fees** are levied from the patients/beneficiaries of services. Though the recovery of the total cost is not possible, it contributes significantly towards operational cost. As a major source of revenue, it contributes 30-40% of the operational self-sufficiency.
- **Other agencies** both governmental and non governmental contribute materials and aids like posters, pamphlets, booklets, vaccines, delivery kits etc. This is an effective method of alternative financing for controlling recurrent costs for supply.

All these health financing mechanisms are possible only if the progressive transition has taken

place from Medical to Health to Social model (people's health in people's control). Marketing of services, institutions and programs are to be given due emphasis for the success of these programs. The success, once again, depends on socio-economic status, health awareness of the population and credibility of services and outlets. Somehow a feeling of "Consumer Surplus" is to be created for, not withstanding how much one pays, the quality of services is uniformly provided which will increase the number of entrants. However the replicability of each mechanism has to be decided based on the area analysis.

THE SUSTAINABILITY APPROACHES

AKHS,I recognised that PHC services can only be sustained with subsidies from income generating facilities, innovative alternative health financing mechanisms and that decentralised project management within a framework of sound institutional policies that respond to community needs achieve more sustainable results. These lessons applied to strengthen the management and sustainability of the health system. During the project planning phase different studies were conducted to understand the priority health needs of the population to organise the health system. Some innovative approaches conceptualised and implemented for systematic project planning and implementation include; health sector approach models and systems for community participation, support systems, intensive IEC activities to convert the need into demand, analytical approach to program planning and management. It also includes creation and inclusion of responsive community management structures and programs to sustain community interest, capacity building, development of progressive sustainability strategies and alternative financing mechanisms. The community involvement at the design and planning stages were critical since community endorsement leads to the mobilisation of community resources, improved acceptability, enhanced

prospects for overall organisational efficiency and sustainability.

(i) Health Sector Approach to Program Development and Management

To improve access to essential health care, AKHS,I adopts a 'health sector approach' where community is involved in planning, implementing and monitoring the health programs and assist in reaching out to the remote population. This is a decentralised community based approach to the development of health system that relies on the optimisation of resources. This geographically defined sector is a unit of one or more villages or clusters of population with clearly defined responsibility for providing primary health care. It is an innovative concept for local planning where each locality or geographic region uses its own potential to fulfill its needs with its own resources. A belief fundamental to this approach is that community should take care of its health problems by achieving self sustainability of services. The approach is introduced to make services more accessible (available, affordable and acceptable) and self sufficient by making the services more efficient and cost effective. The aim of this approach is to transfer management and decision making to the people by using local level planning and management.

To meet the priority heath care needs of the population a four tier approach is adopted instead of three tiers as in other existing systems (Annexure2). The first tier provides community based health care with emphasis on preventing diseases and promoting health. This included Village Health Committee (VHC), responsible for program implementation. Community Health volunteers (CHV) are chosen from the community who ensure timely implementation of different programs. They also provide basic non technical primary health care services to the community.

The second tier include village as 'program-implementation unit' and Nodal Point (Sector), as 'planning-

management unit'. An elected Health Sector Management Committee is responsible for planning and managing health programs in the sector. The third tier, at the district or regional level provide prioritised secondary level services, technical support and referral back up to the health sector. The fourth tier is the tertiary level and provides specialised services to support the entire system.

The community based primary health care services are supported by qualified medical and para medical staff at Health Centre. These Health Centres (HC) are linked to Medical Centres (MC) and diagnostic and laboratory services. Such a system increases the availability and range of services and improves accessibility. It provides for level care and referral system. By providing quality care services, active community participation through community governance system and developing human resources, the project generated and sustained an effective demand for range of services. At present project is partially managed by community organisations (Community Management Committees) which have clearly defined reporting relationship from the grass root level health committee to top level committee and co-ordination with professional staff at each level. Community felt needs have been met more successfully with this approach.

(ii) Community Participation for Sustainability

For AKF, projects will not be successful without active community participation. Participatory approaches foster the emergence of local competence and enterprise; project benefits are likely to be shared more equitably. A local feeling of ownership is more likely to lead to local investment of time and money in a project and, consequently, to sustain benefits. The corner stone of this program has been the active involvement of the community. The community is involved from the very inception to the entire program planning, implementation and maintenance process. During implementation community governance system (Fig1) are created and active roles

are assigned to the community members. The community dialogue is an on going activity of the program. Community support has been forth coming in different forms like material and financial support, besides the time and voluntary services being offered by the members. Community contributes towards various health facilities development and expansion, acquisition of equipment/ furniture and training program for volunteers etc. Community human resources are developed with the intention of enabling them to own and independently manage the program. The program information is shared formally and informally on a regular basis and the issues discussed in a participatory manner. CHVs and LHVs who form the backbone are selected from the community, trained and technically supported to serve the communities. Volunteers from local community play a key role in establishing acceptance and eventually in organisational and financial sustainability.

(iii) Referral system to meet the unmet needs

To link effectively the essential components of community based PHC with higher level care, a working referral system is required. Currently, AKHS,I facilities provide most preventive and promotive care. Clients requiring emergency services at primary, secondary and tertiary level are referred to qualified providers and facilities, linked with the AKHS,I program. The present referral system had been developed through a process that had involved steps from analysing the needs to identifying the lacunae and then bridge the gaps by developing linkages with other providers. One of the limitations of the present referral system has been lack of control on quality of services from outside providers even though an understanding is developed to address these issues.

(iv) Collaboration with other agencies

The project shares an excellent rapport with the government health

department and various programs are jointly organised by the staff on both sides. By collaborating with the government it avoids duplication and supplements the existing system. Immunisation camps are conducted regularly in villages by LHVs and ANM. The project receives material aid from the government in the form of health education material, vaccines, drugs supply especially IFA tablets, Contraceptives, ATT drugs and delivery kits etc. Documentation on the practices and results of the project, provided to the government and other health providers, contributes to the dialogue on health policies and practices that is under way in India.

AKHS,I also collaborates with Muniwar Abad Charitable Trust (MACT) and AKRSP(I) in implementing Environmental Sanitation Program (ESP). The Foundation has supported the collaborative effort of these NGOs as it has learnt and believes that health is not to be equated with health services but evidence suggests that non clinical services such as water supply and sanitation play a more important role in improving population's health status. AKHS,I is responsible for IEC activities to create an effective demand of sanitation services and also to bring change in personal hygiene behaviour of people.

(v) Information System related to PHC

MIS refers to the collection and production of information useful to managers for programs/project planning and monitoring such as health status indices, health services activity, population covered by services, supplies consumed etc. Since the information is imperative in effectively pursuing the objective of PHC, the collection, processing, storage and dissemination of appropriate data must be properly managed. The project uses a combination of output and outcome indicators for monitoring and evaluation. The data on critical indicators is collected and compiled monthly and analysed quarterly. The management information system generates quarterly progress and

allows staff to plan interventions to enhance program performance. The quarterly monitoring reports are shared with the field staff and feed back is given to the community through community organisations and IEC programs.

SUSTAINABILITY ISSUES AND FACTORS

To date most PHC programs appear to be able to recoup very low percentage of their development costs from user's charges. This raises the question of whether effective demand exists for PHC programs, especially among the poor. The issue of effective demand has important implications for the financial and organisational sustainability of PHC projects. The fundamental importance of community participation in ensuring health programmes sustainability has been well documented. In the "Junagadh Sidhpur Health System Development Project" a number of other important observations can be made on the factors facilitating the development and operation of the program, lessons learned to date and important issues that still need to be addressed:

Facilitating Factors:

- The type and degree of involvement of the local community contributed towards acceptance of the program and ensured resource mobilisation from community.
- The emphasis on quality care and level care has generated demand and ensured optimal utilisation.
- The spirit of volunteerism amongst the community afforded a much needed scarce human resource.
- The two way co-ordination and resource sharing between government, other health care providers and AKHS,I has helped to evolve a supplementary health care system in the area.
- The financial and technical support provided by the donor agency has helped in the implementation of project.

Lessons Learned:

- The sustainability of program and finance is highly influenced by the degree of community participation.
- Sustainability strategy should be the integral part of project operational plan.
- The program should be need based but demand driven.
- Quality and continuity of the services are important for sustaining the interest of community.
- Fee for services is found to be an effective method of cost recovery for operational costs.
- Progressive sustainability strategy needs to be in built for monitoring the project progress.
- Services of volunteers, community financing and sponsorship of events/programs are another way of alternative financing.
- Community ownership in planning, implementation, management and financing with an emphasis on self help is an indicator for sustainability.
- Accessibility, availability, acceptability, affordability and appropriate technology are key factors for PHC programs.
- Management competency is an important factor for effective implementation and hence sustainability.
- HRD techniques are crucial to sustain staff motivation and build community human resources.

Issues Remaining:

- Demands for new health facilities/services grows at a faster rate that what can be sustained.
- The cost recovery mechanisms, such as user service charges, have to be stepped up gradually. This delays the achievement of the break even point.
- Sustainability takes time. The funding agency should, therefore support for longer term.
- Expectations of various partners, government, individuals etc. often do not conform to the reality.
- Competition with providers of low quality services affects the sustainability.

- With the emergence of market economy, it is difficult to recruit dedicated development professionals.

Replicability and Scaling Up

The Project plans to extend services to an additional 15,000 residents in Sidhpur and Junagadh by replicating the existing project approaches. In Junagadh, AKHS,I will provide technical and managerial support to the public and private sector health providers and communities who are partners in the project. Since providing health services is only one measure to improve health status, in future the Project will test approaches to increase the income of women by partnering with agencies that promote social and economic development of women and also promote behaviour change and interventions focused on illness prevention, e.g. house hold sanitation and hygienic practices.

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Figure- 1 : Community Governance Process

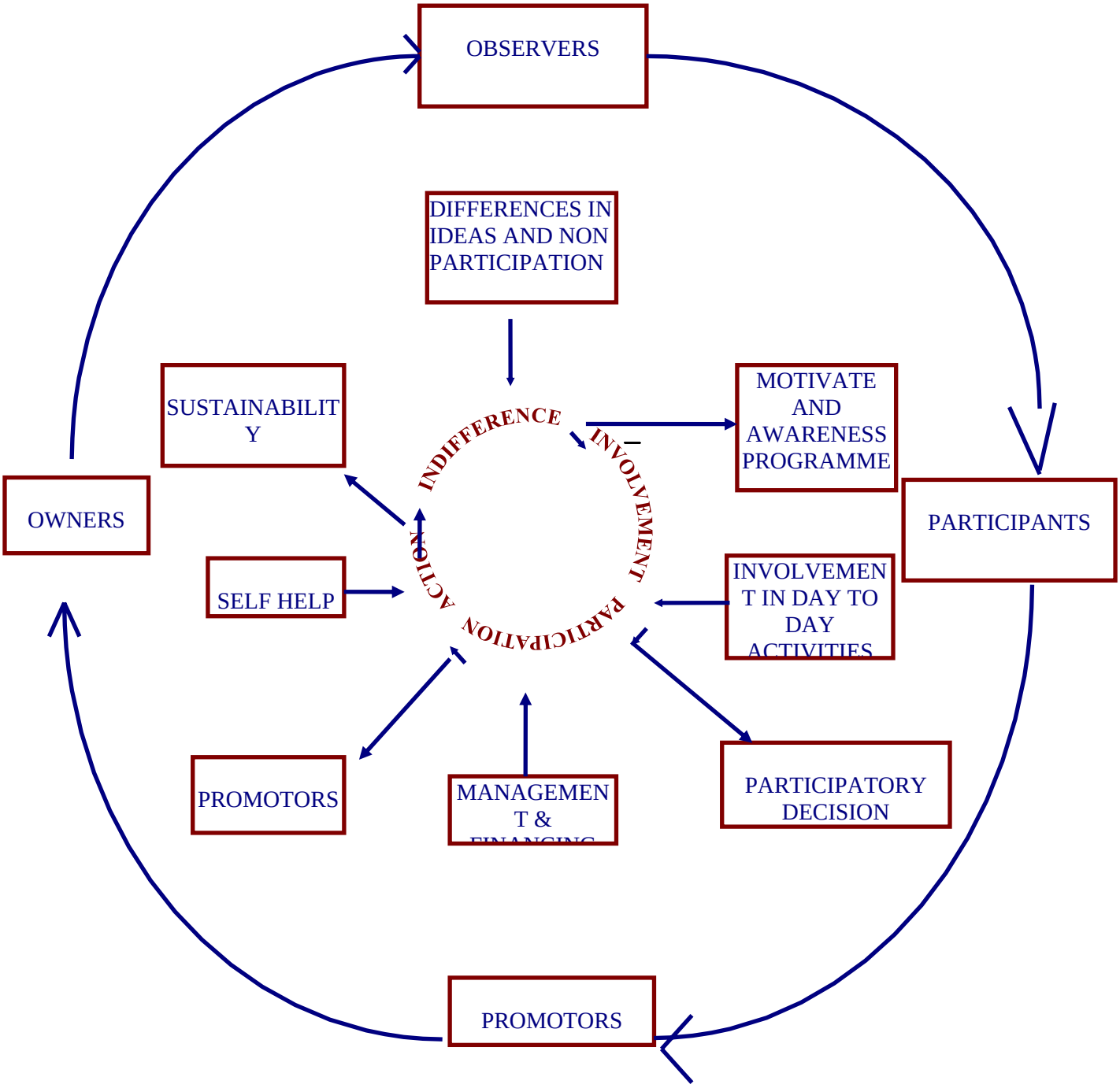


Figure- 2: Program Performance Indicators

CHILD HEALTH

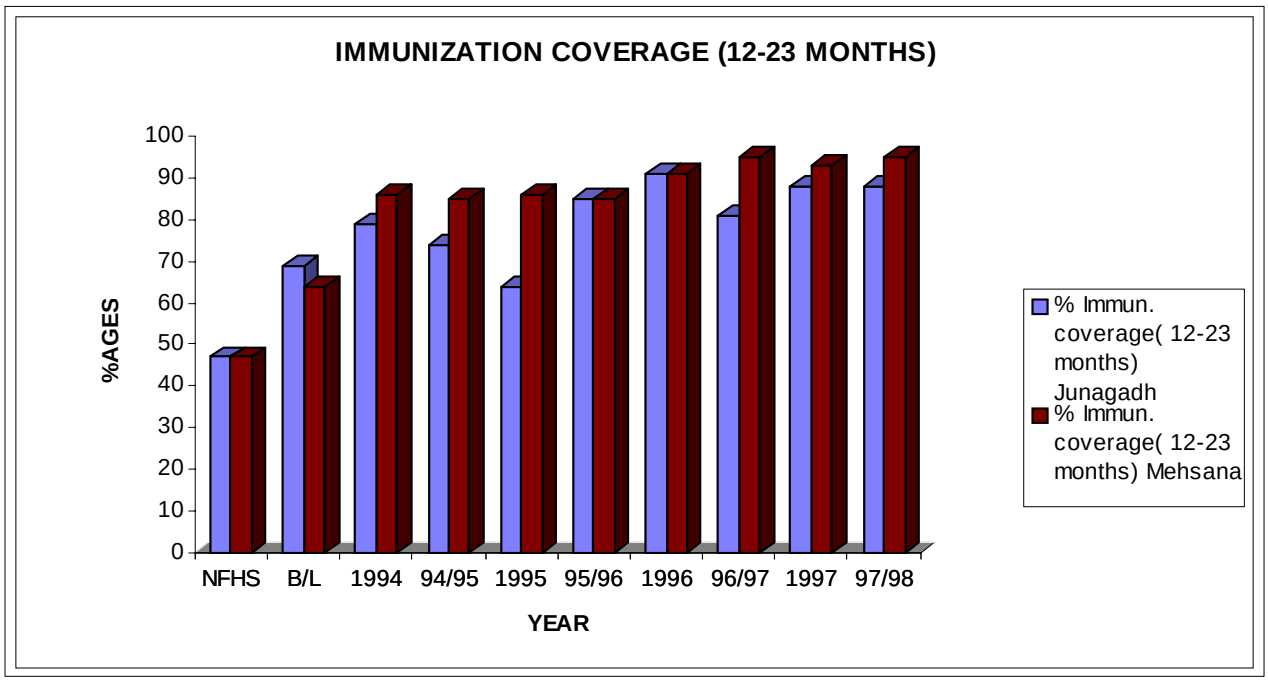
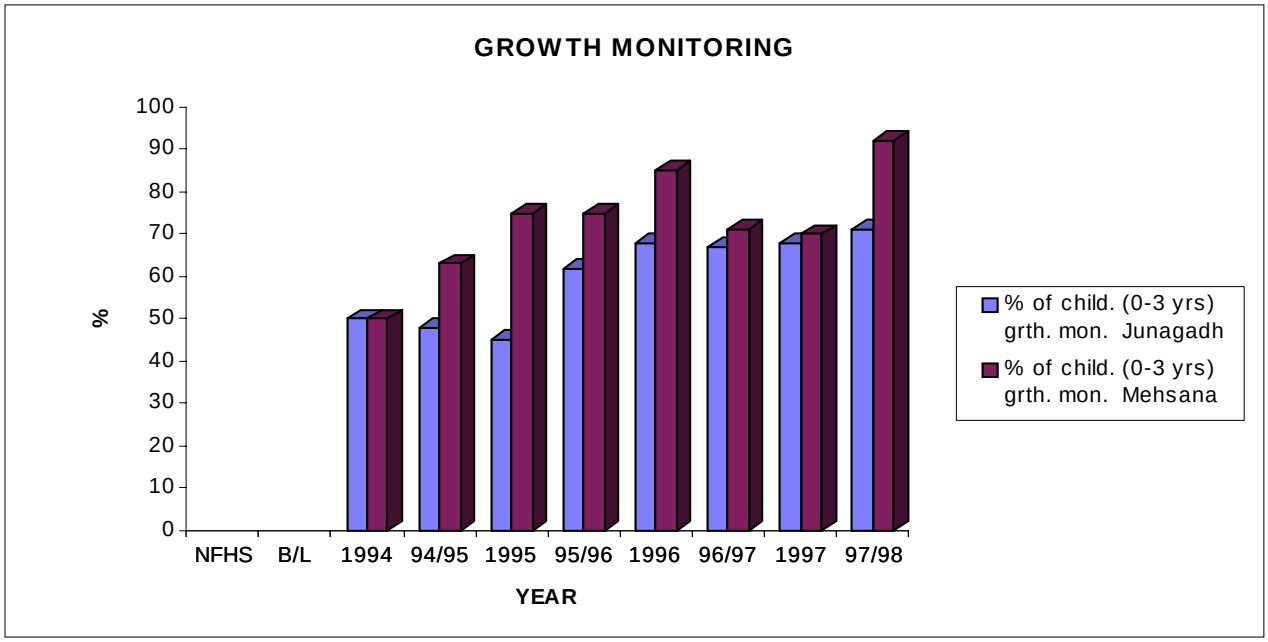


Figure- 3



Source: National Family Health Survey (NFHS), 1993, India IIPS, Bombay; AKHS,I, MIS report; and Baseline survey 1996- CORT, Baroda

Figure- 4

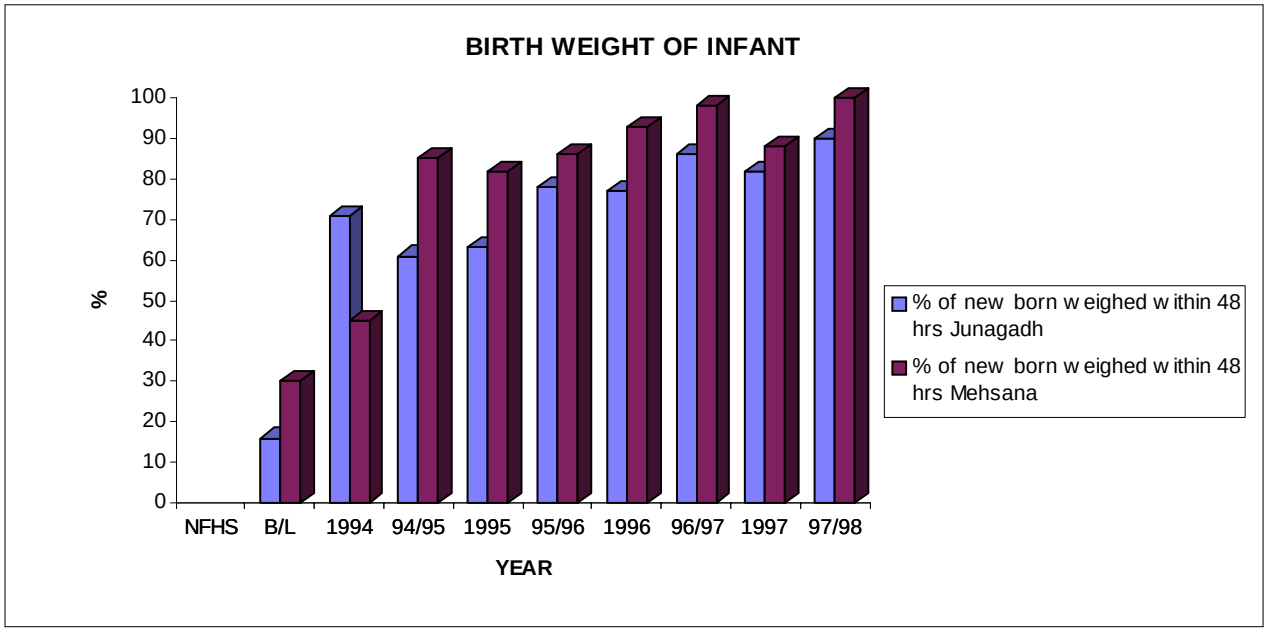
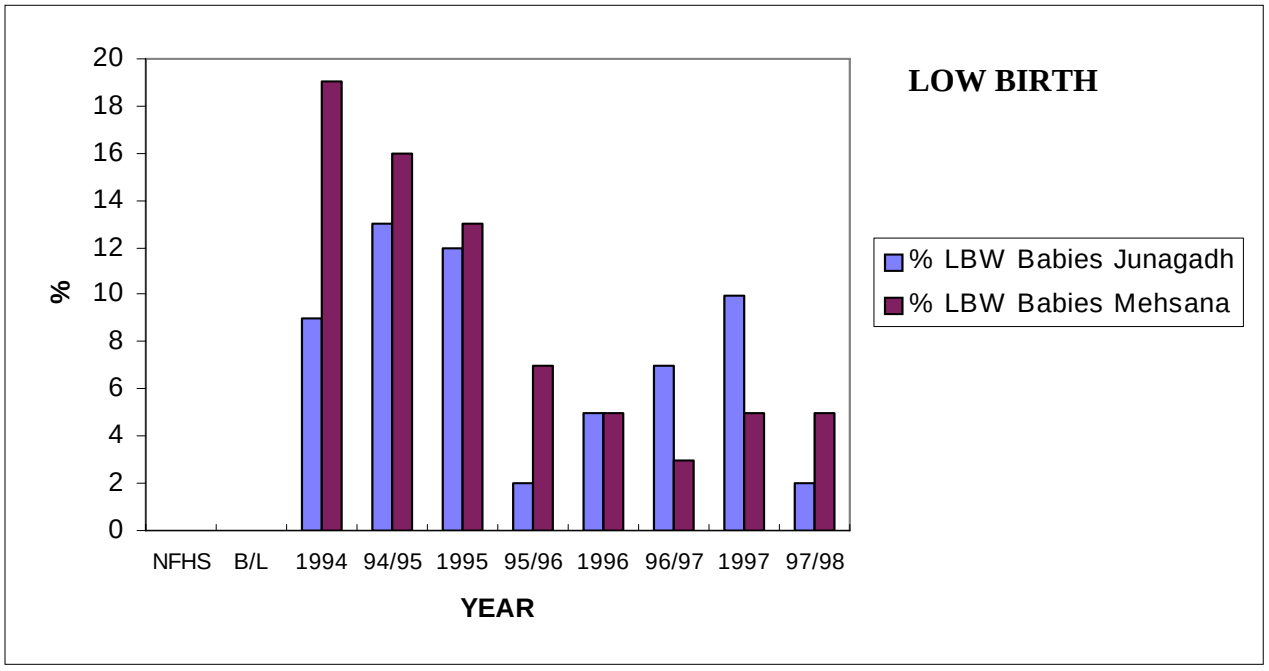


Figure- 5



Source: National Family Health Survey (NFHS), 1993, India IIPS, Bombay; AKHS,I, MIS report; and Baseline survey 1996- CORT, Baroda

Figure- 6

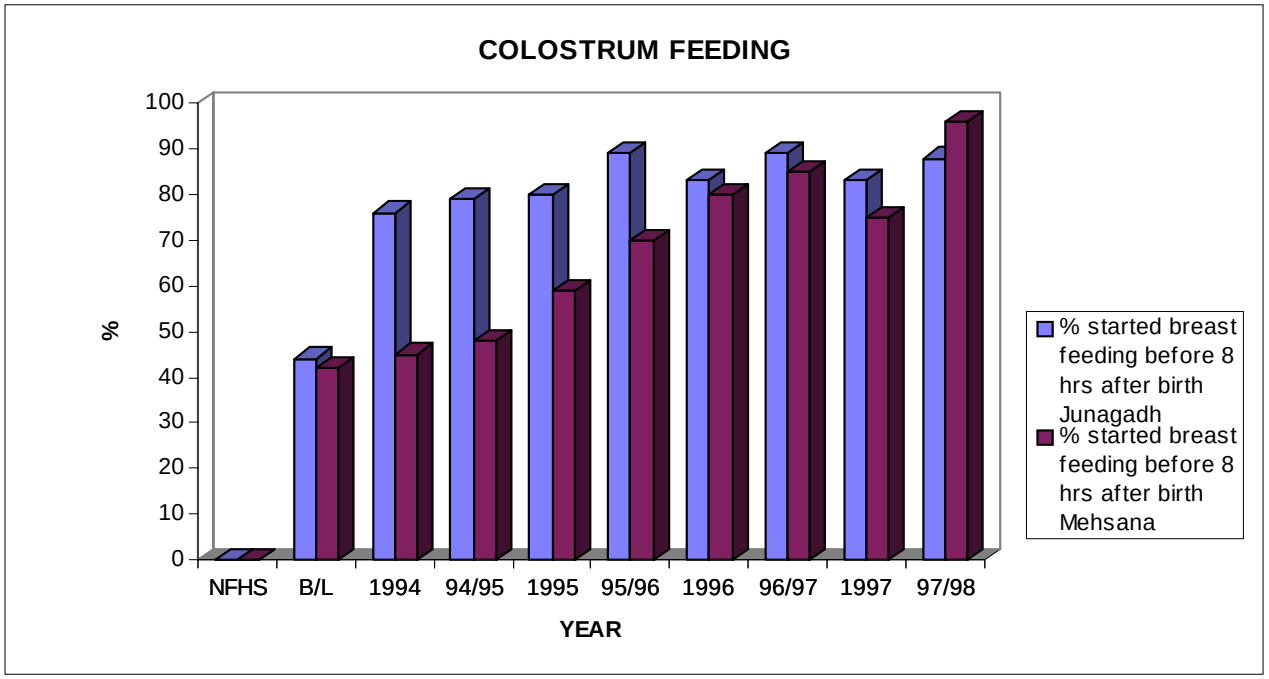
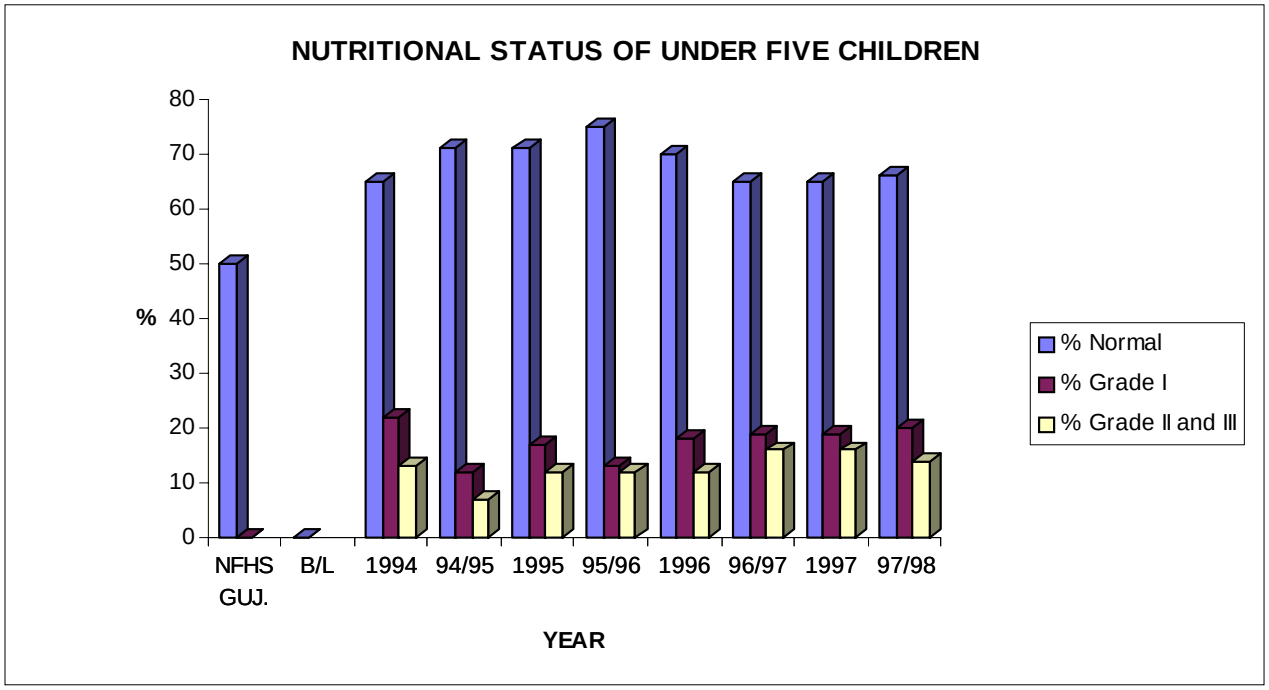


Figure- 7



IMR TRENDS (PER THOUSAND LIVE BIRTH)

1994			1996			1997		
India	Gujarat	Project	India	Gujarat	Project	India	Gujarat	Project
73	64	70	72	62	NA	NA	NA	48.6

Source: National Family Health Survey (NFHS), 1993, India IIPS, Bombay; AKHS,I, MIS report; and Baseline survey 1996- CORT, Baroda

Figure- 8

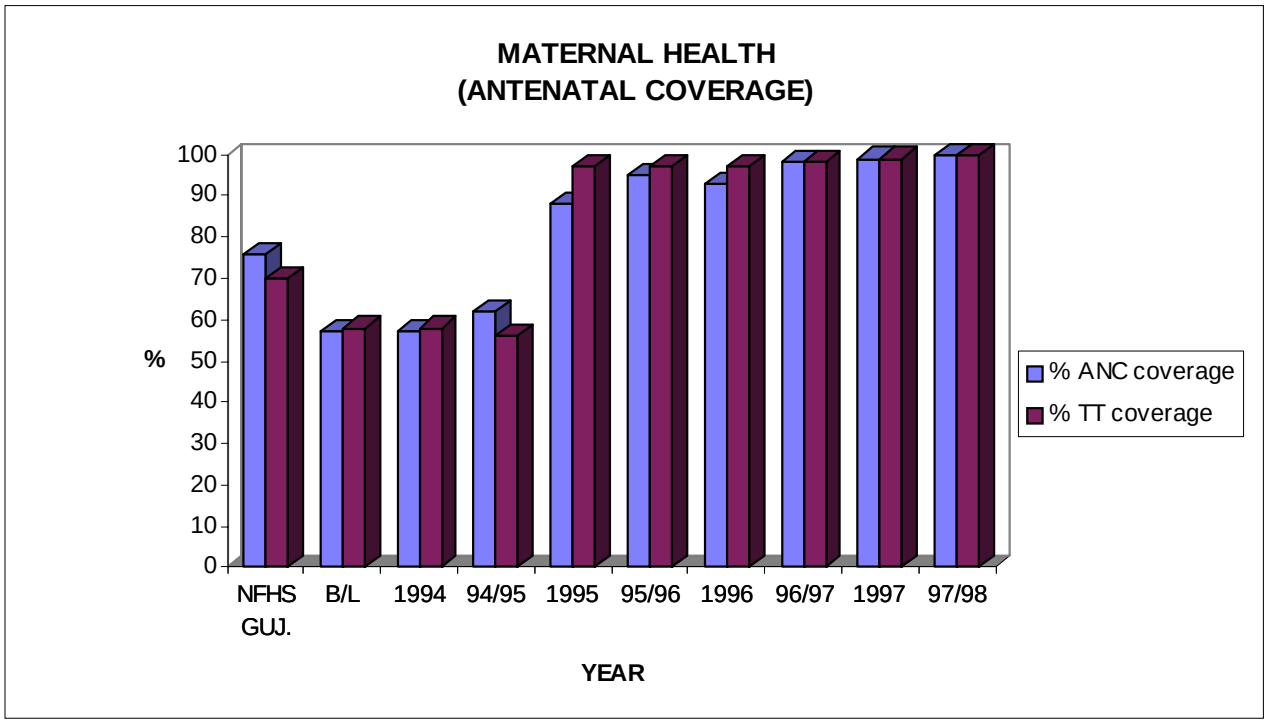
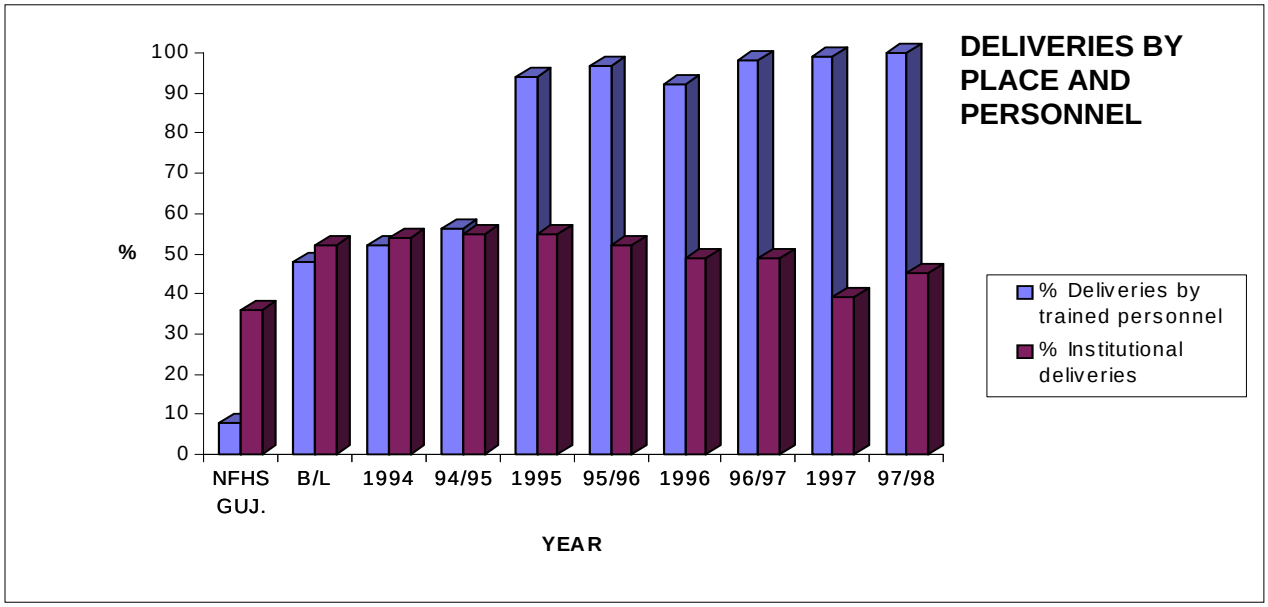
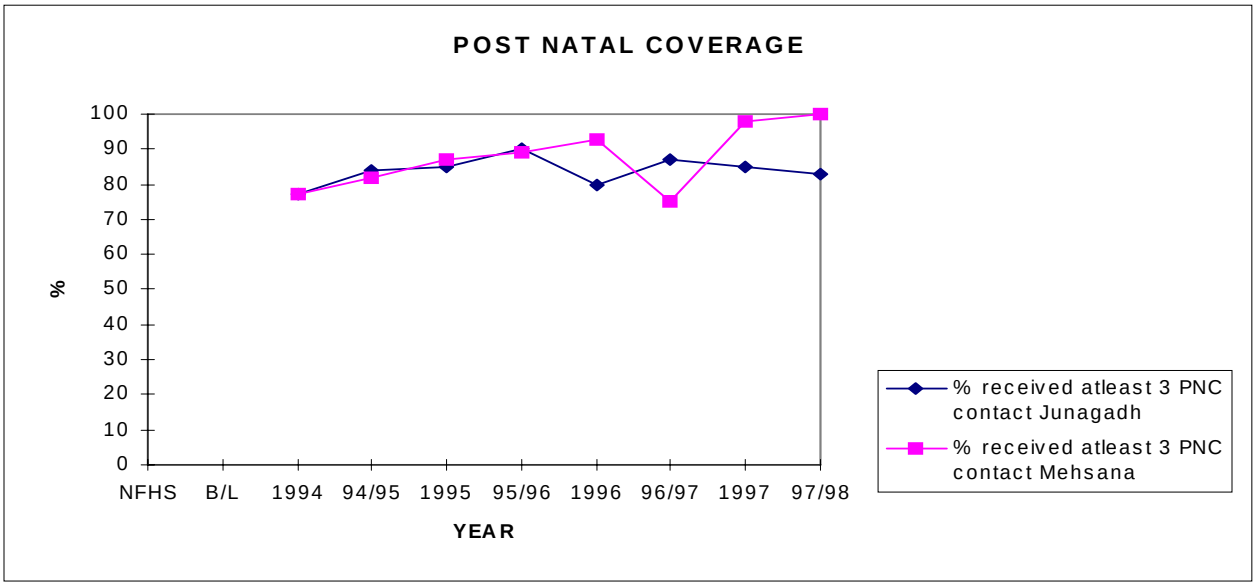


Figure- 9



Source: National Family Health Survey (NFHS), 1993, India IIPS, Bombay; AKHS,I, MIS report; and Baseline survey 1996- CORT, Baroda

Figure- 10



Source: National Family Health Survey (NFHS), 1993, India IIPS, Bombay; AKHS,I, MIS report; and Baseline survey 1996- CORT, Baroda

ANNEX - I

UTILIZATION OF HEALTH CARE CENTRE AND FINANCIAL SUSTAINABILITY 1995-97

Health Centre	Curative Service (OPD) #			Preventive+Delivery #			Self Suff. Lvl %		
	95	96	97	95	96	97	95	96	97
JHS	8724	14606	13394	4847	16492	12608			
SHS	16029	19566	26938	2244	7209	7606			
PROJECT	24753	34171	40332	7091	22701	20114			

Health Centre	Income (Rs.)			Expenditure (Rs.)					
	95	96	97	95	96	97	95	96	97
JHS	42622	261661	203970	108093	640448	766894	39	41	27
SHS	38121	244661	361338	99983	493807	636915	38	60	67
PROJECT	80743	506112	686358	208076	1134255	1401809	39	46	40

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Brief Biography

Aravindakshan Pulikkal has a background in Economics and Management with over 24 years of experience in health sector. His work experience combines from the international donor sector, private sector, and the NGO sector. During his assignments with various organizations, he has acquired extensive knowledge of interacting with the government and the public health system for tasks related to policy development, systems strengthening and planning.

He has worked with Government of Gujarat as Lead Consultant in preparing State Reproductive & Child Health Programme and in planning the NRHM for the State.

While he was head of UNFPA state offices in Gujarat and Rajasthan, he was responsible for managing UNFPA programmes in these states. He also facilitated in formulation of the State Population Policy and State Gender Equity Policy, guided in establishing a gender resource centre and prepared state and district plans for UNFPA's country programme support. He was instrumental in establishing the donor coordination forum in the State and has been a member in several expert and policy committees. In this capacity, he has worked on strengthening emergency obstetric care, STI/RTI services, public private partnerships, improving state capacity for gender sensitive programmes and integrating the gender perspective into in-service training of medical and paramedical staff of public health systems, NGO capacity building and systems development.

As India Representative of the HIV/AIDS Alliance UK, he set up the operational base in India, and identified and supported NGO partners for country operation. He was also responsible for policy and programme decisions of the organisation.

In the Aga Khan Health Services (seven and a half years), as General Manager he was responsible for planning, organising, and controlling the community health programmes within policies established by the Board of Directors. He participated in the strategic planning of the organization, development of project proposals as well as planning, implementing, monitoring and evaluating of programmes. He was also responsible for HR management including recruiting and contracting. He was further able to contribute to policy decisions at national and international level. His other major responsibilities included managing 3 Projects and 6 Regions with a Staff of 185 and Volunteer strength of 900. These include 17 PHCs, 4 Medical Centres, 4 Diagnostic Centres, 3 project offices and 3 regional offices.

Pulikkal's areas of specialisation includes Health Policy, Planning and Management; Programme and Project Lifecycle Management; Reproductive & Child Health, Primary Health care and HIV/ AIDS; Health Systems Development and Planning Support; Organization Development in the health sector; Public private partnerships; Developing gender sensitive health sector plans and programmes; Health research and Designing and planning of large scale public health programmes.

Pulikkal has participated and contributed in 15 international workshops and study tours in the countries like Kenya, Uganda, Dubai, Bangladesh, SriLanka, Thailand, Singapore, Indonesia, Nepal and USA.

Dr. Barun Kanjilal (Supervisor)

Dr. Barun Kanjilal is a health economist. After post graduation, he obtained a PhD in Economics from Louisiana State University, U.S.A. where he also worked as a post-doctoral researcher. He has worked as Reader in Economics at Calcutta University. He has been appointed as Adjunct Associate Professor in

the Department of Public Health Policy and Administration at the University of North Carolina at Chapel Hill, USA.

Dr. Kanjilal has been working in Indian Institute of Health Management Research (IIHMR) as a Professor of Health Economics for the last fifteen years. His main area of interest is Health Economics and Financing, Health System Development, and other aspects of health care management. He has worked on various research programs in India, related to public health financing and management, as a consultant or Principal Investigator. He is the country coordinator (India) of Future Health Systems: Innovations for Equity, a consortium of researchers from Uganda, Nigeria, India, China, Bangladesh, Afghanistan and the United Kingdom.

Dr. Kanjilal has published/presented several papers on applied economics in international journals / conferences. His current research and teaching interests are in the application of various quantitative tools in the area of health economics and financing.