

**THE ROLE OF GOVERNMENT IN THE  
DEVELOPMENT OF THE HEALTH CARE SYSTEM IN KERALA**

DISSERTATION SUBMITTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PHILOSOPHY  
OF THE JAWAHARLAL NEHRU UNIVERSITY

**RAJEEV SADANANDAN**

**CENTRE FOR DEVELOPMENT STUDIES  
TRIVANDRUM  
1993**

CERTIFICATE

I hereby affirm that the research for this dissertation titled, "Role of government in the development of the health-care system in Kerala" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development Studies, Trivandrum.

Trivandrum

  
Rajeev Sadanandan

Certified that this dissertation is the bonafide work of Sri. Rajeev Sadanandan and has not been considered for the award of any degree of any other University. This dissertation may be forwarded for evaluation.

  
Pulapre Balakrishnan

Supervisor

  
I.S. Gulati

  
P.S. George  
Director  
Centre for Development Studies

To  
Ashwin, Devika  
and  
Saraswathy

## ACKNOWLEDGEMENTS

I am grateful to the Government of Kerala and the Centre for Development studies for having given me an opportunity to attend the M.Phil course. The faculty at the Centre made my stay in the campus a profitable one. My classmates and friends in the campus made the period memorable.

In developing this study I have benefitted from the suggestions of many persons. While I acknowledge my gratitude to all of them a special mention may be made of Prof. K.K. Subramanian, Dr. K. Narayanan Nair, Prof. P.R.G Nair, Prof. P.G.K. Panikar and Dr. T.K. Sundari. The data for the study was collected from the libraries of the Centre for Development Studies and the Kerala Legislative Assembly and from the records of the Directorate of Health Services. The assistance given by Shri. Shankar and Shri. Anilkumar of the Centre, Shri. C. Sundaresa Panikar of the Legislature Library and Shri. P. Gopinathan of the Directorate of Health Services is gratefully acknowledged. Shri. Geoji Thomas helped clear many of the initial hiccups I had with the computer.

I am indebted to Smt. K. Nalinakumary and Shri. V.V. Thomas of my office and Dr. S. Raman and Shri. K. Mohandas of the National Informatics Centre, Trivandrum, who provided invaluable assistance in the production of this dissertation. I am also grateful to Shri. Dennis Rajkumar, who made a valiant and partially successful attempt at trimming it down to the conventional format.

Prof. Gulati's perceptive comments challenged me into trying to achieve greater clarity at every point of this study. I have also benefitted from his vast experience with public finance. This study grew into its present form largely due to the time and patience devoted to it by Dr. Pulapre Balakrishnan. He indicated areas to be explored, evaluated the findings and moulded the

dissertation at every stage. Above all, I enjoyed working with both my supervisors, and I thank them for having made it so.

This dissertation would not have been possible but for the support my family extended to me in my efforts to balance the demands of research with those of a hectic job. I dedicate this work to them.

Rajeev Sadanandan

Trivandrum

## CONTENTS

No.	Title	Page
Chapter I	- The problem - an overview	1
Chapter II	- Socio-economic factors that influence the provision of health care services in Kerala	21
Chapter III	- An analysis of public expenditure Decisions	54
Chapter IV	- The response of the private sector	102
Chapter V	- Conclusion	134
	- Bibliography	141

## LIST OF TABLES

Nos	Titles	Page
I.1:	Health Expenditure in various regions of the world	11
II.1.a	Service area of a medical institution	25
II.1.b	Population serviced by each medical institution	25
II.2	Maximum distance travelled by a patient	26
II.3	Literacy Rates-Karnataka and Kerala [1981]	30
II.4	Ratio of Female literacy to male literacy	31
II.5	3 year average per capita state domestic product	33
II.6	Percentage of Population Below Poverty Line	36
II.7	Reasons for not taking treatment	38
II.8	Reasons for non-hospitalised births	41
II.9.a	Percentage of children registered for paediatric care	44
II.9.b	Percentage of mothers registered for Pre-natal care	44
II.10	Percentage of Hospital Births	44
II.11	Live births per thousand population	46
II.12	Death Rates per thousand population	47
II.13	Infant Mortality Rates - 1988	48
II.14	Expectation of life at birth	48
III.1	Expenditure on Health Care, Travancore	58
III.2	Health Facilities in British India, Mysore and Travancore - Institutions and Beds	60
III.3	Health Facilities and Per Capita Expenditure of Travancore-Cochin, Mysore, Coorg and India-1955	62
III.4	The share of health expenditure in total expenditure- (Revenue)	64
III.5	Per capita expenditure on health	65
III.6	Comparison of the budgetary surplus/deficits of Kerala and all Indian states	66

III.7	Per capita expenditure during plan periods (1974-90)	67
III.8	Availability of allopathic institutions and Beds in India, Karnataka, and Kerala	69
III.9	Percentage of expenditure on various expenditure categories in the Government health budget	75
III.10.a	Growth of Personnel in the health department	79
III.10.b	Percentage growth in personnel by nature of Job	82
III.10.c	Out put per employee in various categories	83
III.11	The share of various institutions in the revenue expenditure in the health sector [Allopathy]	84
III.12	Details of Government institutions and beds by category of hospitals and Rural/Urban classification	89
III.13	Number of beds in the rural and urban hospitals	90
III.14.a	Government medical institutions in districts	93
III.14.b	Number of hospital beds available in district	94
III.15	Institutions and beds normated by the average area and population of districts -1990	96
IV.1	Percentage share of Public and Private Sector in the total number of institutions and Beds- 1978 & 1988	103
IV.2.a	Medical Facilities in the Rural and Urban areas - 1988	105
IV.2.b	Percentage share of rural/urban medical institutions and beds	106
IV.3	Distribution of hospitals between rural and urban areas - (percentage share)	107
IV.4	Medical institutions and beds - 1985	110
IV.5	Patients hospitalised in government Hospitals as percentage of total patients	116
IV.6.a	Percentage distribution of hospitalised cases by type of hospitals over expenditure classes	117
IV.6.b	Category of medical facilities utilised by various income classes for hospitalisation services	118

IV.7	Percentage of Hospital Births and types of hospitals	120
IV.8	Percentage of hospital births by type of hospitals	121
IV.9	Percentage distribution of non-hospital births by reasons for non-hospitalisation	122
IV.10	Percentage of children registered for paediatric care	124
IV.11	Percentage of mothers registered for pre-natal care in hospital	127
IV.12	Percentage of eligible couples ever sterilised or ever received FP services	128
IV.13	Percentage of couples sterilised by source of service	129

## CHAPTER I

### THE PROBLEM - AN OVERVIEW

#### I.1: Introduction

Historically, some of the health services have been treated as public goods and the others as merit goods<sup>1</sup>. Hence in the interest of the society, governments have considered it necessary to ensure adequate consumption of health services. Central to this is the choice of the method of providing health services. Discussion on methods of providing health services have concentrated mainly on two aspects: the nature of health services that distinguish them from other services and the foundations of the two contrasting methods of providing health services, namely public and private sector.

Arrow (1963)<sup>2</sup> argues that if health care services are marketable like any other services, laws of the market should apply to the health services market also. When the laws of the market apply and a perfectly competitive market is possible,

---

<sup>1</sup> Public goods, also known as social goods, are goods in whose case the exclusion principle (a person who does not pay for the goods can be excluded from consumption of the goods) and the rival character of consumption (a person partaking of a certain goods does not diminish the goods available for the consumption of another person) does not apply. Merit goods are goods which involve intervention in the consumption choice of individuals in the interest of the society. For a discussion regarding the provision of these goods see Musgrave and Musgrave (1973)

<sup>2</sup> In Cooper et al (1973)

optimal allocation of resources would be achieved by the market and intervention by the State would not be necessary. To approximate a perfectly competitive model by the health services market, the following conditions must be satisfied: i) a competitive equilibrium should exist; ii) increasing returns to scale should not be present; and, iii) all the cost and utilities in the health sector should be marketable. However, these conditions need not always be satisfied. Satisfying the last stipulation is made difficult by the presence of significant externalities especially the social costs and benefits of health care. Thus, a person failing to get himself inoculated, besides getting himself infected, runs the risk of infecting others. Hence, he should be called upon to pay the price of causing others the disutility of disease. As this is impractical, a market failure may occur. Therefore, a need for collective intervention in the form of penalties, incentives or compulsion arises.

It, thus, becomes clear that, health care can never be left totally to the market. Provision would have to be made for possible failure of the markets. These arrangements, characterised by non-market mechanisms, will be determined by the prevailing orthodoxies on the role of the society in ensuring the welfare of its individual members and the degree of intervention by the government acceptable to the society. Hence, they would need to be continuously revised in response to changing social and market realities.

Culyer, Maynard and Williams<sup>3</sup> regard the public and private medical care systems as being built on contrasting ethical viewpoints. One considers access to health care to be part of society's reward system [System A] while the other regards it as a citizen's right [System B]. System A, where the means of production are privately owned and resource allocation and rewards to suppliers are determined in the market, has as its guiding principle consumer sovereignty in a decentralised market in which health care is contingent on the willingness and ability to pay. On the other hand, System B, where the means of providing health are publicly owned and the direction of flow of resources is centrally controlled, aims at improving the health of the population as a whole through free health services financed largely through taxation. However, both the systems exclude access to certain people. While System A excludes poor people and people in areas where it is not profitable to supply health care, System B excludes patients who, in the opinion of doctors, have diseases which does not warrant medical intervention.

Examining the relative merits of the two systems, the authors point out that System A would have to have something approximating to System B to take care of the needy in the society. In System A the provision of health care is bound to be discriminatory against the rural population, the poor and the chronically sick. It would result in higher health expenditure, higher physician income,

---

<sup>3</sup> In Olson (1981)

higher technology medicine and higher rate of surgical intervention than is expected in System B<sup>4</sup>.

### **1.2:- Alternate Strategies in the Provision of Health Services:**

Extensive work has been done on various aspects of government provided health services especially under the sponsorship of the World Bank<sup>5</sup>. De Ferranti (1985) discusses the main issues, problems and policy options in providing health services in developing countries. He found that the current policies dictated by the faith that health programmes should in the main be paid for and administered by the government were inefficient and inequitable. They were also chronically underfinanced. The options available for reform ranged from institution of user fees for public facilities, changing the public/private product mix, reorganisation of the management of public facilities to ensure efficient management, and the restructuring of subsidies. The author cautions that since health services are heterogeneous the reforms could have different implications for different services.

---

<sup>4</sup> Citing the experience of United States (US) and United Kingdom (UK) to represent Systems A and B respectively, the authors point out that the health expenditure, as a proportion of the GNP, was the highest in the US whereas UK was ranked seventh. While US was placed seventh on perinatal, infant and adult mortality rates, the UK was ranked fourth. The incidence of surgical intervention was three times higher in US than in UK.

<sup>5</sup> For example: de Ferranti(1985), Akin et al (1987), Gertler (1987), Heller (1982), Birdsall (1990) and The World Bank (1993).

Above all de Ferranti calls for an open approach in selecting the appropriate method of providing health services.

In the discussion that has followed health economists have been divided into two groups - the proponents of user charges and privatisation, and their opponents who caution about the negative distributional effects, caused by making the ability to pay a prerequisite to the consumption of health services. The latter view is exemplified by Gertler (1987) who argues that the user fees and similar measures are regressive since the poor are more price sensitive than the rich. Gertler's conclusions are tenable only if there is a significant price elasticity of demand and if access costs do not enter the price/utility calculations of the poor. Even if price elasticities exist they can be contained, as suggested by Gertler himself, by differential pricing so that each income group pays a price equivalent to its marginal utility of health care.

What an examination of these studies appear to suggest is that the method of provision of health services appropriate to a country is specific to the existing socio-economic conditions, the approach of the population to health care and the health care priorities of the country. Hence the appropriate method of providing health care could vary across countries. The results of empirical studies on the effect of the methods of provision of health care on the demand for, and the consumption of health care in various countries have been mixed. Akin (1981) found that the demand for health services

was only minimally affected by prices in the Philippines. Heller (1982) studied hospital data from peninsular Malaysia, and found that while total demand for medical services was not price sensitive the relative price of alternate forms of health provision affected the choice of institution. Consumers were also found to be sensitive to access costs especially travel and treatment time.

Based on patient and population interviews, Abel-smith and Rawal (1992) found that financial difficulties leading to under financing of public health care system resulted in substantial costs to the consumer in terms of travelling and waiting time, and costs of drugs and food purchased from outside. More than 85 per cent of the sick people utilising the public health facilities said they were willing to pay user charges if the facilities were improved. The authors recommend institution of user charges to generate sufficient revenue to improving existing facilities and to subsidise health care for the poor.

On the other hand the claim that people are willing and able to pay for health services is disputed by Yoder (1989) who examined the consequences of increase of user charges in the public sector on the utilisation of health services in Swaziland from patient attendance data. The increase resulted in overall decline in attendance of 17 per cent with a 32.4 per cent decline in the government sector and a 10.2 per cent increase in attendance at non-public facilities. The decline was mainly in the lower income

group [34 per cent]. The negative welfare implications of the finding are obvious. But the country did not have a good health status before the increase in charges. In a situation where the demand for health services may be price elastic, the wisdom of instituting user charges is prima facie suspect.

Simulation carried out by Gertler (1987) using data from Peru suggests that while decline in total demand is modest, it is considerably higher in the lower income groups than in the upper income groups. It was observed that the institution of user charges resulted in allocative efficiency and cost recovery from the actual users at the expense of redistribution of welfare from the poorer to the richer. As a solution Gertler suggests a fee schedule that is income discriminatory.

Birdsall and James (1990) dispute the dichotomy between efficiency and equity. The pattern of expenditure in health sector is inefficient partly because it is inequitable. Expenditure decisions seek to maximise individual welfare of the members of the most important groups rather than social welfare. Hence the private goods that benefit the powerful will be oversupplied in the public sector so that goods meant for their private use will be tax financed resulting in random cross subsidisation which is both inefficient and inequitable. The cost of maintaining a bureaucracy would add to the already inequitable tax-burden. Since producer groups and the upper income groups are likely to be more powerful

than the consumer and lower income groups respectively they are likely to benefit disproportionately from government expenditure decisions. Since health is generally classified as a merit good the powerful can justify increasing government expenditure. Once the amount is committed to the sector they can use their power to provide with public funds a product mix that suits them. Hence, promoting efficiency will result in promoting equity at the same time. The authors recommend permitting markets to produce the private goods like curative health care while concentrating government funding of public goods such as immunisation of children.

Griffin (1989) examines the provision of health services in the private sector as an option for improving the efficiency and equity in the health sector. A pure public or pure private sector system of health services is unlikely to exist any where. Governments would have to be involved in providing health care in areas where markets are likely to fail. However at present public investment in health care is concentrated in areas which can be serviced by the private sector with no loss in welfare, e.g. hospital services in urban areas. But along with growth of the private sector there should also be provision for health insurance with the government functioning as the insurer of last resort. If governments leave the arena of health care the public sector can profitably service and direct the resources thus released to the areas where government intervention is called for, then the health care system

that would emerge would be both equitable and efficient.

The World Bank (1993) examines the inter-play between human health, health policy, and economic development. The report recommends that governments adopt a three-pronged strategy for improving the health status of their population:

1. Adopt policies which will improve the economic condition of the country that the poor earn sufficient income to sustain a healthy standard of living and pay for their health services.
2. Government's expenditure on health should concentrate on cost effective programmes that assist the poor. Instead of allotting huge sums to specialised care in large urban hospitals the emphasis should be on public health and what the report calls 'the essential clinical services'<sup>6</sup>.
3. Promote an environment for diversity and competition among the providers of health services. If public health services and the essential clinical services are available in the government sector, the remaining clinical services should be left to the private sector with government regulated insurance as the financing agency.

---

<sup>6</sup> This may include (i)maternity services; (ii) family planning services; (iii) the control of leading diseases such as TB; (iv) the control of sexually transmitted diseases; and, (v) paediatric services for common serious illnesses of young children.

The study cites three situations that justify government intervention:

- a) when the poor cannot pay for basic health services;
- b) to ensure adequate provision of services classified as public goods and services with externalities; and
- c) when there are market failures and when the supply of health is not feasible.

The studies reviewed in this section do admit a role for government intervention in health care sector under certain circumstances. However they caution against misallocation of resources and point to the inequity and inefficiency that generally characterises government expenditure decisions. This can be detected only when the expenditure pattern and the allocation of facilities in the government sector are examined in detail.

### **I.3: Experience of state intervention in health services:**

It is estimated that 8 per cent of the global income (about \$ 1700 billion) was spent on health care. Of this governments spent nearly 60 per cent (more than \$1000 billion). While countries vary greatly in the amounts spent on health care services, an important element in the health care services of any country is intervention by the government<sup>7</sup>. The expenditure on health across the world is given in Table I.1.

---

<sup>7</sup> See World Bank (1993), p.52.

Table I.1

## Health Expenditure in various regions of the world

Regions	Per Capita Health expenditure (in Dollars)	Percentage of GNP spent on Health	Public Sector as percentage of Health Expenditure	Health Exp. as % of world total Health expenditure	Population as % of world Population
Market Economies	1860	9.2	60	87	15
Socialist Economies	142	3.6	71	3	7
Latin America	105	4	60	3	8
Middle East	77	4.1	58	2	10
Africa	24	4.5	55	1	10
China	11	3.5	59	1	22
India	21	6	22	1	16
Sri Lanka	18	3.7	49	.02	.32
Rest of Asia	61	4.5	39	2	78
World	329	8	60	100	100

[ Source: World Bank, 1993. p.52 ]

It is seen that the percentage of GNP spent on health care was high in India, next only to the market economies. Even the per capita expenditure on health was higher in India than it was in China and Sri Lanka which, according to the World Bank (1993), had a better health status than India. However, when the share of the public sector in the total health expenditure was examined, the share of India's public sector was the lowest among all major countries.

The market economies, on an average, had as much of their countries health expenditure in the public sector, as did the People's Republic of China. Countries vary in the amount of money they spent on health per capita, the percentage of GNP spent on health care and the percentage of health expenditure that is spent by the government.

The global experience shows that both the public and the private sector have a role in the provision of health services in every country. However the nature and degree of government intervention is often affected by the socio-economic characteristics of the society in which such intervention takes place. The relation between these characteristics and government intervention needs to be studied to understand the role of government in the development of the health services. The present study attempts to examine the experience of a state, namely Kerala, where government intervention has been an important factor in the provision of health services<sup>8</sup>.

#### **I.4: Performance of Kerala in the health sector:**

Various studies have examined the paradox - health development in an economically backward state - that the health status of Kerala appear to present.

---

<sup>8</sup> Estimates show that the per capita expenditure on health in Kerala was Rs 178.3 in 1987, which worked out to be 7 per cent of the per capita State Domestic Product. Of this, nearly 37 per cent was in the public sector (Panikar, 1992).

Zachariah and Patel (1982) attempted to estimate the trends of child mortality, and their socio-economic differentials and determinants for Kerala. They found that mother's education, caste, year of birth, single or twin status and total household expenditure had significant association with mortality. However, they found that the socio-economic indicators explained only a small percent of differentials in child mortality.

Zachariah (1983), examining fertility decline in Kerala, hypothesises that various politico-economic reasons such as land reforms, increased farm wages and unfavourable land man ratio have diminished the worth of land as an asset, and increased the worth of personal attributes, namely education and health. This resulted in an increase in the demand for both. This is a valuable hypothesis as it serves to explain how the demand for health and educational services was generated.

Krishnan<sup>9</sup> studied the decline in mortality rates in Kerala. He divides the decline of infant mortality into three phases, 1956 to 1966, 1967 to 1976 and 1976 and after. The State achieved considerable success in reducing mortality rates in the first phase owing to the expansion of vaccination programs against small pox and the coverage of Malabar with health-care facilities comparable to those in Travancore-Cochin. A plateau was reached in 1967 and continued till an expanded immunisation programme was launched in

---

<sup>9</sup> In Halstead et op. cit. PP. 39 to 46.

1976. An increasing number of births under institutional care or under professional attendance also helped reduce mortality especially maternal and neo-natal. He attributes the decline in mortality to health care provided by the government especially immunisation services.

Arguing that the health care system in the State has had a significant impact on the health status of the State's population, Panikar <sup>10</sup> examines the public health expenditure and medical facilities over time and over regions. The State of Travancore, precursor to the State of Kerala, had its system of public provision of health care in place even in the mid-nineteenth century. The growth of expenditure on health in Kerala was more than the rate of growth of total expenditure or of State Domestic Product. Compared to the rest of the country there has been a more even spread of medical institutions. However intra-regional differences do exist and when they do they are found to be correlated with differentials in health status indicators. Here, health differentials are seen to be the function of public decisions on state intervention in the health sector. It also has the virtue of explaining the differences between two comparable regions.

Nag<sup>11</sup> compares the performance of Kerala and West Bengal in

---

<sup>10</sup> In Halstead et al, op.cit.,pp .47-56.

<sup>11</sup> Nag (1983)

reducing infant mortality. He finds the wider distribution of health facilities and their greater utilisation to be the significant factors in Kerala's success in reducing infant mortality. While West Bengal laid greater emphasise on achieving a higher level of economic development, Kerala had focused on achieving a higher level of social development. He also finds that the two states have comparable per capita expenditures on health and almost similar ratio of health facilities to population. However, Kerala has a better network of health care facilities in rural areas. The vital difference is in the rate of utilisation of medical facilities especially in rural areas. The other factors assisting increased utilisation are literacy, especially female, and political awareness of rural poor. In Kerala intervention by the government in the health sector was prevention oriented and more wide spread while in West Bengal it was curative and Calcutta biased. Thus, according to Nag the lower infant mortality level in Kerala can be attributed mostly to its higher social development.

The study carried out by the Centre for Development studies (1975)<sup>12</sup> attributes the high level of the health status of the population of Kerala to the spread and accessibility of medical care in the State. This is attributed to a location matrix that has provided an effective catchment area for its health system. An examination of the spread of facilities in the three natural regions of the State [the low land, the midland and the high land]

---

<sup>12</sup> See United Nations, (1975).

shows that the spread is highly correlated with death and infant mortality rates; the smaller the catchment area, lower the mortality rates. Similar relationship is seen while comparing the areas that were part of the erstwhile Malabar with Kerala. This study reveals an important aspect of Kerala's settlement pattern which helps explain in part why Kerala is different from the rest of India in its health status.

Kabir and Krishnan (1992) offer an interesting hypothesis to explain the complementary development of demand for health services and the provision of the services through the concept of 'social intermediation in conjunction with the development of health infrastructure'. Social intermediation refers to altering the social and behavioural environment by modifying the social conditions governing the relationships within and between different segments of the society as determined by ownership rights to economic assets, especially land, the caste structure, and gender attitudes. The provision of health facilities took place first in Malabar. But the authorities failed to note that utilisation depends on factors in addition to physical access. Hence no demand was generated for health care thus failing to sustain the services. But in Travancore the government took measures to overcome the biases against use of health system created by caste and gender considerations. With royalty itself providing the lead the upper, and later the lower, castes adopted western medical practices, curative and preventive. Along with education, health care became

a sought after service. Once an effective demand was created the government, communal and missionary organisations catered to it.

This hypothesis sees decisions by the government as being influenced by, and in turn, influencing the characteristics of the society in which they are made. The present study by and large adopts the authors' interpretation of the history of government intervention in the health sector in Kerala. Here the analysis is carried upto the present time and it is based on an analysis of the records of government expenditure in the health sector.

Panikar and Soman (1984)<sup>13</sup> in their analysis of the health status divide the determinants of health into three categories: those that promote health, those that contribute to the prevention of diseases and the curative services. On analysing Kerala's performance in these determinants, they find the health care system to be the principal factor in the improvement of Kerala's health status. The public and private sector health care services have shown a steady growth with the household expenditure on health exceeding that of government. On assessing the approach of government towards provision of health services, they suggest that it should direct its attention towards more basic requirements and that the nature of intervention required need to be revised according to changes in the characteristics of the society.

---

<sup>13</sup> Panikar and Soman (1984)

Kannan et al (1991) examine the linkage between socio-economic status and access to health services, and health status. In addition, they examine the contribution of the health care sector to the health status. The study finds that Kerala has higher levels of morbidity than the other states. While studies of Kerala's status in the past have emphasised the importance of the government health care system, they find that cutting across socio-economic classes the patients prefer private institutions to government ones. The chief reasons are 1) the non-availability of public institutions near home, 2) lack of personnel and medicines in government institutions and 3) better service in private hospitals.

Most of the studies reviewed here have identified social development and availability of health facilities to be the chief factors behind Kerala's achievements in health. Some of the studies have also highlighted the role of government expenditure in ensuring adequate supply of health services. The relationship between the characteristics of the society and the decisions of governments to intervene have also been explored. However, none of these studies have examined the government health expenditure in detail. This is vital to an understanding of the role of the government in the development of health services in the state and the lack of such a study has left a gap in the analysis of Kerala's health system. The present study is, therefore, an attempt to rectify this deficiency.

### **1.5:-Scope and Objectives of the Study:**

The objective of this study is to look at the government expenditure decisions in the health services and the way it has influenced the development of the health care system of Kerala. The studies dealing with Kerala's achievements in the health sector, while acknowledging the importance of government expenditure on health, have tended to view it as an exogenous factor. However, in a democratic process of decision making, expenditure decisions are taken in response to an existing milieu: social, economic, and cultural. An attempt is made in this study to analyse the factors that influence the provision and utilisation of health services. The system that comes into being as a result of government expenditure decisions tend to affect the response of other participants in the health care market, namely the private sector and consumers. This study analyses the nature of expenditure decisions and examines the structure of the government health care system that has developed as a result of these decisions. The response of private sector to these decisions and the consumption of health services in the state is also examined.

### **1.6:- Outline of the Study**

The study begins with a review of the different aspects of provision of health services. In the second chapter, the factors that affect the provision and consumption of health services are

examined. These include density of population, literacy and income. The pattern of utilisation of medical services is analysed along with a review of the indicators of the health status of the population of Kerala. The third chapter examines government expenditure decisions in the health sector. In addition, the geographical distribution of facilities in the public sector is also studied.

The fourth chapter examines the response of the private sector to government expenditure decisions. The pattern of consumption of health services in the State is examined and an effort is made to relate them to the way the health care system has developed in the State. The last chapter sums up the main findings of the study. The chapter ends with a review of the policy implications of the findings that emerge from the study.

## CHAPTER II

### SOCIO-ECONOMIC FACTORS THAT INFLUENCE THE PROVISION OF HEALTH CARE SERVICES IN KERALA

#### II.1: Introduction:

As pointed out in chapter I government may have to intervene when market failure is likely to occur in the provision of health services. Possibility of market failure and the necessity of government intervention can be inferred from an analysis of the socio-economic factors that influence the provision of health services and the pattern of consumption of health care. In Kerala, the public sector has had a major role in the provision of health services. If this has been because, due to conditions existing in the society, the private sector could not service the health needs of the society then government health services might be an important reason for the health status of the population. Any weakening of the government health care system could have adverse effect on the health status of the population. This possibility has to be considered in any analysis of the government expenditure and modification of the health care system in the public sector has to make allowance for this fact.

DISS  
362.1095483  
Sa151 Ro  
  
TH7770

DISS  
V, 4412; 3(L; 5) N9  
N3; 1



TH- 7770

The situation which requires government intervention would arise if there exist substantial segments of the population who would be denied access to the health care system if it were entirely in the private sector under conditions outlined in Chapter 1. In this chapter each of the factors which could influence the provision of health care services is examined to see if the situation described above exist in Kerala.

This chapter documents some of the indicators of the socio-economic characteristics of the population of Kerala which are relevant to the provision of health services. The factors examined are whether the density of population of the State is favourable to having a large number of people in the service area of each medical institutions and whether the characteristics of the population are such that they are likely to demand modern medical services. The characteristics that are expected to affect the demand for health services are literacy, especially female literacy, and income of the population. The present level of utilisation of health services is also examined. In the latter part of the chapter it is examined whether the poor in Kerala are unable to consume the health care they need due to their inability to pay for these services. The responsiveness of the health care system to the services which are at least as much valued by the society as by individual consumers - such as family welfare and immunisation of children - for the externalities present in these services are also examined to see if their consumption has been influenced by the mode of provision of health services in the State. If the public sector has been instrumental in ensuring that the poor have access to health

services or if it has played a predominant role in influencing consumption of services with significant externalities these facts would also have to be considered while examining the government expenditure decisions in the health sector. The chapter ends with a look at the indicators of the health status of the population of Kerala.

The data on socio-economic factors of Kerala will not provide an idea of the way they can influence the health care system of the State unless it is compared to the data of a similar unit(s). While comparison to the all-India average does give some indication of Kerala's position it is vitiated by all the defects of averages, especially from such a diverse country as India. Therefore the data may be compared with another State similar to it. The State chosen here for comparison is the neighbouring State of Karnataka. The States are contiguous, have comparable per capita income, and share similar history (having been formed by combining regions ruled by Indian rulers as well as those under British control). A detailed analysis of the health care system of Karnataka is not attempted in this study.

## **II.2:-Factors that influence the provision of health care in Kerala**

In chapter I it was seen that the appropriate mode of providing health care would depend, among other things, on whether the population could support the functioning of a health care system managed mainly through private institutions. There are indivisible costs of personnel, equipment and buildings which necessitate a

threshold of minimum level of utilisation below which a medical institution cannot break even. Either because the service area is too thinly populated or because the population of the service area does not need modern medical practices some regions cannot ensure this level of utilisation. If in Kerala these conditions exist then the private sector cannot be expected to function profitably. This fact would have a bearing on government expenditure decisions. This section examines if the density of population and the demand for health services are such that they influence the mode of provision of health services.

#### **II.2.1:- Density of population and its impact on the health care system in Kerala**

For a medical institution dependent on user fees (charges paid by patients) to survive there must be sufficient persons residing within a coverable area. It is highly improbable that a person in need of medical attention can move to a medical institution far away from his house ( unless the infrastructure and transportation facilities are so good that he can be shifted without much inconvenience. But if these facilities exist then it is highly unlikely that the area would be thinly populated ).

Coverage may be calculated the following way.<sup>1</sup> Each facility may be assumed to cover a circular area around it. If it is assumed that the density of population is uniform over the entire state then the target population around the institution is arrived at by calculating the average area serviced by an

---

1

The following discussion closely follows De Winter,(1992)

institution in the state and then multiplying it with the density of population of the state. Worked out this way it may be seen that an institution in the rural areas of Kerala services a much smaller area( in the urban areas it is larger than the average area serviced by an institution in India and Karnataka). But this area has within it a population equal to the population of the service area of institutions elsewhere in the country. Assuming that the person in need of medical services is indifferent between the quality of service in different institutions, he would go to the

Table II.1 (a):- Service area of a medical institution

(Sq. Kms)

	Total	Rural	Urban
India	111	216	4
Karnataka	108	143	8
Kerala	26	25	9

[ Source:- Calculated from the Census papers 1981 and Health Statistics of India 1984 - Area in Square Kilometres ]

Table II.1 (b):- Population serviced by each medical institution

	Total	Rural	Urban
India	23932	37199	11157
Karnataka	20891	19981	23179
Kerala	16880	13719	23508

[ Source:- As in Table II.1 (a) ]

institution nearest to him. Since the service area of a medical institution has been assumed to be the circular region around it the maximum distance to be travelled by a patient will be equal to

the radius of the circle<sup>2</sup>. Though in urban areas the distance travelled by a patient is marginally higher in Kerala

Table II.2: Maximum distance travelled by a patient

	Total	Rural	Urban
India	5.94	8.30	1.09
Karnataka	5.86	6.74	1.59
Kerala	2.86	2.80	1.67

[ Calculated from Table II.1 ]

the distance to be travelled by a rural patient to reach a medical institution was less than half the distance to be travelled by patients in the rural regions of India and Karnataka.

In Kerala each institution, even though it caters to smaller area, has a population comparable to that serviced by institutions in the rest of the country. The patients in rural Kerala have the advantage of the medical facilities being available near home, a facility which is available only in the urban areas of the rest of the country. This factor facilitates greater utilisation of the medical institutions. This is partly owing to the better spread of hospitals and partly due to the high density of population. If this population also has a desire to consume health care services each medical institution is assured of a large number of patients. If, as is claimed to be the case the degree of morbidity too is high in

---

<sup>2</sup> Area of a circle =  $\pi r^2$   
Therefore  $r = \sqrt{\frac{\text{Area}}{\pi}}$

Kerala then the number of cases requiring treatment available within the service area of a hospital will be even higher.

The density of population of rural population is high in Kerala. But more interesting are the features of the villages<sup>3</sup> themselves. There are no uninhabited villages in Kerala while in Karnataka 8% of the villages are uninhabited. [Uninhabited villages are those which existed at some point of time but are no longer inhabited today.] While the inhabited villages in Karnataka have an average population of 977 per village in Kerala the figure is substantially higher at 16965<sup>4</sup>, a figure higher than the Population of many of the Karnataka's towns.

Even though the average population per village is high it is possible that there is high variation between villages and that some villages have very few people in them. An analysis of the census documents shows that in Kerala 90% of the rural population live in units with population above 10,000 while in Karnataka 59% of the population live in villages with less than 2000 people. In other words 88% of the villages in Karnataka have population less than 2000 each<sup>5</sup>. The implication of this distribution of the population is that if economies of scale operate in the provision

---

<sup>3</sup> This study accepts the classification of villages adopted by the Office of the Registrar-General for the Census operations. The difference in the settlement characteristics of the villages are not considered here as the only fact material to the argument is the number of people resident within an easily accessible distance of a medical facility.

<sup>4</sup> Computed from Census of India 1981 Series 1, Part II A (1) pp 72-75

<sup>5</sup> As in footnote 4.

of those services that assist the improvement of health status of the population, units with higher density of population are easier to assist. Since there are significant indivisibilities in terms of personnel and infrastructure in providing health care there will exist a minimum threshold below which the provision of medical services will become unviable due to high unit cost. The analysis above has shown that areas with low population density are very few in Kerala. Hence institutions located in most of the areas of Kerala are assured of a substantial number of patients. If the private sector responds to this advantage then Kerala would be assured of a network of hospitals. This would have a beneficial effect on both the total supply of health services and the price at which they are supplied.

This argument can be clinched only when the break even point for a hospital is known. This has not been done as no studies on the minimum level of capital and personnel required for a medical institution are available. The only point that can be asserted conclusively is that with a higher density of population Kerala is better placed than other regions in having a larger population who can have convenient access to each medical institution assuming that they have the means to afford these services. The question of whether the population of Kerala have the funds to afford medical care is examined later in this chapter.

If lack of sufficient number of residents in a geographical unit is one of the reasons why the private sector service the health care needs of the population less than ten percent of the population is

likely to be affected in Kerala. Thus government intervention if required would be needed for less than 10% of the population.

### **II.3:- Factors that affect the demand for health services**

But the presence of a population in close proximity to the institution is of no consequence for a private medical institution if the demand for health services does not exist. For the demand for health services to exist the population must be aware of the benefits of modern medicine and have the purchasing power to afford these services. The most important determinants of the awareness of health services is the level of education or extent of illiteracy especially of the women.

#### **II.3.1:- Literacy**

In most under developed countries women lack awareness regarding modern medical practices beneficial to them and sufficient power to influence expenditure decisions including health care needs in their favour. The rural population too are found to lack the awareness to take preventive steps against diseases or to resort to medical attention as and when a disease strikes. The level of awareness is likely to be more among the urban males in comparison to the rural population and women. Thus the indicators of the health status of the society as a whole is likely to be affected greatly by improvements in any of the indicators of the Physical Quality of Life of the two groups \_ women and the rural population. Since women face grave risks during pregnancy and child birth and are able to observe early symptoms of disease among children an

increase in their awareness would benefit them and their children. The power that comes with greater awareness will help influence expenditure decisions in favour of both women and the rural population if literacy among these groups is high.

Table:II.3:- Literacy Rates-Karnataka and Kerala [1981]

	Total			Urban			Rural		
	Popln	Male	F.Male	Total	Male	Fmale	Total	Male	Fmale
1.India	36.23	46.89	24.82	57.4	65.83	47.82	29.65	40.79	17.96
2.Kar	38.46	48.81	27.71	56.71	64.98	47.78	31.05	42.06	19.77
3.Ker	70.42	75.26	65.73	76.11	80.1	72.2	69.11	74.13	64.25
Diff. % pts 2&3	31.96	26.45	38.02	19.4	15.12	24.42	38.06	32.07	44.48

( Source:Occasional Paper no.1 of 1987, Office of the Registrar General of India, p.21 )

A comparison between the literacy levels of Karnataka and Kerala (Table II.3) shows large differences. The divergence is most striking among women and the rural population. The difference in literacy rates [LR] among the female population of Kerala and Karnataka is 38.02 and the rural population 38.06. Difference between the literacy rates of the rural women of Kerala and Karnataka is 44.48 percentage points. This may be compared with the difference of 15.12 percentage points among the urban males of the two States.

This shows that the crucial advantage that Kerala enjoys in the field of literacy is in the case of females and rural population. Thus if literacy is a crucial variable in people demanding health

care services then the consumption of health care will be at comparable levels in both rural and urban areas. If the purchasing power of the population too is comparable then the private sector will not have any reason to discriminate between the urban and rural areas. The possibility that rural areas would get ignored was one of the possible dangers, pointed out in chapter I, of a health care system managed mainly in the private sector. On the other hand it appears more probable that when the number of hospitals in the urban area is enough to meet the demand for health services there will be an incentive for private investment to move towards rural areas where the density of population and awareness are both seen to be high .

It is also instructive to look at the ratio of Female/male literacy rates in the two States. While large differences exist between the males and females of other regions, in Kerala the difference is considerably smaller in both urban and rural areas.

Table II.4:- Ratio of Female literacy to male literacy [%]

	Total Population	Urban	Rural
India	52.93	72.64	44.03
Karnataka	56.77	73.53	47.00
Kerala	87.34	90.14	86.67

[ Computed from Table III.3 ]

Thus it is may be seen that while clear differences exist between the two States in the literacy levels of all segments of the population it is less in the case of urban population especially

males. In the urban area the differences between males and females too is less in Karnataka while in the rural area twice as many males are literate compared to females indicating that sex differential in literacy tend to diminish with urbanisation.

It is interesting that even in 1961 Kerala had levels of female literacy comparable to and in some cases better than male literacy of Karnataka in 1981. This would suggest that the reasons for Kerala's success in education and perhaps other social services are to be sought in expenditure decisions taken in the past. This is examined in the next chapter.

More important than the absolute number of literates is the spread of literates among the households. While the ability of the literate person in making an impact on the health of the household will depend on the extent of his influence in decision making within the household he will act as a vital conduit for information to percolate down to the other members.

From the 1981 Census papers it is seen that in Karnataka 35.71% and 14.96% of the rural and urban house-holds have no literate member. In Kerala the percentages are 5.47 and 2.83 respectively. That is to say very few households in Kerala exist with no literate person. Thus there is a possibility that at least one person may be available in every household to advise the other members on their health care needs. This may have contributed more to the difference in health status than absolute levels of literacy alone.

### II.3.2:- Income of the population:

A crucial determinant in the health status of the population, both directly through facilitating consumption of health services and indirectly through its impact on the other aspects that influence health, is the income of the population of the States. The obvious assumption is that the higher the income of the people higher their health status. The most common index of the wealth of a population is the per capita state domestic product [ This is done as the data equivalent to the National income at the state level - the income earned by the natives of the State irrespective of the origin of

Table II.5:- 3 year average Per Cap. state domestic product  
(Rupees)

	1961	1971	1981
India	561	621	713
Karnataka	548	620	702
Kerala	508	607	620

[ Source: Chandhok ( 1991 ) , p. 150 ]

the income - is not available. This would tend to depress the income of a State with a large percentage of expatriates whose remittances do have important implications for the economy of their native state as is the case with Kerala ], the percentage of population below the poverty line and per capita consumer expenditure. The average per capita state domestic product of the years 1960-63, 1970-73, and 1980-83 is shown in Table II:5. As may be seen the per capita income of Kerala is lower than that of the Indian average and Karnataka in all the three time periods, but the

difference is not significant except in 1981. If the income elasticity of demand for health services is low in Kerala, as may be expected when the awareness of the benefits of modern medicine is high, slight differences in income will not seriously affect the demand for health services. But if there are people who cannot afford even basic needs then the chance of their being able to afford health care is low. Therefore a more crucial indicator of the influence of income on health consumption is the number of people classified as below poverty line as they appear to be the most vulnerable.

The method for estimating the number of people below poverty line has been a matter of dispute between economists.<sup>1</sup> The table below gives estimates made by both the Planning Commission and an expert group set up by the Planning Commission to verify their estimates.

In both the estimates Kerala is seen to have lesser number of people below poverty line. The differences are significant in the Planning Commissions estimates in 1983-84 and in both the estimates in 1987-88. Thus it is obvious that even allowing for differences in the methodology of estimating number of persons below poverty line, Kerala is seen to have lesser number of people below poverty line. But nearly a quarter of the population of Kerala is below the poverty line and they may be expected to find it difficult to avail of health services by paying for it.

---

<sup>1</sup> See, for instance, Minhas (1991)

Table II.6:- Percentage of Population Below Poverty Line

	1977-78		1983-84		1987-88	
	Pg.Cm	Ex.Gp	Pg.Cm	Ex.Gp	Pg.Cm	Ex.Gp
India	48.3	50.13	37.4	43.28	29.9	37.96
Karnataka	50.8	50.68	35	39.8	32.1	39.51
Kerala	48.4	49.07	26.8	38.52	17	28.47

[Source:-Economic Times, 2<sup>nd</sup> August, 1993]

[Pg.Cm = Planning Commission, Ex. Gp = Expert Group]

We may also look at the data on consumer expenditure in the two States. The data from NSS survey 44<sup>th</sup> round show that the total per capita expenditure in Kerala's rural areas are higher than Karnataka's ( in fact higher than that of any other State except Punjab and Haryana). The average monthly per capita expenditure in the rural areas for India, Karnataka, and Kerala are: 175.1, 157.55 and 217.97. While 75% of the house holds in the all India average and 80% of the households in Karnataka are at or below the expenditure class 180-215 in Kerala only 57.5% of the house holds are at this level. The large differences disappear while comparing the monthly per capita expenditure of urban regions<sup>2</sup>.

Thus, while Per Capita State Domestic Product in Kerala is lower than that of Karnataka and India the number of people below poverty line and the monthly per capita expenditure suggest that income levels in rural Kerala are at levels comparable to the advanced states. The share of expenditure on health in the total

<sup>2</sup> See Sarvekashana, Vol xiv, no.3, issue 46.

expenditure is not available. But given the higher level of awareness of the benefits of health services the share of health expenditure in the total expenditure is likely to be higher in Kerala than the other regions. Even assuming the same level of income elasticity of demand it may be assumed that an above average expenditure and a smaller number of families in the lower expenditure classes ensures that the expenditure on medical services is quite high. If, as the data on consumption various kinds of medical services seem to indicate,<sup>8</sup> the demand for medical services in Kerala is not income elastic then the average amount of money spent by the population of Kerala will be the highest in the country; a fact noticed by some of the recent studies.<sup>9</sup>

While income of the population may be a crucial determinant of health status the differences in income between Kerala on the one hand and Karnataka and the rest of India on the other are not of sufficient magnitude to warrant using them as a crucial explanatory variable. But data on consumer expenditure shows that the per capita amount spent by the people of Kerala on consumption in general and on health care in particular is higher than the rest of the country. This, along with the high density of population and an awareness of health services among all categories of people, ensures that sufficient demand for health services, a necessary condition for the private sector to service the health needs of the

---

<sup>8</sup> See Sarvekshana, Vol.XV, No.4.

<sup>9</sup> See Kannan et al.(1991) and Panikar P.G.K (1992)

population, exist in Kerala. Government intervention is not required to make up for the shortage of medical services that would have arisen if the private sector was not in a position to supply health services profitably. However it is possible that the poor, who cannot pay user charges would be cut off from access to health services when the private sector provides health services. This aspect is examined next.

#### **II.4:- Poverty and access to health services**

Another reason commonly cited to justify intervention by government in the market for health services is that a system based on user fees will deny access to those who are incapable of paying the fees.<sup>10</sup> This section examines if there are people in Kerala who are denied access to health care on account of their poverty. Two components of health care services are examined here: hospitalisation services and child deliveries.<sup>11</sup>

---

<sup>10</sup> See, instance the World Development Report, 1993: "Private markets will not give the poor adequate access to essential clinical services or the insurance often needed to pay for these services. Public finance of essential clinical care is thus justified to ..[provide]..free or below-cost delivery of public services to the poor". (p.5)

<sup>11</sup> The consumption of hospitalisation services is high in the lower income groups of Kerala when compared to other Indian States. With only 3.43 % of the total Indian population number of inpatients in the lowest fractile in Kerala constituted 11.7% of the total number of the inpatients in the lowest fractile groups in all Indian States. Karnataka with 5.31% of the Indian population had only 4.72 % of the inpatients in their lowest fractile. When the share of each fractile group in the total number of hospitalised persons in all the States and Karnataka are compared with that of Kerala it is seen that the fiftieth percentile of those using hospitalisation facilities in Kerala falls between the 30<sup>th</sup> and 40<sup>th</sup> fractile groups while in both all States and Karnataka it falls between the 50<sup>th</sup> and 60<sup>th</sup> fractile. See

## II.4.1:- Hospitalisation services

To examine if the poor in Kerala are being deprived of health care due to their inability to pay we may look at the reasons for non-utilisation of medical facilities by sick persons. This is

Table II.7 :- Reasons for not taking treatment

Rural							
	No Med. Facilities	No faith in Med.	long Wait	Financial reasons	Ailment not serious	Other Reason	All
India	2.86	1.93	.33	15.27	74.61	5	100
Karnataka	5.29	3.4	.16	14.63	67.61	8.91	100
Kerala	0	1.71	0	14.66	80.98	2.65	100
Urban							
India	.13	1.81	1.05	9.57	81.13	6.31	100
Karnataka	.71	1.73		11.26	81.63	4.67	100
Kerala	0	.15	0	4.54	88.94	6.37	100

[ Source:- Sarvekshana, Vol.XV, ]

available from the results of The 42<sup>nd</sup> survey of social consumption which lists the reasons for non-utilisation of medical facilities by sick persons for the period 1986-87.[ Table II.7 ]. In the case of rural Kerala almost the only reason why ailments considered serious are not being treated is the lack of money. And it is of the same percentage of the total number of cases who do not avail of treatment as in Karnataka and the rest of India . However in urban Kerala considerably less number of people are deprived of

---

Sarvekshana Vol.XV, No.4.

medical assistance due to financial reasons. It is also less than the percentage of people in the same predicament in the urban regions of the rest of the country.

A possible explanation is that there are less number of poor people in urban areas than in rural areas. In the rest of the country too the number of people who could not afford medical treatment was less in the urban areas than in the rural. But the percentage of poor people who could not get an ailment treated due to financial reasons in the urban areas is less than the same figure in the rural area only by 4 percentage points in the case of Karnataka and 6 in the case of the rest of India, while in the case of Kerala the difference is much more substantial, at 10 percentage points.

This ought to be examined against the percentage of people below poverty line in the rural and urban areas.<sup>12</sup> Kerala has lesser number of people below poverty line in the rural than in the urban areas. Hence it is unlikely that the difference has arisen as there are more poor people in the rural area than in the urban. While both Karnataka and the rest of India report lack of medical facilities ( more in the rural area than in the urban area ) as one of the reasons for non-treatment this is not true either of rural or urban Kerala. Facilities are available in both urban and rural areas. But the a segment of rural poor people do not have access to

---

<sup>12</sup> See Minhas, (1991) for relative positions of the percentage of people below the poverty line in both urban and rural areas of all Indian States. While Kerala, according to Minhas had 46% of the rural population was below the poverty line the percentage in urban Kerala was 51%.

these. This is an area where government intervention might be required. The possible reasons for the denial of access to the poor in rural areas while the urban poor do not appear to suffer a similar disadvantage and the response of the government health sector to this fact are both examined in the following chapters.

#### **II.4.2:- Child births**

Another important component of essential medical services are child deliveries in hospitals. It has been seen [ Table II.8 ] that 77.58 of the rural and 78.75 of the urban child births take place in hospitals. But as in the case of hospitalisation services, it is reasonable to assume that income disabilities might prevent the poor from having their deliveries in hospitals.

To ascertain to what extent financial difficulties have prevented expectant mothers from having hospital deliveries the reasons for non-hospitalisation for deliveries may be examined. [Table II.8]. Compared to reasons for non treatment of illness two aspects stand out: a) Financial reasons are cited fewer number of times as the reason for non-institutional deliveries, b) Unlike in the case of hospitalisation facilities lack of proper facilities emerge as a common reason for child deliveries taking place at home. The possible reason why lack of money does not stand in the way of arranging deliveries in hospitals, especially private ones, could be that while the onset of sickness is sudden deliveries provide

Table II.8 : Reasons for non-hospitalised births

Rural

	Preferred	Too Expensive	Not Available	Others	Percntge of non Hospital Births
India	43.6	12.92	20.08	18.82	86.47
Karnataka	43.4	13.27	16.55	19.32	80.91
Kerala	47.55	6.65	9.55	23.29	22.42

Urban

	Preferred	Too Expensive	Not Available	Others	Percntge of non Hospital Births
India	50.66	13.98	4.15	23.91	51.8
Karnataka	43.1	14.3	.69	21.69	38.11
Kerala	20.03	3.72	0	47.46	21.25

[ Source : Sarvekshana Vol.XIV No.4 ]

sufficient time to arrange for expenses. But non availability of suitable facilities appears as an important reason for non institutional births. This, seen with the fact that such a reason was not given for non-hospitalisation, can only mean that facilities perceived as suitable for deliveries is different from those acceptable for hospitalisation. Unless acceptable facilities are geographically and economically accessible the deliveries take place at home. This is possibly aided by the fact that, should complications arise medical care is easily accessible. In an emergencies the shortage of finances will not remain a hurdle. Here too the rural areas appear handicapped. But unlike in the case of hospitalisation, in the case of child deliveries the shortage of facilities too create difficulties for the rural poor.

The next chapter analyses the response of the government sector to the shortage of facilities in the rural areas and how this has shaped the health care system of the state.

#### **II.5:- Services with externalities:-**

As was discussed in chapter I there are certain medical services which have significant externalities which cannot be accounted for by user fees to be paid to the dispenser of the service since in addition to the benefit derived from these services by the individual who purchases them the society also benefits by it. Therefore the welfare of the society as a whole is increased by an individual consuming these services. But the utility an individual places on these services could be low and the price he is willing to pay for these services might be low. If this were to happen it would result in the under consumption of these services leading to the reduction of the welfare of the whole society. Therefore it would be advisable to finance these services from the exchequer. Examples of such services are family planning and immunisation of children.

However if the consumption of these services by the population is high then this danger will not arise. It has been noticed earlier in the chapter that birth rate and child mortality are very low in Kerala. The number of children and expectant mothers registered for immunisation have also been found to be high. Thus the possibility that the services with externalities will be under consumed is not borne out by the data on their consumption. But this must be seen

against the backdrop of a large investment by government in providing these services. The extent to which these services are dependent on government expenditure decisions will be examined later in the study.

#### **II.6:- Utilisation of health services**

Irrespective of the fact whether conditions favourable to creating a demand for health services exist or not the real proof of the existence of such a demand is extent of utilisation of services. The indicators chosen here are immunisation services and hospital deliveries. These have been chosen as paediatric care and child births are intensely bound by tradition and modern medical practices would not be utilised for them unless the population is convinced of the utility of these services, unlike curative services whose impact is more dramatic and would have more immediate acceptability.

The immunisation services are given during prenatal period and infancy. Hence the number of children registered for paediatric care and the number of mothers registered for prenatal care give a good indication of the extent immunisation services are availed of in the region. The data for the period 1986-87 shows that i) Kerala's figures are better than the rest of India and ii) that there is hardly any difference between rural and urban areas in the utilisation of these services. (Table.9 (a) & (b) )

Table II.9 (a):- Percentage of children registered for paediatric care

	Rural	Urban
India	11.93	29.4
Karnataka	21.34	45.2
Kerala	32.19	32.64

[ Source:- Sarvekshana, (1991) Vol. XIV, No. 4, ]

Table II.9 (b):- Percentage of mothers registered for Pre-natal care

	Rural	Urban
India	21.15	46.83
Karnataka	36.97	64.43
Kerala	72.68	65.24

[ Source:- As in table II.9 (a) ]

The difference between Kerala and other regions are even more remarkable with regard to deliveries that take place in hospitals. In Kerala more than three fourth of child deliveries in both the rural and urban areas take place in hospitals. This is higher than the percentage of institutional births in the rest of India and Karnataka. (Table II.10, The data relates to 1986-87)

Table II.10:- Percentage of Hospital Births

	Rural	Urban
India	13.53	48.2
Karnataka	19.09	61.89
Kerala	77.58	78.75

[ Source:- As in table II.9 (a) ]

Thus the data on both immunisation and institutional deliveries show that the utilisation of hospital services are quite high. If

this is so then utilisation of other services such as inpatient and out patient services cannot be low as they generally cater to emergencies where more people would resort to allopathic medicine more readily than they would for immunisation or normal child births. Thus while the conditions favouring creation of demand for health services exist in Kerala the utilisation of existing facilities is also seen to be high.

It has been shown that two factors that could have made it impossible for the private sector to profitably service the health needs of a region - thinly populated areas and lack of demand for health services - do not exist in Kerala. At present there exist a demand for health services which is higher than that which exists in the rest of the country. The next chapter examines if this is due to investment decisions made by Governments in the past .

## **II.7: The Indicators of health status**

Although there are no widely accepted norms by which the health status of a population is to be judged authors dealing with Kerala's health status have concentrated on the following: live birth rates, death rates, rate of infant mortality, the morbidity rate and the expectation of life at birth.<sup>13</sup> Of these the least acceptable as an indicator of health status in India is the morbidity rate due to poor quality of data, difference in 'perception factor' ( perception of whether a certain ailment

---

<sup>13</sup> See for instance, Panikar and Soman ( 1984 ), Kannan et al. (1991), Panikar (1992).

requires medical intervention or not differs among societies).<sup>14</sup> Therefore the data presented here pertain to birth and death rates and life expectancy.

### II.7.1:- Live Birth and Death Rate

The data, in comparison to Karnataka and the rest of India, show that a) Kerala has a lower number of live births per 1000 population and b) the difference between rural and urban areas are

Table II.11:- Live births per thousand population

	India			Karnataka			Kerala		
	1980	1985	1988	1980	1985	1988	1980	85	1988
Total	33.7	32.9	31.3	27.6	29.6	28.7	26.8	23	19.9
Rural	35.1	34.3	32.8	28.9	30.9	30.1	27	23	19.6
Urban	27.8	28.1	26	24.4	26.2	24.9	25.5	24	21.2

[ Source: Government of India, Central Bureau of Health Intelligence, ' Health Statistics of India' , Various Issues]

not very pronounced as in the rest of the country. In Kerala the birth rates show a pattern of uniform decline in both the urban and rural areas. In all Indian states taken together and Karnataka the general trend has been towards lower birth rates. However in rural areas of India and in both the rural and urban areas of Karnataka

<sup>14</sup> For a more detailed discussion of the limitations of data on morbidity see Panikar and Soman (1984) p.71 and Kannan et al. (1991) pp.60-65. The data presented in the latter shows that the morbidity in rural Kerala was the highest in India. ( 71.21 as against the Indian average of 22.46 ). Some of the States that performed worse than Kerala in terms of other indicators had very low morbidity rates in their rural areas, e.g. Bihar - 10.16 and U.P. - 13.22. Panikar (1992) advances a tentative hypothesis that the morbidity rate is high since curative services ensures longevity of life more potential victims of morbidity are present in Kerala.

there was an upswing in the birth rate followed by a decline there after. The rate of decline in birth rates between the time periods under reference is faster in Kerala than in the other regions. Similar results are seen when the death rates too are examined except that death rates in urban Karnataka are very similar to that of urban Kerala. [Table II.12]. In both the indicators the urban regions do not differ much across regions. It is only when the rural areas are compared that the figures for Kerala are remarkably superior. Thus Kerala could achieve its position of superior health only by virtue of what it had achieved for the health status of its rural population.

Table II.12: Death Rates per thousand population

	India			Karnataka			Kerala		
	1980	1985	1988	1980	1985	1988	80	85	1988
Total	12.6	11.8	10.9	9.6	8.8	8.8	7	6.5	6.3
Rural	13.7	13	11.8	10.7	9.8	9.5	7.1	6.5	6.2
Urban	7.9	7.8	7.5	6.6	6.1	6.9	6.5	6.6	6.7

[ Source: As in Table II.11 ]

### II.7.2:- Infant Mortality Rate

However the difference between Kerala and the rest of India come out dramatically in the Infant Mortality Rate considered to be the index which " brings out more sharply the quantitative and qualitative dimensions of the health status of a community." <sup>15</sup> Kerala's rural regions have infant mortality rates that are lower

<sup>15</sup> Panikar and Soman, 1984 p. 39.

than even the urban areas of the other regions. The low rates of infant mortality in Kerala is attributed mainly due to higher age of women at marriage and child birth, smaller families, high female literacy leading to access to scientific methods of child rearing as well as greater decision making power and the availability of hospitals in close proximity making it possible to have access to pre-natal care, institutional deliveries and paediatric care.<sup>16</sup> Karnataka too has an infant mortality rate lower than that of all Indian states together but higher than even rural Kerala.

Table II.13:-Infant Mortality Rates - 1988

	Rural	Urban	Total
India	102	61	94
Karnataka	83	46	74
Kerala	30	22	28

[ Source: Government of India; Central Bureau of Health Intelligence, ' Health Information of India, 1990 ' ]

### II.7.3:- Expectation of life at birth

When the data regarding expectation of life at birth for the three regions is examined Kerala is seen to be significantly better placed than both Karnataka and the rest of India. The rate of

Table II.14: Expectation of life at birth

	1951-61	1961-71	1980
India	41.2	47.7	54.4
Karnataka	40.2	44.6	58.5
Kerala	48.3	48.8	66.5

[ As in table III.3 ]

<sup>16</sup> From Kannan et al. (1991) pp.87-90

decline in three regions were faster in the decade 1970-80 than in the previous one. However there is a possibility that even though mortality has been prevented morbidity could still be high.<sup>17</sup>

It may be seen from the indicators discussed here that the the population of Kerala enjoys a health status which is much better than that enjoyed by other regions of India. Unlike in other regions there is very little difference between the urban and rural regions. This indicates that there may be factors unique to Kerala that influence both the provision of health services as well as its consumption by the population. Any examination of the provision of health care services in Kerala will have to consider aspects that have made Kerala unique in India. It would also imply that decisions on government intervention appropriate to Kerala need not be appropriate to the rest of India .

#### **II.8:- Conclusion**

In this chapter the factors that affect the provision and consumption of the services and the consumption of health services by the poor, the level of utilisation of health services and the present health status of the State were examined . In order to better appreciate the position of Kerala, the indicators for the State were compared with similar indicators for India and another state comparable in many ways to Kerala, viz. Karnataka. The

---

<sup>17</sup> In order to include the burden of disease the World Health Organisation has developed the Disability Adjusted Life Year (DALY), a measure that combines the healthy life years lost due to premature mortality with those lost due to disability. See The World Bank, (1993) p.1.

comparisons revealed that the social conditions in Kerala were more favourable to the provision and consumption of health care services and that the health status of the population Kerala was higher than that of the other States in India.

Private sector might find supply of health care unprofitable when the area is too sparsely populated or when demand for health care is deficient. The demand for health care gets reduced when the population is either not aware of the benefits of modern medicines or when they do not have the purchasing power to afford health care. For a medical institution to be profitable there must be sufficient number of persons residing within its service area as persons with illness cannot be expected to travel to a far away place. When the service area and the population served by each institution is calculated it is seen that Kerala serves a much smaller area than the rest of the country, has within this area a population comparable to that living in the service areas of the hospitals of the rest of the country. Similarly the maximum distance to be travelled by a patient is also less in Kerala.

For the demand for health services to exist, the population must be aware of the benefits of health services and have the purchasing power to pay for these services. An important determinant of awareness is literacy, especially among women. The literacy rate in Kerala is the highest in the country. The differences with other regions is the most striking among the rural population and females. In Kerala there is very little difference between males and females in literacy. There are very few households with no

literate member. These indicators point to the likelihood of there being a high degree of awareness regarding the benefits of modern medicine in the population of the State.

While willingness to purchase health care is determined by the awareness, the ability to do so is dependant on the income of the population. The per capita State Domestic Product of the State is lower than the average of all Indian States. But the percentage of population below poverty line is less in Kerala. The per capita monthly expenditure in rural areas is very high. While the data on income is not very conclusive, the levels of literacy and monthly expenditure in rural areas points to the possibility of a strong demand for health services in the rural areas of Kerala, much more than what is likely in other regions. The utilisation of health services was also much higher in the rural areas of the State than in other States. Thus it was observed that not only do conditions favourable to the supply of health services exist in State but the consumption of these services are also very high in Kerala compared to other regions in India.

To verify if there were people who could not consume health care services data regarding the consumption of two services, inpatient care in hospitals and institutional deliveries, are examined. While non-availability of medical facilities and long wait were given as the reason for non-treatment of sickness considered serious in the other regions this was not seen to be a major constraint in Kerala. The percentage of people who could not obtain treatment due to financial reasons were negligible in urban Kerala but was

significant in the other urban regions and more so in the rural regions of all states including Kerala. The difference between the reasons for non-utilisation of hospital facilities for treatment of sickness and child births is attributed to the differences in the attitude to approaching hospitals for these services due to cultural factors, to the acceptable standard of health facilities being higher for deliveries than for in-patient treatment and to the possibility of saving for expenses in connection with deliveries since the probable date of delivery is known much ahead unlike in the case of hospitalisation. This points to the possibility that more than the cost of the health care it may be the unpredictability of the expenditure that makes it difficult for the poor to consume health services.

The indices of health status chosen here for comparison are live births and deaths per thousand population, infant mortality rates and expectation of life at birth. It was observed that : i) the indicators were consistently better in Kerala compared to the other two regions, ii) unlike in the other two regions there was very little difference between the indicators of the health of urban and rural population and iii) the difference between the urban areas of Kerala and the other regions were much less than that between the rural areas. Hence it may be concluded that Kerala's health status is remarkable due to what it has achieved for the health status of its rural population.

This chapter has shown that except in the case of the poor being

denied access to health services there is no obvious reason for government to interfere in the health sector. But government has been involved in the provision of health services for a long time. Hence the present situation in the health sector in Kerala which has made intervention by government almost unnecessary might itself be the result of government expenditure in the health sector. The expenditure decisions taken in the past have helped achieve the health status the population of Kerala enjoys to day. These decisions are analysed in the next chapter to see how the government had responded to the social milieu existing then. The direction in which the investment decisions have tended to go, and the results it had achieved are also analysed.

## CHAPTER III

### AN ANALYSIS OF PUBLIC EXPENDITURE DECISIONS IN THE HEALTH SECTOR

#### III.1:- INTRODUCTION

If one examines the historical development of the health-care system in the State it will be seen that state intervention in providing health care has been the single most important factor which has influenced its growth . State intervention takes the form of direct provision of health services, grants to non-governmental organisations to provide health services, generating an awareness among the population regarding the benefits of modern medical services and taking steps to regulate the health market. Only the first option is discussed here, as a clear relationship between expenditure decisions and output is not evident in other cases.

Decisions regarding government intervention are usually concerned with the areas where government intervention is called for, location of the services, which services are to be provided in public hospitals, the prices to be charged for them and the allocation of funds between infrastructure, equipments and personnel. These decisions are taken by the rulers in response to the existing social scenario. Since these decisions are taken by,

or under the influence of the dominant groups in the society the direction the allocation of resources will take will be influenced by their interests<sup>1</sup>.

This chapter examines the pattern of government expenditure on health in the State, the way the allocation of the personnel and resources has been done and the influence it has had on the provision of health care in the State. The historical development of health care in the public sector in Kerala is examined first. This is followed by an analysis of the allocation of the financial resources in Kerala in the post-independence era. The importance given to health expenditure in the budget of the State is examined. The effect of the fiscal crisis in the State on health services is also looked at. It will be examined if investment decisions taken in government have concentrated on any particular segment of the health care market and whether they have tended to benefit any particular group. The towards any geographical region in the allocation of health resources is analysed.

### III.2:- History of the Development of Health Care Facilities

The allopathic system of medical care was introduced into Kerala in the early 19<sup>th</sup> century at first in Malabar by the British and then in Travancore and Cochin by the Maharajas. The British, eager to protect the Europeans and their employees from

---

<sup>1</sup> [See Birdsall, N and James, E (1990)]

epidemics, introduced the small pox vaccination in Malabar in 1801 barely five years after its discovery. However the British were not aware of, [ or were reluctant to recognise ] the existing social realities of Malabar, such as the caste system. Hence they failed to persuade local people to adopt allopathic practices on a large scale. On the other hand the Maharajah of Travancore, a convert to the allopathic system of medicine, was able to influence his subjects by setting an example himself and by persuading the influential upper castes to follow suit. Since his concern was with the welfare of his subjects ( or since he understood and responded to their aspirations) he expanded the health care facilities. The first civil dispensary was established in Malabar in 1853 while in Travancore the first public dispensary had been opened in 1819 and converted to a hospital by 1837. By 1860 Travancore had seven medical institutions financed by the State. The Maharajah also took care of the possible social and religious hostility that might otherwise have arisen owing to caste and religious beliefs that were current then.<sup>2</sup> By government action the people of Travancore had an opportunity to acquaint themselves with the benefits of allopathic treatment. This was the first step in creating a growing demand for health services.

When the missionaries reached Travancore with the intention of

---

<sup>2</sup> Such hostility did arise in Malabar, See Kabir and Krishnan (1992) P.6

converting the local people to christianity they found that they could attract people to their faith by catering to the existing demand for health and education. The State assisted them and the population now came to enjoy the benefits of both State and missionary munificence. Missionary activity was limited in Malabar compared to Travancore and Cochin. Thus Travancore which had started providing allopathic health care after Malabar did, soon came to have much better facilities than Malabar. By 1896-97 Travancore had 34 beds per one lakh population, a figure Malabar could achieve only by 1956-57.<sup>3</sup>

The crucial difference appears to have been the attitude of the State to providing health care to its population. The colonial government set up institutions and personnel only to look after the health of the Europeans and their employees. Only when it was realised that it is difficult to maintain an island of good health in the middle of a population periodically suffering from epidemics, was access to health facilities made available to the 'natives'. Even then it was made contingent upon the local population making a substantial contribution to the infrastructure and towards its upkeep. This could hardly be expected from a population as yet unconvinced of the benefits of the allopathic system of medicine. Not surprisingly very few institutions survived in Malabar.

---

<sup>3</sup> Kabir and Krishnan, (1992) p.21

In Travancore, on the other hand, the State considered the provision of health facilities in the public sector to be an important duty of the government. The oft quoted statement made by the Maharajah in 1965 is clear proof of this.<sup>4</sup> The improvement of the finances of the State towards the end of the nineteenth century made it possible for the State to put its good

Table III.1:- Expenditure on Health Care, Travancore  
(Annual Average Rs.Lakhs)

Period	Medical and Public Health	Total govt. Expenditure	Perncctge share of Health
1863-68	.47	42.69	1.09
1870-78	.96	51.91	1.84
1890-94	1.70	80.59	2.11
1905-10	4.65	107.96	4.31
1910-20	6.26	156.39	4.00
1920-30	9.41	220.14	4.27
1930-40	12.82	254.74	5.03
1940-48	24.67	546.11	4.14

[Source: Panikar and Soman, 1984: p. 91]

---

<sup>4</sup> " One of the main objects of my government is to see that good medical aid is placed within the reach of all classes of my subjects. It is a blessing which is not at present in the power of individuals generally to secure however much so ever they may desire it. It is hence the obvious duty of the state to render its assistance in this direction." [V.Nagam Aiya, Travancore State Manual, Government of Travancore, Trivandrum, (1906), Vol.II, P.537]

intentions to practice. And the supply of health services seem to have lead to a demand for more. The share of budgetary allocations for health which was 1.09 in the period 1863-68 rose to 4.31 by 1905-10. Thus, in Travancore the awareness regarding health services was created and fostered by the State which assumed the responsibility of making available and actively promoting the utilisation state financed health care among its population. Once the demand was generated it spread across social groups. The third and fourth decade of the century, when the effect of the State intervention was beginning to be felt, was also the time caste and community based groups were trying to gain organisational strength. Every group that sought to organise people made it their aim to secure for their target group the benefit of both education and health care. In Travancore the utilisation of state-financed health care was actively promoted by the State among its citizens thus creating an awareness of the allopathic system of medicine. Had the State not taken care to provide free health services and took measures to ensure that the population increasingly utilised health services it is likely that the health status of Travancore would have resembled that of Malabar. The State recognised the need to intervene, discerned the type of intervention required and developed the administrative ability to carry it out.

How do the health infrastructure built up in Travancore compare with what were then British India and Mysore, the Kingdom that

was the precursor of Karnataka in the way that Travancore was of Kerala. In Table III.2 are listed the institutions per square mile, and beds per lakh population in the three regions. Travancore had a better geographic spread of facilities than either British India or Mysore. While this could be a function of a higher density of population it ensured that the people of Travancore had better access to health care facilities than the population in the other regions. Regarding the availability of beds per lakh population Travancore was considerably ahead of the other regions

Table III.2: Health Facilities in British India, Mysore and Travancore - Institutions and Beds

	Instn.s per(000) Sq.Mile			Beds per Lakh Population		
	British India	Mysore	Travancore	British India	Mysore	Travancore
1925	3.62	6.89	10.23	18.55	21.22	37.93
1930	5.51	9.24	13.51	21.01	22.51	39.25
1935	5.78	9.58	15.74	19.24	37.48	41.37
1940	6.80	11.90	22.56	21.27	46.78	46.81

Sources: a) Statistical Abstract for British India, Department of Commercial Intelligence and statistics, Government of India(1948)

b) Statistical Abstract of Mysore, Commissioner of economic planning and development, Government of Mysore, Bangalore(1951)

c) Statistics of Travancore, Government of Travancore, (1924,1931,1936,1941)

in the period prior to 1930. Later the differentials appear to be steadily narrowing down between Mysore and Travancore possibly due to the government of Mysore taking steps to ensure that the availability of beds increased. But even this did not remove the advantage Travancore derived from having had a head start and through greater access to medical institutions its population enjoyed from the same number of institutions per capita. This was made possible by the higher density of population in Travancore. The importance given by the princely State of Mysore to expenditure on health seems to have come almost on the eve of its merger with other regions to form the State of Mysore. Hence an awareness of the benefits of the health system does not appear to have percolated down to the population so as to generate a popular demand for sustaining this into the post -Independence era. While the growth of institutions in Travancore and British India was more than that of beds, in the case of Mysore the number of beds in hospitals seem to have gone up (by 120% ) while the number of institutions went up only by 73% . This shows that the increase in beds that took place in Mysore took place in large hospitals unlike in Travancore where a large number of small hospitals came up.( the number of institutions went up by 120% but the beds increased only by 29 %).

On the eve of the formation of the State of Kerala Travancore-Cochin had 76 government Hospitals to 1,00,000 population while

Malabar had 34.<sup>5</sup> The existing health infrastructure and health expenditure of the country and the States of Coorg and Mysore [ which later were merged with the present day Karnataka State ] for the same period are given below in Table III.3. It may be seen that even in 1955 Travancore had a clear advantage over the other regions under consideration. This was the result of decisions taken by their princely rulers. But the elected governments that came to power in independent Kerala also followed a similar pattern of expenditure in the health sector. This shows that earlier expenditure decisions, though taken by princely rulers, were also a reflection of the popular will. The demand for health services had grown to an extent that it had to be reflected in the expenditure decisions of the Legislature.

Table III.3 :- Health Facilities and Per Capita Expenditure of Travancore-Cochin, Mysore, Coorg and India-1955

	Institution Per sq.kms.	Beds/lakh population	Per capita Health Exp Expenditur	as % of total exp.
India	10	40	1.36	4.40
Mysore	18	74	1.52	5.90
Coorg	17	24	5.32	9.60
Travancore- Cochin	290	76	1.67	8.50

[Source:- Computed from "Health Statistics of India", (1954-55), Directorate General of Health Services, Govt. of India]

---

<sup>5</sup>Kabir and Krishnan, 1992 .p.39

### III.3:- Government expenditure on health in Kerala after Independence:

The emphasis on public expenditure on health was continued and strengthened after the unified State of Kerala was formed. As mentioned above the population of Travancore, thanks to the policies followed by the government, had come to appreciate the benefits of modern medical practices. Any elected government would be bound to expand the reach of the health system if there was a demand to do so. An effort would also have had to be made to enable the regions of erstwhile Malabar have facilities equal to what Travancore had. The governments that ruled Kerala appear to have done both till they were checked by financial problems which themselves, it has been argued was the result of expenditure decisions taken by the government of Kerala in the social and community services, especially health and education.

#### III.3.1:- The share of expenditure on health in the total government Expenditure

A comparison of the share of medical and public health services in the total revenue expenditure of Kerala with the rest of India and Karnataka [Table III.4] reveals that in Kerala budgets health services (including medical and public health services ) always had a consistently higher percentage share till the end of the

seventies.<sup>6</sup> Since then, the difference between the rest of

Table III.4:-The share of health expenditure in total expenditure- Revenue

Year	Yearly Average Percentage share		
	All States	Karnataka	Kerala
1960-65	8.30	8.15	10.45
1965-70	7.96	7.00	10.41
1970-75	8.30	8.03	9.58
1975-79	9.80	9.48	10.33
1980-85	9.77	8.16	9.14
1985-90	9.54	9.07	9.07

[Source: Reserve Bank of India Bulletin, Various Issues ]

India and Kerala, in the percentage share of health services have been steadily declining. Compared to rest of India per capita expenditure on health care in the public sector has also been consistently higher in Kerala. But here too the differentials between the average of all states and Kerala have tended to narrow down towards the end of the seventies.[ Table III.5]

---

<sup>6</sup> The health budget of the states have traditionally included allocation towards the different systems of medicine, medical education, Employees State Insurance and Public Health Services such as sanitation and water supply. In this study when referring to total expenditure on health the reference is to all these items. But later in the chapter when the budget is analysed in detail the allocation to Public health , Family Welfare, ESI, Ayurveda and Homeopathy have been excluded for reasons given there.

In the period from the formation of the State to the end of the sixties Kerala spent on an average an amount 30 % more than the amount spent by all the major Indian states . But in the period from 1970 to 1986 the expenditure of Kerala was only 15 % more

Table III.5:-Per capita expenditure on health  
(Rupees per person)

	All States	Karnataka	Kerala
1957-60	1.79	1.54	2.09
1960-65	2.61	2.51	3.46
1965-70	4.56	3.74	6.05
1970-75	7.33	6.34	8.67
1975-78	13.39	12.10	19.06
1979-83	26.04	20.04	31.85
1984-86	47.88	35.47	48.98

[Source: Yearly averages Calculated from Health Statistics of India, Various Issues, Government of India]

than that of the average per capita expenditure of all the major Indian States.[In comparison to Karnataka the difference is maintained at a marginally lower level]. This could have been caused by various reasons. Most of the other States of India might have followed the example set by Kerala and invested heavily in health while Kerala, with high level of availability of facilities might have chosen to invest less in Health.<sup>7</sup>

---

<sup>7</sup> A study by Thulasidhar and Sharma (in Berman and Khan 1993) shows that, in the period from 1971 to 1983, Kerala had the lowest trend growth rate in per capita expenditure on health

Alternately a decision might have been taken to alter the public /private product mix of the health care system of the State. But since the period during which the growth rate of public expenditure on health started slowing down coincides with the period from which Kerala began to have fiscal difficulties it needs to be examined if the expenditure on health was affected by the fiscal crisis of the State.

### III.3.2:- Health Expenditure and the Fiscal crisis in Kerala

Kerala has had a budget deficit in many of the recent years. The deficit can arise in either the revenue account or the capital

Table III.6:- Comparison of the budgetary surplus/deficits of Kerala and all Indian states

(In Rs. Crores)

Year	Revenue Account		Capital Account		Over-all	
	Kerala	All State	Kerala	All State	Kerala	All State
1974-77	-2.13	821.07	-4.17	-540.53	-6.10	280.53
1977-80	43.33	1234.27	-12.57	-867.33	38.57	366.97
1980-83	31.87	1250.97	-65.27	-1466.97	-33.40	-215.90
1983-86	-48.70	-18.10	57.87	106.93	9.13	88.77
1986-90	-169.08	-1898.80	113.88	1202.78	-54.30	-629.95

[Source:- George, (1993) p.19]

---

among 13 major States. (Table 4.1).

account or both. An analysis in a recent study<sup>8</sup> shows that in Kerala the budgetary deficit had arisen mainly in the revenue account, (in which recurring expenses such as salaries, office expenses, purchases and interest payments are incurred). Of the 16 year period prior to 1990-91 Kerala had deficits in the revenue account in 10 years while all major States taken together had deficits in only 4 years. The problem seem to have assumed serious proportions in the period 1988-90 when Kerala had been running deficits above Rs. 100 crores in the revenue account. George (op.cit., chapter V)

Table III.7 :Per capita expenditure during plan periods (1974-90)  
Kerala All States (Rupees)

Types of Expenditure	V <sup>th</sup> Plan	VI <sup>th</sup> Plan	VII <sup>th</sup> Plan	V <sup>th</sup> Plan	VI <sup>th</sup> Plan	VII <sup>th</sup> Plan
I.Revenue Exp.	181	341	721	149	309	665
a)Plan	22	61	107	23	63	140
b)Non-Plan	158	280	614	126	246	517
II.Capital Exp.	57	117	195	71	130	213
a)Plan	33	73	112	47	84	146
b)Non-plan	24	43	84	24	46	66
III.Total Exp.	238	458	916	155	315	877
a)Plan	55	134	218	69	145	293
b)Non-plan	182	323	698	87	171	583

[Source :- George, op. cit p.90]

argues that this has been the result of the emphasis that Kerala

<sup>8</sup> George, (1993)

placed on the social and community development services, mainly education and health, in its plan programmes. These two services have a large revenue component (for the period 1974-90 the share of revenue expenditure averages 91.4 % of the total expenses in the social and community services for Kerala and 90.% for the other states)<sup>9</sup>. Hence when these programmes, at the end of the plan period, are included in the non-plan category the share of the non-plan revenue expenditure is likely to go up. This will also push up the total expenditure. This appears to have happened in the case of Kerala [Table III.7 ]. Compared to the other Indian States Kerala had substantially larger per capita expenditure only in the non-plan revenue expenditure. George explains this as the legacy of the emphasis the government of Kerala laid on social and community services in the in its past plans. While this might be true it needs to be examined whether the possibilities of revenue generation of social and community services, which would have helped to ease the revenue deficit, have been fully explored. However this falls outside the scope of the present study. But the analysis by George points to the a possible reason why the State could not maintain the lead in health expenditure which it had when compared to other states.

#### III.4:- Availability of medical facilities in the State

The health status of Kerala owes its present state to a large measure to expenditure by the government. But by the middle of

---

<sup>9</sup> George op. cit. p.92.

the seventies it had become obvious that the financial resources of the State could not support the rate of growth of the health system it had nurtured till then. Had Kerala's health system been totally dependent on the public exchequer the fall in the rate of growth of per capita expenditure would have led to decreased per capita availability of facilities (institutions and beds) for allopathic medicine and beds in the State. Table III.8 shows the availability of allopathic institutions and beds in India and Karnataka. The disparities between Kerala and the other two regions regarding institutions per square kilometre and beds per

Table III.8:- Availability of allopathic institutions and Beds in India, Karnataka, and Kerala

	Instn.s per 1000 Sq.Km			Beds per Lakh population		
	India	Karnataka	Kerala	India	Karnataka	Kerala
1963-64	3	5	8	24	76	80
1965-66	4	4	8	66	81	85
1971-72	5	5	9	63	84	101
1974-75	4	6	14	69	89	91
1977-78	5	7	32	81	95	225
1981-82	9	9	39	78	91	176
1989-90	12	7	98	76	80	260

[Source: Health Statistics of India, Various issues, Central Bureau of Health Intelligence, Govt, of India]

Note:-The institutions in the private sector were not included in the figures for Kerala till 1977-78. For 1981-82 the figures for the private sector had not been updated from 1979.

lakh population are further widened towards the late seventies, precisely at the period during which the differences between Kerala on the one hand and India and Karnataka on the other hand per capita expenditure is seen to be declining. This is due to the inclusion of data from the private institutions for the first time in 1977. Thus the effect of the reduction in disparity in the share of health expenditure in the total public expenditure with other States or the declining per capita public expenditure on health did not in any way reduce the availability of health facilities to the population only because the private sector moved in to fill the vacuum. It will be argued that this emergence of the private sector as a viable alternative to the public sector was itself the offshoot of the direction taken by the allocation of resources in the public sector. In order to appreciate this possibility a detailed examination of the pattern of government expenditure on health is necessary. An examination of the way government expenditure was channelised will reveal that decisions on expenditure were taken in such a way as to benefit certain specific group of beneficiaries. When the availability of funds declined these groups protected their interests and the full impact of the shortage of funds was passed on to the not so powerful groups. In allocation of resources also some regions of the State were treated as more equal than the others.

III.4:-Patterns in the allocation of resources for health sector

in Kerala:- [1960-1990]

The health budget of the State allocates funds for various purposes. The purposes have been classified under the following categories:

1) Pay and allowances:- This includes the wages, salaries and various allowances paid to the personnel including travelling expenses.

2) Office Expenses:- This refers to, in addition to office expenses, the amount spent on rent, taxes and expenses not classified elsewhere.

3) Medicine/Diet:- The amount spent on providing medicines and diet directly to patients is included here. The figure includes medicines supplied free to patients and those for which payment is realised.

4) Hospital accessories:- This includes the cost of machinery and equipment acquired for hospital use and the amount spent on their maintenance.

5) Vehicles:- This includes the money spent on the acquisition of new vehicles as well as maintenance of old vehicles.

5) Construction-The amount provided under Revenue head of account for repairs and construction and the capital outlay on allopathy are included here.

Generally the budget figures provide the breakup of the total allocation into the various categories ( referred to as detailed heads ) outlined above. However in rare instances only the total

expenses incurred in the Sub-Heads (which generally refers to the expenditure on a programme or an institution such as 'Training Schemes', or 'Mental Hospital, Trichur') are available. In such instances, for the purpose of the analysis the total amount has been divided into various detailed heads based on the allocation done in the succeeding year. When these were not available the breakup for a similar programme in the same year has been used to determine the proportion in which this should be divided [e.g. if the breakup for 'Mental Hospital, Trichur' is not available the lumpsum provision is notionally allocated to various detailed heads in the same proportion as a similar item say 'Mental Hospital, Calicut'].

The budget documents give four sets of figures under each head: Budget provision for the current year, budget estimates for the previous year, revised estimates for the previous year (revised on the basis of the expenditure pattern till the end of the third Quarter), and final accounts for the year prior to the previous year. It is the final accounts which give the actual expenditure incurred by the government. Hence these have been used in the study. The budget allocation for Employees State Insurance, Public Health and Family Welfare have been excluded from the figures as their output does not deal directly with curative services. Since this study deals only with allopathic medical

care the expenditure on Homeopathy and Ayurveda too are excluded.<sup>10</sup>

Different groups receive varying benefits from the expenditure categories outlined at the beginning of the section. If pay and allowances are raised for personnel without a corresponding increase in productivity then employees of the health department derive a disproportionate benefit from an increase in public expenditure as compared to the taxpayer/consumer. The medicine and diet which are provided free of cost to persons below a certain income will benefit people in the lower income group at the expense of the non-poor taxpayer. An increase in Hospital accessories and construction will be neutral across income classes of the beneficiaries but will benefit the consumers, especially one depending on the publicly provided health system instead of the producers.

#### III.4.1) Share of expenditure categories in the total health expenditure

An examination of the percentage share of the expenditure categories [Table III.9] show that the expenditure on pay and

---

<sup>10</sup> Kannan et al. found that, in Kerala, 72 % of all who approached hospitals for health care preferred allopathic facilities (p.125). In the 42<sup>nd</sup> round of NSS survey the percentage who utilised allopathic medical facilities for hospitalisation were found to be 96.8% for rural areas and 98.28% in the urban areas. In 1986, 51% of the institutions and 93% of the beds in the government sector and 37% of the hospitals and 97% of the beds in the private sector were in allopathic hospitals.

allowances of the health services personnel, which constituted only 36.6% of the total expenditure has been raising steadily. In 1990 pay and allowances accounted for 62.48% of the total health expenditure. The expenditure on diet and medicine, which had been the major item of expenditure in 1960 has been progressively reduced. Hospital accessories and construction are more susceptible to annual fluctuations as a single large construction or purchase can affect the percentage shares. Hospital equipment after showing modest gains from 1960 to 1965-70 declined thereafter. The trend in constructions have also been downward. This is more so in the case of repairs (clubbed with constructions in the table, not shown separately). Repairs accounted for .23% of the total expenditure in 1960. In the later years whose budgets have been analysed it crossed .1% only in 1980 declining to as low as .001% in 1970 and .01% in 1985. <sup>11</sup>

This implies that over time a large share of the increase in health expenditure has gone to the producers of health care in the government sector (the health services personnel) at the

---

<sup>11</sup> According to an analysis of the state health budgets expenditure on pay and allowances was the highest in the health expenditures of all Indian States ranging 47.1% in Himachal Pradesh to 67.7% of Bihar. Drugs and other supplies constituted the next largest share ranging from 2.2% of Bihar to 25.1% of Assam. According to the study Kerala spent 59.8% on pay and allowances and 24.9% on drugs and other supplies. The reason for the difference in figures in the study and those quoted here is that the study could not make a detailed breakup of a large part of health budget (8.2%) in the case of Kerala. Here the breakup has been arrived at as explained earlier in the chapter [ See Berman and Khan, 1993 p.116 ]

expense of the consumers of health care. This reduction in expenditure on medicines, hospital accessories and construction (all of which would benefit the consumers more than the producers ) has occurred after 1975, that is around the period at which, the fiscal crisis in the State appear to have set in.

Table III.9 :Percentage of expenditure on various expenditure categories in the government health budget

	1960	1965	1970	1975	1980	1985	1990
1)Pay and Allowances	36.60	39.13	43.26	54.52	52.24	56.94	62.48
2)Office Expenses	5.68	10.56	5.68	4.92	4.34	3.98	3.35
3)Medicine	39.14	37.93	33.83	31.11	31.16	25.64	25.43
4)Hospital Accessories	2.55	8.51	8.42	2.96	4.91	3.45	2.36
5)Vehicles	0.11	0.48	0.31	0.15	0.22	2.05	0.21
6)Constr- uction	14.86	0.02	6.83	3.95	5.18	5.83	2.85
7)Grants in-aid	1.05	3.36	1.66	2.39	1.96	2.12	3.33
Total	100	100	100	100	100	100	100

[Source: Kerala, Government of; Demands for grants and detailed budget estimates, Various issues]

Even when the money available for the health sector as a whole was being reduced the personnel of the Health Department ensured that their position was in no way affected. This is to be expected as the health services personnel are in a position to influence decisions on expenditure. They also have better access

to information on the possible impact of a decision and the likelihood of it being taken while the consumers will be concerned only when they have to approach the health care system for treatment. Being a clearly defined, and organised group, the health services personnel will ensure that their pay and allowances are increased even if this means that most of the money spent by the government on health goes to pay their salaries. After a certain perquisite has been cornered they will use their advantages to ensure that these are not lost even when the total expenditure on health goes down.

Government, faced with shrinking resources has to arbitrate between different groups demanding allocation of resources to areas favourable to them. On the one hand are the health services personnel who would demand that more number of people are posted (here they would also be seconded by the professionally qualified unemployed who hope to gain employment in the government health services), that they be paid higher pay and allowances and that more number of existing posts are upgraded to higher levels to assure them of better promotion opportunities. This would also be supported by the general population as a qualified medical personnel is a welcome amenity in any region. On the other hand are the poor who would benefit from publicly provided medicines, diet, diagnostic equipment and facilities for inpatient treatment. It is easy to infer that unless a conscious decision is taken to favour the poor, the expenditure decision will fall

in favour of increasing the medical personnel. Since the health services personnel are an organised group they will ensure that existing posts are gradually upgraded. This explains the large share which pay and allowances of the health services personnel has in the total health budget of the State.

Both the type of services government has chosen to provide and the category of personnel who have been deployed are analysed later in the chapter. If the purpose of government investment decisions have been to make available the most important component of health care services, qualified personnel, then it may be accepted that the expenditure decisions have been along the right direction assuming that these personnel have been equitably distributed between various regions and not concentrated in any particular region. But if the purpose of government health expenditure is to ensure the availability of health facilities to the poor then it doubtful if the decisions were favourable to such an outcome.

Along with personnel, consumers of health care also require medicines, diagnostic equipment, and beds for inpatient treatment. When expenditure on medicines, equipment and construction are reduced all consumers of public health care system will stand to lose, but the worst affected will be the poor who would have received these facilities free of cost and who are denied access to these due to their inability to pay for

them. Thus the rich, who can even now purchase the consultancy services at rates subsidised by the exchequer and do not benefit from public provision of medicines and diet, have not suffered from a reduction of benefits comparable to the poor. Since most of the government expenditure has been on salary and allowances of personnel alone the facilities that would have otherwise been available to the poor have been cut. Availability of personnel alone will ensure that only outpatient care is possible<sup>12</sup>. This might force many of the persons requiring anything more than consultancy services to go to hospitals where these are available<sup>13</sup>.

It has been noted from table III.9 that the largest component of the health expenditure by the Kerala government has been pay and allowances. However, if this has resulted in better service to the consumers of health care, then it cannot be faulted. Expenditure on personnel results in better service to the consumer when the output per employee has gone up, the percentage

---

<sup>12</sup> The data on outpatient care is contradictory. According to Kannan et al (op. cit. (pp.132-137) majority of out patients in rural areas utilise private hospital services and urban patients government services. However according to the NSS survey (42<sup>nd</sup> round, Sarvekhshana, op. cit.) the majority in both the urban and rural areas of Kerala utilise private hospitals for out patient treatment.

<sup>13</sup> These facilities are available in large urban hospitals in the government sector as well as in most of the private hospitals. There are inpatient facilities in 52.29% of the private hospitals and 42.92% of them have clinical laboratories. [Survey of private medical institutions in Kerala, op.cit. Tables 1 to 4]. The availability of facilities in government hospitals are discussed later in the study.

of people who are actively engaged in providing health care has increased and when the organisation has become more efficient.

#### III.4.2:- Composition of the personnel of the health services

Since the largest component of the health expenditure are pay and allowances a closer examination of the number of the health personnel and the duties they are assigned is required to identify the effect it has had on the government health system of the State.

In this study the personnel of the health department have been classified broadly according to the functions discharged by them. The teaching staff consists of the professors, the assistant professors, tutors and lecturers, and does not include demonstrators and such other staff who are included in the paramedic group. The officers include those who discharge administrative functions from both the medical side (such as Directors, District Medical Officers) and the administrative side (such as Lay Secretaries, Transport Officers]. The Medical category consists of Civil Surgeons Grade I and II, Assistant Surgeons and Honourary Medical Officers. The Paramedics and Support staff are the Medical Staff who are not physicians. While the paramedics have professional qualifications (e.g. Nurses, Dieticians, Radiographers etc) the support staff are Last Grade servants employed in hospitals. Table III.10 (a) gives the number

of persons employed in each category during 5 year intervals. [This analysis excludes the staff in the Employees State Insurance wing who also discharge medical duties, the staff assigned to Public Health Wing and the Family Welfare Personnel as it is not possible to quantify the output of these groups and as there are no groups in the private sector who are functionally comparable to these].

Table III.10. a: Growth of Personnel in the health dept

	Teac_	Off_	Medical	Clerical	Para_	Support	Total
	hers_	icers	officers	Staff	medics	staff	
1960	93	38	730	541	2068	3608	7078
1965	593	51	880	889	3148	6149	11710
1970	624	86	1074	764	3557	6532	12637
1975	919	100	1892	1725	8339	9174	22149
1980	938	76	1878	1699	8300	10194	23085
1985	1175	271	2441	2430	11315	13403	31035
Annual Percentage Growth	4.94	2.81	1.18	1.74	1.88	1.27	1.50

[Source:- Calculated from the Demand for Grants and Detailed budget estimates, Government of Kerala, various issues]

The percentage of growth of personnel in the various categories are examined in Table III.10 (b). Almost all segments show a steady growth most of the periods except the period from 1975 to 1980 when the over all growth was only 4.23% and except for Teachers in Medical Colleges and the Support staff all other

segments showed negative growth. For some unexplained reason there is a spurt in hiring people in the first five years of the decade. [ This may be related to some new programmes being taken up. But it has not been possible to verify the possible reason]. An examination of Tables III.10(a) and Tables III.10(b) shows the maximum growth has occurred in the segment of teachers ( an annual average growth rate of 4.94 %) followed by officers. While this is influenced by the fact that they had the lowest base the increase in absolute numbers is striking. The growth in the clerical section always coincided with the spurt in employment mentioned above. Except for the period 1970-75, the growth of the functional group, the medical, and paramedical staff has been lower than that of the other groups when the number of hirings went up. Thus the growth in personnel has not increased the availability of the category of personnel who benefit the consumers.

The growth in the number of teachers reflects the importance given to medical education by the government. While the number of officers have grown the number of people whom they have to supervise [the span of supervision] has not grown correspondingly. This would mean that officers have been supervising less number of people or that officers in higher paid posts are now discharging functions handled by lower level personnel in the past. This is explained by the vantage position enjoyed by the persons already in service. The employees of the

health department who will benefit by an increase in the number of officers as it gives them greater opportunities for promotion also have access to information about existing openings and they have the ability to influence decisions in their favour. Hence they can get a higher post sanctioned even when it is not required or when the functions can be discharged by a lower level functionary. Thus it may be seen that the increase in personnel has benefited the medical students and the health service personnel more than consumers.

Table III.10 (b):- Percentage growth in personnel by nature of Job

	Teach- ers	Offi- cers	Doctors	Clerks	Param- edics	support Staff	Total
60-65	537.63	34.21	20.55	64.33	52.22	70.43	65.44
65-70	5.23	68.63	22.05	-14	12.99	6.23	7.92
70-75	47.28	16.28	76.16	126	134.44	40.45	75.27
75-80	2.07	-24.00	-0.74	-1.51	-0.47	11.12	4.23
80-85	25.27	256.58	29.98	43.03	36.33	31.48	34.44

[ Source:- Computed from Table III.10(a) ]

However this increase in personnel would be more than justified if it has resulted in greater efficiency measured in terms of output per employee. Table III.10 (c) provides the output per employee for inpatients, outpatients, major operations minor

operations and deliveries in government hospitals.<sup>14</sup> It may be seen that the output has been falling steadily over the years. This is to be seen against a rising per capita earning per employee which should be justified by an increased output. Thus

Table III.10 (c):- Out put per employee in various categories

	Inpat- ients	Outpa- tients	Major operations	Minor operations	Deli- veries
1960	73	1664	7	36	12
1965	69	1983	4	23	12
1970	78	1628	4	17	11
1975	54	1135	4	13	8
1980	45	924	Not	Available	
1985	41	822	3	8	N.A

[Source Administration Report of the Health Department, Government of Kerala, Various issues]

the resources of the State funded health care system has been spent on increasing the numbers of the producers of health care without corresponding increase in productivity. On the contrary, productivity per employee has been allowed to decline.

#### III.4.3:- The share of institutions in the total health budget

---

<sup>14</sup> This is an admittedly crude measure of output. For instance the output per inpatient could vary by the number of days an individual spends as an inpatient. Similarly operations vary in the labour and skill involved. But since the comparison is between time periods it is assumed that these variations would be the same across the years.

A crucial expenditure decision administrators have to take is regarding the apportioning of revenue expenditure between the various institutions especially when the resources to be allocated are scarce. These institutions may be categorised into a few important groups: medical establishment ( including the Directorate of Health Services, and District medical offices); medical education , medical college hospitals, grants-in aid and hospitals and dispensaries other than the medical college hospitals. It is possible that each of these institutions have different groups which benefit from them. However only in the case of medical education, medical college hospitals and medical establishment is the relationship clear. Hence only these are analysed.

Table III.11:- The share of various institutions in the revenue expenditure in the health sector [Allopathy]

	1960	1965	1970	1975	1980	1985	1990
a)Medical Establishment	3.67	3.03	2.72	1.82	1.7	1.71	1.98
b)Med.College Hospitals	2.83	20.55	22.53	18.85	19.67	18.71	19.84
c)Other Hospitals	82.8	60.48	61.6	67.61	65.22	64.57	62.73
d)Grants	1.21	2.58	1.33	0.80	0.99	0.63	1.64
e)Medical Education	9.44	13.37	11.82	10.91	12.42	14.38	13.80
Ttl.Medical	100	100	100	100	100	100	100

[ Calculated from the Demands for grants and detailed budget estimates, Government of Kerala, Various Issues ]

As may be expected the hospitals, dispensaries and health centres absorb the greatest share and it remains between 60% and 65% in most of the years. The share of establishment ( the Directorates and District Medical Offices ) charges has declined consistently and by 1990 had reached half the level it had in 1960. This shows that much resources had not been spent on administration. The major increase had been in the allocation for medical education. Even among the hospitals the major share of money was being allocated to the hospitals attached to medical colleges.<sup>15</sup> Thus a major share of the health expenditure of the State was being spent to keep up the Medical education system of the State as well as provide highly specialised medical care in the largest cities in the State. The extent of subsidy that a medical student receives has never been studied. But the health authorities of the State, using rough estimates, assess the expenditure on a medical student per year to be Rs.1,50,000.<sup>16</sup> Since he pays Rs.500 as fees the difference is borne by the exchequer. While no studies exist to show the income profile of the medical students it appears highly incredible that the major beneficiaries of expenditure on medical education would be from the poor classes.

---

<sup>15</sup> The share of curative services in the health budget of Kerala was the second largest, next to Tamil Nadu, when compared to the health budgets of major Indian states for the year 1982-83. While Kerala ranked among the top spenders in medical education it spent the lowest share of its budget (half the share of the next lowest state) on administration. ( Berman and Khan, 1993, p. 112)

<sup>16</sup> Informally ascertained from the Department of health Government of Kerala.

The only justification for subsidising the training of medical students is to attract better students to the profession. This may not be necessary as physicians' earnings are attractive and can easily offset the expenses spent on medical education. For poor students who cannot afford the expenses of medical education loans on easy terms may be arranged. It may justifiably be questioned why, when basic facilities are not available in rural hospitals, the State should spend its scarce financial resources on medical education.

Increased expenditure on Medical College Hospitals ensures the availability of highly specialised medical care in large cities. This is done when hospitals which dispense basic medical care in the rural areas are starved of funds. It is admitted that advanced medical facilities are a necessity and may need to be provided in the public sector if the private sector is not willing to invest in them or to ensure that specialised medical care is available to those who cannot afford them when provided in the private sector. Assuming that there were no shortage of funds the state might have been justified in attempting to provide advanced medical facilities directly. But when the choice is to subsidise either basic medical facilities or highly specialised hospitals the choice should fall in favour of basic facilities. While no studies exist to show the income profile of the people who opt for highly specialised services it reflects a biased view of priorities to channelise State funds to

specialised medical care at the expense of basic medical facilities.

Providing highly specialised medical care mainly at the Medical College hospitals while depriving hospitals in the periphery of facilities ensures that patients are compelled to patronise the faculty at Medical College Hospitals. While technically these services are free to the poor, they (especially from the rural areas) are handicapped by the access cost and the hidden barriers (such as bribes to the Medical College Hospital personnel and lack of knowledge to insist on the appropriate type of examination or treatment). One may also hazard a guess that the utility the rich attached to these specialised services are higher than that of the poor partly due to better awareness and partly due to the ability to pay for accessories to specialised health care such as diet and rest. Thus large expenditure on medical education and Medical College Hospitals tend to favour of medical students, doctors at these hospitals and possibly the rich in general.

From an examination of the data of the health department personnel and the pattern of expenditure it is seen that the institutions for Medical education located in the largest cities of the State have been allocated the largest share of the State's resources. Correspondingly one would expect the hospitals in urban area also to have received greater allocation of resources

than those in the rural areas. While no data exists to show the breakup of personnel and materials between rural and urban hospitals the relative emphasis in the allocation of resources may be assessed from the number of institutions opened and the increase in bed strength sanctioned in the rural and urban areas.

### III.5:- Allocation of resources between different regions.

An analysis of the socio-economic factors that influence the provision of health care had shown that the difference between the lesser developed areas and other areas were less in Kerala compared to other Indian States. However regions do differ on the availability of health services. Government may be expected to ensure that the areas that are deficient in medical facilities are provided at least basic medical facilities.<sup>17</sup> In this section the allocation of resources between the urban and rural areas of the state and between the districts are examined.

#### III.5.1:- Hospitals and beds in the rural and urban areas.

The Administration Reports of the Health Department gives the list of government allopathic medical institutions in the State

---

<sup>17</sup> There is no universally accepted definition of basic medical facilities. The World Bank, (1993) (p.112) lists the following services to be the components of the 'essential clinical package' that is considered cost effective and should be provided by Governments: Pre-natal and delivery care; family planning services; management of the sick child; treatment of tuberculosis; and case management of sexually transmitted diseases. In this study basic facilities are defined to include primary facilities for outpatient and inpatient treatment without advanced diagnostic and treatment facilities, such as X-ray plant or ECG.

as well as the rural/urban breakup of institutions and beds. However the classification between urban and rural areas is based on the categorisation of the place of the hospital during the year of the Report and hence are not comparable across years as places classified as rural in one year might be termed 'urban' in another, depending on whether the Local Administration Department of the State government has classified the area as a Panchayat or not. Therefore in this study the breakup has been arrived at by classifying the places based on their status in the Census of

Table III.12 :- Details of government institutions and beds by category of hospitals and Rural/Urban classification

	Number of Institutions						
	1960	1965	1970	1975	1980	1985	1990
Teaching	1	2	5	6	6	7	7
Large(U)	26	35	36	45	50	55	57
Large(R)	4	4	6	12	16	23	23
Medium(U)	33	31	30	29	27	26	28
Medium(R)	17	35	40	42	48	55	99
Small(U)	26	28	37	46	45	39	30
Small(R)	241	348	387	683	721	811	995
Total(U)	86	96	108	126	127	126	121
Total(R)	262	387	433	737	786	890	1118
Total	348	483	541	863	913	1016	1239

[Source:-Calculated from Administration Report of the Health Department, Various issues, and from the records available at the Directorate of Health Services, Govt. of Kerala].

1961. For the purpose of this study hospitals have been further subdivided in to Large [ with beds >99 ], Medium [ beds>25 but <100 ], and Small [ beds less than 25 ]. Table III.12. provides the breakup of the hospitals thus classified into rural and urban. The number of hospitals have increased in the rural areas more than in the urban area [ an increase of 856 in the number of institutions as against 35 in the urban areas ]. This has taken place more in the small hospitals category than in the others[ 754 in the period under examination ]. The hospitals keep moving to higher categories when the sanctioned bed strength is

Table III.13:-Number of beds in the rural and urban hospitals

	1960	1965	1970	1975	1980	1985	1990
Teaching	788	1543	3127	4508	4846	5373	6162
Large(U)	6474	8856	9167	11005	12423	13816	15405
Large(R)	1664	2076	2296	3319	3922	4775	5295
Medium(U)	1828	1699	1682	1572	1468	1367	1488
Medium(R)	704	1401	1684	1938	2141	2550	4470
Small(U)	247	217	315	336	326	263	159
Small(R)	1271	2217	2241	2958	3268	3635	4274
Total(U)	9337	12315	14291	17421	19039	20795	23084
Total(R)	3639	5694	6221	8215	9355	10984	14169
Total	12976	18009	20512	25636	28394	31779	37253

[ Source:- As in Table III.12 ]

increased. But while more hospitals got added in the rural areas, the hospitals in the urban areas keep getting bigger and bigger.

Even the few large hospitals ( with the exception of Leprosy or T.B hospitals which are in rural areas due to locational requirements as perceived by the authorities ) in the rural areas are located in areas that were rural in 1961 but have been urbanised later. This becomes clearer as we examine the beds in the various categories in the rural and urban areas. [table III.13] While the number of beds in the rural hospitals went up by 10,530, beds in urban hospitals increased by 13,747, a large measure being contributed by Medical Colleges (5374). Average number of beds per hospital went up in the Medical Colleges and large urban hospitals while it declined in the rural hospitals in general and the large rural hospitals in particular. Thus it is clear that urban hospitals were being favoured in the allocation of resources as bed strength is the key variable based on which other resources such as personnel, medicines and equipments are allocated.

This disparity in allocation of resources has led to rural/urban imbalances in the benefits derived from public expenditure on health. As per the norms of the health department, a nurse is assigned charge of six beds and has a stipulated duty time of eight hours. Since nurses will avail of leave facilities a replacement has to be available to take care of inpatients. Hence if a hospital is to have at least one of the nurse on duty through out there must be at least 4 nurses which will be possible only if there are twenty four beds. Hence it may be

safely assumed that in-patient care will be provided only in Medium and Large sized hospitals, that is in only 122 of the 1118 rural hospitals in the State. Of the 983 panchayats in the State, less than 13 % are provided in-patient care by the health system funded by the exchequer.<sup>18</sup>

### III.5.2:- Government medical institutions in the districts.

Earlier in the chapter it was seen that Malabar lagged behind the rest of the State in the availability medical facilities. Therefore it may be expected that the government concentrate its resources in achieving parity between the districts of the erstwhile Malabar region and the rest of the State. The districts of Kerala that were formerly part of Malabar are: Kasargode, Kannur, Kozhikode, Malappuram and Palakkad. Another backward district is Idukki consisting of the tribal areas carved out of Kottayam and Ernakulam districts. Table III.14(a) shows the number of hospitals available in each district. In 1960, soon after the formation of Kerala State, Idukki and all the Malabar districts except Palakkad had less number of hospitals than the State average. Kozhikode, Wynad, Kasargode and Idukki had hospitals equal to or less than half the state average. By 1975 only Wynad had less number of hospitals than half the State average. Malappuram, ranked ninth in 1960 had moved to the second

---

<sup>18</sup> The percentage would in fact be much less. Many of the regions classified in this study as rural areas ( based on the 1961 census ) are now classified as towns.

position, possibly on account of greater government attention being focused on it due to its poor health status indicators (the most populous district which had the highest population growth

Table III.14(a): Government medical institutions in districts

Districts	1960	1965	1970	1975	1980	1985	1990
Trivandrum	53	57	53	80	91	97	121
Quilon	35	50	53	90	92	97	121
Alleppey	38	48	54	78	81	84	100
Kottayam	27	39	42	59	61	64	95
Idukki	14	19	16	41	46	50	59
Ernakulam	42	57	62	81	87	100	116
Trichur	38	62	62	86	87	105	113
Palakkad	30	45	55	76	90	97	113
Malappuram	19	31	44	71	74	90	114
Kozhikode	14	23	31	60	59	67	87
Wynad	11	10	15	23	24	30	42
Kannur	20	26	33	72	72	84	97
Kasargode	7	16	21	44	49	51	61
Total	348	483	541	861	913	1016	1239
Average	27	37	42	66	70	78	95

[Source: Government of Kerala, Administration reports of the Health Department, Various years]

rate during 1981-91, 28.74% as against the State average of 13.98%, the district with the lowest female literacy, 69.37% as

against 86.93% for the state<sup>19</sup>). The Malabar districts, ( with the exception of Palakkad and Malappuram) and Idukki continued to have less than average number of institutions, but the disparities between districts had been reduced considerably.

Table III.14(b)-Number of hospital beds available in district

Districts	1960	1965	1970	1975	1980	1985	1990
Trivandrum	3131	3918	4065	4910	5094	5684	6384
Quilon	810	1182	1310	1755	2012	2188	2539
Alleppey	1607	2027	2343	3164	3336	3690	4220
Kottayam	775	1292	1720	2300	2603	2816	3098
Idukki	71	116	118	261	351	446	795
Ernakulam	1633	2064	2174	2456	2748	3159	3768
Trichur	1947	2825	2839	3097	3462	3666	4322
Palakkad	605	917	1017	1277	1537	1775	2230
Malappuram	245	411	720	819	1036	1242	1830
Kozhikode	1215	1905	2673	3314	3502	3798	4284
Wynad	90	127	163	227	336	446	749
Kannur	749	1076	1203	1692	1825	2288	2374
Kasargode	98	149	167	364	552	581	660
Total	12976	18009	20512	25636	28394	31779	37253
Average	998	1385	1578	1972	2184	2445	2866

[ Source : As in Table III.14 (a) ]

<sup>19</sup> Census of India, 1991, Provisional population totals, Series 12, Paper 1 of 1991.

But, as was seen in the analysis of rural urban distribution of hospital facilities, a more reliable indicator of allocation of medical resources is the number of hospital beds. Table III.14 (b) shows the number of hospital beds available in government hospitals in various districts. With the exception of Kozhikode, all Malabar districts, Idukki, Kottayam and Quilon have less number of beds than the State average, while Trivandrum, the capital of the erstwhile Travancore state had three times the average number of beds. Idukki, Wynad and Kasargode had less than 10% of the State average. The position of the Malabar districts and Idukki, as compared to other districts in the state continued unchanged over the years as did that of Trivandrum.

It may be argued that the proper way to judge investment decisions across districts is to equate them based on certain normative criterion, such as hospitals per thousand square kilometre or beds per unit population. Table III.15 presents the number of hospitals normated to the average area of a district and the beds normated to the average population of a district. Except for the improved position of beds in the sparsely populated districts of Idukki and Wynad (density of population 214 and 315 persons per square kilometre as against the density of 747 persons per square kilometre for the state<sup>20</sup>) the picture presented in the analysis above is not materially altered.

---

<sup>20</sup> Figures from Census of India, 1991, Provisional population totals p. 28.

Table III.15: Institutions and beds normated by the average area and population of districts -1990

Districts	Area 1000 sqkm	Hospitals		Population (Lakhs)	Beds	
		Actual	Normative		Actual	Normative
Trivandrum	2.19	121	164	2.94	6384	4847
Quilon	3.81	121	94	3	2539	1889
Alleppey	2.46	100	121	2.59	4220	3637
Kottayam	2.2	95	128	1.82	3098	3800
Idukki	5.02	59	35	1.08	795	1643
Ernakulam	2.41	116	143	2.8	3768	3004
Trichur	3.03	113	111	2.73	4322	3534
Palakkad	4.45	113	75	2.38	2230	2092
Malappuram	3.55	114	95	3.09	1830	1322
Kozhikode	2.34	87	110	2.61	4284	3664
Wynad	2.13	42	58	0.67	749	2496
Kannur	2.97	97	97	2.24	2374	2366
Kasargode	1.99	61	91	1.07	660	1377
Total	38.86	1239	1322	29.01	37253	35671
Average	2.97	95	95	2.23	2866	2866

[Source:- As in Table III.14(a)&(b) and Census of India , 1991 Provisional population Totals]

In the case of both rural and the backward districts the institutions have been more equitably distributed. When the category of the institutions are examined it is seen that most of these institutions are Primary health centres. These are funded

and equipped by the government of India based on certain norms.<sup>21</sup> Therefore these institutions will not be affected by the fiscal crisis of the State. Their location would also be relatively unaffected by decisions by the State. But in areas where the State resources are to be utilised the emphasis is definitely in favour of urban areas and more developed districts.

The system by which preliminary care is provided near the patients' home and advanced care is provided at urban locations may appear to provide advantages of economies of scale. But this is not relevant in Kerala which has been shown to have a high density of population. More often than not the additional facilities are for specialities. The Medical College, Trivandrum has 25 speciality clinics while the Medical College at Kozhikode has 16 with such facilities as Total body CT Scan<sup>22</sup>. As remarked above, while specialities are certainly required, the wisdom of providing these in the government sector when basic health care is not being made available to every one is open to question.

Under the present arrangement the rural patient has to bear both the cost of health care ( which is subsidised in the publicly provided health care ) and the access cost such as transportation

---

<sup>21</sup> A Primary Health Centre services a population of 30,000 in the plains and 20,000 in hilly areas. See Kannan et al. p.109.

<sup>22</sup> Government of Kerala, Health Guide, 1993 p. 20-21

costs, wages foregone, expenses of relocation to a far away place ( which is not subsidised ). The urban patient is spared of the access cost and enjoys the benefit of the subsidised health care. The disadvantage at which the rural population has been placed by the nature of development of the health system is obvious.

Thanks to various factors reviewed earlier it is feasible for the private sector to provide health care in the rural areas. If the access cost in the private system becomes negligible, at the point at which the cost of access to a government health institution is equal to the subsidy he receives in the public health care system the patient becomes indifferent between public and privately provided health care, the other conditions remaining equal between the two . If the private sector provides health care nearer the home of the patient then the cost of access to private hospitals gets reduced thus offsetting the subsidy of the government hospitals. Thus the shortage of government health facilities in rural areas provides an opportunity and incentive for the private sector to invest in health care in rural areas. This has arisen as result of government investment decisions in the past. At a time when people were not aware of the benefits of modern medicine government took steps to ensure that modern medicine was promoted. It also ensured that the expansion of health facilities continued till it was disabled by financial difficulties from

doing so. In the next chapter the response of the private sector to this opportunity and the effect it has had on the provision and consumption of health services in the State are examined.

### III.6:- CONCLUSION

This chapter has examined the history of public expenditure decisions in the State, how these were reinforced by decisions in the modern times, and how the State's efforts for development of the health system in the public sector started faltering due to financial difficulties. An argument that attributed the financial crisis to the expenditure decisions on the social and community services was also examined.

Through an analysis of the budget figures it was shown that medical education and large urban hospitals have received a large share of the benefits of public expenditure. The personnel of the Health Department increased their incomes, while the consumers in general and the rural population in particular have derived proportionately less amount of benefit. The allocation of resources has been against the interest of the rural areas and in favour of large city hospitals. It has also favoured the more developed districts as against the districts that were backward at the formation of the state of Kerala.

In chapter II it was shown that there exists a strong demand for health services. Earlier in this chapter it was also discussed

that when the access cost to a public health facility becomes equal to the subsidy he receives there the consumer becomes indifferent between public and private institutions provided the quality of medical care available in both the institutions are perceived to be of the same quality and the access cost to the private institution is negligible. It was also pointed out that, as the government institutions have concentrated their resources in the urban areas and since neither the purchasing power nor the demand was lower in the rural areas than in the urban areas, providing health services in the rural areas provides a good investment opportunity for the private sector. If the private sector has utilised this opportunity, then the private sector would have invested most of their resources in the rural areas.

Regarding urban areas the picture is not predictable. If the demand for health services in the urban areas has grown faster than the rate of growth of health services in the public sector, then the growth of the private sector in the urban areas would also have been rapid. Similarly in the backward districts it may be expected that the private sector would dominate while in the developed districts the response of the private sector cannot be predicted. The response of the private sector institutions to those services with externalities, family planning services and immunisation of children, cannot be predicted and would need to be examined.

Regarding consumption of health services by the population it may be expected that all classes of people in rural areas would be compelled to visit private health institutions due to the non-availability of public health institutions. Those who cannot afford these services will have no choice but to forego health care. But in the urban areas there less likelihood of this happening as the poor have the option to visit public health facilities no matter how crowded they are. The rich in the urban areas would be expected to visit private facilities more often.

These assumptions have been drawn out of an analysis of the public expenditure decisions in the past. In the next chapter each of these assumptions are examined. If they are borne out it will be demonstrate how the private sector has adapted its investment decisions to government expenditure decisions. The pattern of consumption of health care services will show the influence of both the private and public sector decisions on the consumers.

CHAPTER IV  
THE RESPONSE OF THE PRIVATE SECTOR

On analysing the public expenditure data in Chapter III it was seen that a large number of medical institutions and facilities were built up in the government sector in the past. However, largely due to the financial difficulties of the State, it has not been possible for the government to satisfy the need of the population for health care services. Government expenditure decisions have also been seen to have been skewed in favour of some segments of the society. Hence for the State as a whole, and for some regions in particular, it may be expected that a large part of the health care needs of the population are being satisfied by the private sector. This chapter examines the public/ private product mix in the supply of health care services in the State, the way it has influenced the consumption of health services in the state and the effect it has had on the supply and consumption of those services with significant externalities.

IV.1:- The share of the public and the private sector in the provision of health care

Information is not available regarding the distribution of

ownership of hospitals before 1978. In 1978 and 1988 the Department of Economics & Statistics, Government of Kerala, carried out two surveys of private medical institutions in the State. A comparison of the figures of 1978 and 1988 suggest that the major role in providing health care in the state has already been wrested from the public sector by the private sector. [Table IV.1 ]

While the number of institutions [Hospitals and dispensaries] in the public sector in Kerala went up from 898 to 1088 during the period 1978 to 1988 that of the private sector

Table IV.1:- Percentage share of Public and Private Sector in the total number of institutions and Beds-1978&1988

	Govt&Local Bodies		Pvt.&Vol.Organisations	
	Hosp	Beds	Hosp.	Beds
1978				
India	65.76	73.31	34.24	26.69
Karnataka	96.97	80.33	3.03	19.67
Kerala	53.32	58.82	46.68	41.18
1988				
India	44.61	70.73	55.39	29.27
Karnataka	95.30	78.92	4.70	21.08
Kerala	13.39	40.50	86.61	59.50

Sources: a. Government of India, Health Statistics of India 1984

b. Government of India, Health Information, India, 1990

c. Government of Kerala, Health profile of Kerala, 1990

went up from 704 to 3595. In 1978 ( when the differences between Kerala and other states in expenditure on health had only

started to decline ) majority of hospitals and beds in the state were in the public sector. However by 1988 the private sector had more hospitals and beds than the public sector. However the increase is more in the case of institutions than in the case of beds. The increase in the number of beds in the government sector was restricted to a few large urban hospitals. Most of the hospitals added by the private sector on the other hand appear to have been small and medium hospitals.

The pattern that emerges from examining the path taken by the public sector in health care seems to be one of initiating the health care services, nurturing them and once the demand has been created, letting the private sector minister to the health needs of the State. The examination of the fiscal crisis in chapter III had shown that this was not deliberate but was forced on the government.

#### IV.2:- Availability of health care services in the rural and urban areas

It is seen that the fiscal crisis of the State coupled with the urban bias of the government sector reduced the availability of medical services in the rural areas. In chapter II it was seen that factors in the rural areas were also highly favourable to the provision and consumption of health services. The utilisation of health services was also found to be high. This would have

been possible only if the private sector had made good the lack of facilities in the rural areas. As shown in chapter III the environment in Kerala was favourable to the private sector to invest in health services in the rural areas. To see if this has happened we start with an examination of the existing health facilities and their distribution between the rural and urban areas. Table IV.2 (a) shows the number of hospitals in the states, rural and urban. Table IV.2 (b) examines the percentage share of institutions and beds between the urban and rural areas. The number of hospitals and beds is higher in Kerala than in Karnataka though the latter has a larger population.<sup>1</sup> A majority of these are in the rural areas.

Table IV.2 (a):- Medical Facilities in the Rural and Urban areas - 1988

	Rural		Urban		Total	
	Hospital	Beds	Hospital	Beds	Hospital	Beds
India	15914	109364	22562	516054	38476	625418
Karnataka	843	3107	476	31712	1319	34819
Kerala	2871	41094	930	32695	3801	73789

[ Source:- As in table IV.1 ]

From the percentage distribution presented in Table IV.2 (b) shows that Kerala had more hospitals and beds in the rural areas

---

<sup>1</sup> Kerala which ranks 12<sup>th</sup> among the Indian states in population and in area has the largest number of hospitals and the second largest number of hospital beds. See Berman and Khan, op. cit. p.184.

than in the urban areas.<sup>2</sup> This ought to be seen against the fact noted in chapter III that while the government sector has the larger number of its hospitals in the rural area most of its hospital beds are in the urban area. The hospital facilities are

Table IV.2 (b):- Percentage share of rural/urban medical institutions & Beds

	(Percentage Share)			
	Rural		Urban	
	Hospitals	Beds	Hospitals	Beds
India	41.36	17.49	58.64	82.51
Karnataka	63.91	08.92	36.09	91.08
Kerala	75.53	55.69	24.47	44.31

[ Source:- As in Table IV.1 ]

more in rural areas only because the distribution of private hospitals and beds is more favourable to the rural areas in Kerala and because the private sector controls the larger share of hospital facilities in Kerala. In the private sector 66% of the institutions are located in the rural areas while 86% of the institutions in the public sector are rural based. But as was pointed out in chapter III availability of beds is a better indicator of the allocation of resources. While the public sector has made available only 25% of the beds in the rural areas the private sector has based 53% of their beds in rural areas. Since

---

<sup>2</sup> Among the major states only Kerala had a majority of their hospitals and beds in the rural areas. See Berman and Khan op. cit. p. 192.

the private sector has more number of hospitals in the State and since most of these hospitals (52.29%)<sup>3</sup> have inpatient facilities it is the private sector which ensures that the rural

Table IV.3:-Distribution of hospitals between rural and urban areas - (percentage share)

	Government		Private	
	Rural	Urban	Rural	Urban
Hospitals	86	14	66	34
Doctors	33	67	49	51
Beds	25	75	53	47
Paramedics	39	61	51	49

[Source: Kannan et al (1991),P.117]

areas are assured of adequate supply of inpatient facilities. While 64% of the government health staff are deployed in the urban areas, the private sector has deployed only 50% of their staff in the urban areas. Thus it may be seen that the private sector has served to rectify the urban bias that has characterised the deployment of resources in the government sector.

It has been established from Chapter II that the population of

---

<sup>3</sup> Government of Kerala, Survey of private medical institutions in Kerala, p.4. (1987).

Kerala enjoys a better health status than the rest of the country. It has also been seen that it is the health status of the rural population of Kerala which makes Kerala's health status to be much better than the others. To the public sector goes the credit of having made the population familiar with the benefits of modern system of medicine. However the emphasis of the public sector appears to have been in the urban areas. When the financial crisis from the mid-seventies reduced the funds available for investment in the health sector the expansion of government health facilities in the rural areas was further restricted. But the demand for health services existed and grew in rural areas thanks to expenditure decisions taken by governments in the past in social and community services, especially in education and health care. This, as pointed out in chapter III, presented an opportunity for private investment in the health sector in the rural areas. From the data presented above it is seen that the private sector did make use of this opportunity. It is the private sector which currently satisfies most of the health needs of the rural population. But, as was noted in chapter III, since the privately supplied health care would be available only on payment it places the rural population, especially the rural poor, at a disadvantage compared to their urban counterparts. The effect this has on the consumption of hospitalisation services and institutional deliveries by a segment of the poor has already been seen in chapter II. It is also possible that the government, faced with a

difficult financial situation might further curtail its facilities in the rural area. The impact of the emerging health care system on the health status of the rural population of Kerala and on the consumption of health services in rural areas will have to be considered by the health administrators of the State in expenditure decisions in future.

#### IV.3:- Spread of medical facilities - a district-wise analysis

In chapter III it was seen that when the state of Kerala was formed some districts had better medical facilities than the rest. It was also seen that the three districts of Kasargode, Idukki and Wayanad lagged behind the other districts in the public health facilities. This continued into the years that followed. However by the eighties the private sector was establishing a strong presence in the health care sector. Table IV.4 provides a review of the position of medical institutions and beds in the districts of Kerala in the private and government sector.

It may be seen that while private investment too has favoured the more developed districts in establishing hospitals it has not always followed the government sector in its investment decisions, the notable exceptions being Alleppey (largest number of private institutions but the eighth place in government hospitals) and Trichur (first and sixth place among government and private hospitals respectively) among the developed districts

and Idukki, Palakkad and Malappuram among the backward districts.

Table IV.4 :- Medical institutions and beds - 1985

District	Medical Institutions			Beds		
	Govt	Private	Total	Govt.	Private	Total
Trivandrum	97	369	466	5684	3744	9428
Quilon	97	440	537	2188	6364	8552
Alleppey	84	508	592	3690	5017	8707
Kottayam	64	376	440	2816	6189	9005
Idukki	50	194	244	446	3521	3967
Ernakulam	100	436	536	3159	8646	11805
Trichur	105	256	361	3666	5101	8767
Palakkad	97	142	239	1775	1013	2788
Malappuram	90	188	278	1242	1931	3173
Kozhikde	67	241	308	3798	2411	6209
Wynad	30	88	118	446	1594	2040
Kannur	84	190	274	2288	2550	4838
Kasargode	51	138	189	581	949	1530
Total	970	3565	4535	31779	49030	80809

[Source :-Government of Kerala, Administration reports of the health department, Various issues and Survey of the private medical institutions in Kerala, 1987]

The divergence is more evident when the availability of beds in the districts are examined. Trivandrum and Kozhikode which had the largest share of beds in the government sector ranks lower

than all other developed districts in the priority given by the private sector in investment in inpatient facilities. The developed districts of Ernakulam, Quilon and Kottayam have the largest number of beds in the private sector. While Idukki had the second lowest number of health facilities in government sector, in private investment the district had the seventh rank. Malappuram, which had a large number of government hospitals, ranked very low in the availability of both private and government inpatient facilities<sup>4</sup>.

The analysis of investment in health services by the government and the private sector carried out in chapter III and the preceding paragraphs help us draw certain inferences regarding the role of the government investment decisions in the development of the health services sector. Even though it was shown in chapter II, through an analysis of the socio-economic factors that influence the provision of health services, that conditions in Kerala make it possible for the private sector to provide health services profitably, districts appear to differ from each other in the factors that make the supply of health services profitable. Private investment favours areas where the return on their investments are likely to be profitable. They

---

<sup>4</sup> Except for improved showing by Kottayam in the case of hospitals and beds, and the sparsely populated districts of Wayanad and Idukki (density of population in 1981, 260 and 152 per square kilometre as against the State average of 655) in the case of hospital beds the position is not materially altered when the analysis is done in terms of institutions per 1000 square kilometres and beds per lakh population is examined.

may also be expected to move away from areas with a high degree of competition.

The private sector appear to have concentrated its efforts on the districts which already had considerable investment due to government investment decisions in the past. However it has avoided both Trivandrum and Kozhikode which appear to have been the major beneficiaries of government investment in the past. It also appear to have concentrated on the one district in Travancore- Cochin, Idukki, where government investment was less. The instance of medical institutions in Malappuram shows that should government so desire it can make a difference to the health scenario by concentrating on one district which it was felt needed a different treatment.

One may draw a tentative inference that the districts of the erstwhile Travancore-Cochin had already been well covered by government institutions. The population of this region had come to realise the benefits of health services. So long as the exchequer could afford it the need for health services was met through public investment. When, owing to the fiscal crisis this could not be satisfied any further by the State the function was taken over by the private sector.

Kerala owes its lead over other States in health status to what it has achieved for the health of its rural population. In recent

years [ since the late seventies when the public sector has been facing a resource crunch ] it is the private sector which has deployed greater resources in the rural areas. This appears to have been the result of a combination of factors. The growth of the health sector in the public sector appears to have reached a stage when the state could no longer provide sufficient financial resources for its development. A large part of the available resources were spent on pay and allowances, for medical education and in expanding facilities at urban hospitals. But the need for health services had already been created in rural areas too, as a result of past expenditure decisions in education and health services. When the need for health care services of the rural population could not be satisfied by the public sector, the private sector had an incentive to invest in these services. It has done so and now the private sector plays a large role in sustaining the health status of rural Kerala.

In the private sector the ability to pay is a prerequisite for benefitting from the services. So the health care system as it has evolved might deny health care to those who cannot pay, the poor. This apprehension is reflected in the common belief about private medical institutions<sup>5</sup> that they exist only for the rich

---

<sup>5</sup> "In the last two or three decades there has been a proliferation of private medical institutions in the state, and there are allegations of large scale exploitation of patients ..... by their managements. Most of these are said to cater only to the wealthy. The rapid growth of the private sector has thus created an imbalance in the total health care system of the State." [ Kerala, Government of , Survey of private medical institutions in Kerala. 1987.p 1]

and that they charge exorbitant rates from their customers. If this is so then the poor would be denied access to the health care system. This may be seen in the light of the fact noted in chapter II that there exist a significantly high percentage of patients who could not consume health care due to inability to pay. There it was also noted that such cases are more in the rural than in the urban areas. When this is seen along with the distribution of private and public hospitals in urban and rural areas it may be expected that the consumption of health services has been affected by the structure of the health care system that has recently developed in the State. Similarly a system based on user fees may not accommodate the services such as immunisation and birth control which have significant benefits for the society.

In the discussion that follows monthly per capita expenditure of a family is used as proxy for income. The type of institution whose services are utilised by the different income classes, in both rural and urban, are examined to see how the present structure of the health system has affected the consumption of two important health services: hospitalisation and child birth. The impact of a predominantly private sector based health care system on those services which have externalities are examined to see if they have been, or would be adversely affected by the changes in the composition of the health services.

In order to find out how income differences affect the consumption of health care we may examine the pattern of consumption of health care across income classes. However this is complicated by the specific characteristics of the health care system of Kerala. Two factors in particular distinguish the health care sector of Kerala vis - a - vis Karnataka and the rest of the country : Greater availability of hospitals and the dominance of private hospitals in the rural areas. It would be difficult to isolate the effect the two have on health consumption. For instance even if the predominance of the private sector make it difficult for some people in the lower income group in Kerala to consume adequate amount of health services the utilisation of health services of the lower income group as a whole could be more in Kerala than that in Karnataka or the rest of India due to greater availability of hospitals.

#### IV.4) The Choice of institutions for health services

The choice of institution is determined by various factors the most important of which are proximity, quality as perceived by the consumer, and affordability<sup>6</sup>. Thus the question of which type of institution the patient choses to visit could be supply or demand determined (as dictated by the budget constraint ). For instance, a poor person in an area where institutions with subsidised health care are available might chose to visit one

---

<sup>6</sup> See Yoder (1989)

while a rich person who values the quality of service available in another institution might prefer not to visit the subsidised institution. But if only private institutions are available then the poor would have no option but to get his health care from such an institution. If he cannot pay the user charges he will have no option but to forego health care.

#### IV.4.1:- Choice for hospitalisation services

From the data available from the 42<sup>nd</sup> round of N.S.S (period 1986-87) we may examine the choice of the type of institutions by

Table IV.5:- Patients hospitalised in government Hospitals as percentage of total patients

	Rural	Urban
India	59.74	60.26
Karnataka	58.02	48.90
Kerala	43.38	55.65

[Source:- 'Sarvekshana', Vol.XV. No.4, April-June 1992]

the various income classes. At the all-India level and in Karnataka most of the patients visit government institutions viz. government hospitals, Primary Health Centres, and government dispensaries. In Kerala more people go to private institutions - private hospitals, nursing homes and charitable institutions - in rural areas. This has been noticed in other field studies too.<sup>7</sup>

---

<sup>7</sup> Kannan et al. P.152

IV.6 (a):-Percentage distribution of hospitalised cases  
by type of hospitals over expenditure classes

RURAL

Fractile Groups	India		Karnataka		Kerala	
	Medical Institutions					
	Public	Non-pub	Public	Non-pub	Public	Non-pub
0-10	65.70	34.30	64.89	35.11	40.79	59.21
10-20	69.48	30.52	59.83	40.17	49.00	51.00
20-40	65.12	34.88	69.14	30.86	49.30	50.70
40-60	57.97	42.03	59.91	40.09	45.73	54.27
60-80	57.91	42.09	55.78	44.22	41.40	58.60
80-90	52.36	47.64	49.20	50.80	27.55	72.45
90-100	47.34	52.66	12.59	87.41	34.21	65.79
All	59.75	40.25	58.04	41.96	43.39	56.61

[Source:- As in Table IV.5 ]

That this might be the result of supply factors is evident when the utilisation of facilities across income classes in the urban and rural areas are compared. At the all-India level and in Karnataka most of the poor people in the rural and urban areas visit government facilities. The pattern of utilisation of hospitalisation services in the urban areas of Kerala is however in sharp contrast to the rural areas [Table IV.6(b)]. While in the rural areas the majority of hospitalised cases in all income

groups go to private institutions this is not true of the lower income groups in urban areas. This shows that the rich and the

Table IV.6 (b):- Category of medical facilities utilised by various income classes for hospitalisation services

Fractle Groups	URBAN					
	India		Karnataka		Kerala	
	Public	Non-pub	Public	Non-pub	Public	Non-pub
	Medical Institutions					
0-10	67.99	32.01	82.89	17.11	61.32	38.68
10-20	71.59	28.41	38.47	61.53	67.21	32.79
20-40	64.05	35.95	68.12	31.88	50.36	49.64
40-60	64.86	35.14	59.18	40.82	63.76	36.24
60-80	52.94	47.06	30.49	69.51	48.16	51.84
80-90	44.44	55.56	32.01	67.99	45.62	54.38
90-100	47.34	52.66	29.44	70.56	40.16	59.84
All	60.27	39.73	48.90	51.10	55.66	44.34

[ As in Table IV.1 ]

urban poor can exercise their choice within the budget constraint. From the behaviour of the poor in the urban areas it may be inferred that given the option the rural poor too would have preferred government facilities to private ones. But since the government have concentrated their facilities in urban areas

satisfactory government health facilities are not available in rural areas. Rather than visit an urban government facility by incurring an access cost the rural poor appear to have opted to receive their health care by paying for it in private facilities near home. In situations where the rates charged by the private hospitals, (or the access cost of reaching an urban government facility) are beyond the means of the rural poor they will not be able to obtain medical treatment. From Table II.7 it was seen that a significant percentage of patients with serious sickness could not obtain medical treatment as they could not pay for it. The urban poor did not suffer a similar fate as they had access to acceptable medical care in the government sector. This disparity between urban and rural poor would not have occurred had public sector allocated its resources equitably between the urban and rural areas.

#### IV.4.2:- Choice of institutions for child births

It has been noted in Chapter II that 77.58 percent of the rural and 78.75 percent of the urban child births take place in hospitals. Table IV.7 illustrates the choice of hospitals in the rural and urban sector for child births. It may be seen that as in hospitalisation the majority of cases in the rural depend on private hospitals for deliveries while this is not true of the urban sector. As in the case of hospitalisation it is reasonable to assume that income disabilities might prevent the poor from

having their deliveries in hospitals especially in the rural areas which lack well equipped hospitals in the public sector. If the above conclusion is true then most of the poor in the rural areas ought to have their child births in private

Table IV.7

	Percentage of Hospital Births and types of hospitals			
	Rural		Urban	
	Type of Hospital		Type of Hospital	
	Govt.	Others	Govt.	Others
India	59.74	40.26	60.26	39.74
Karnataka	58.02	41.98	48.9	51.09
Kerala	43.38	56.62	55.65	44.34

[ Source : Sarvekshana Vol.XIV No.4 ]

hospitals and the rate of institutional deliveries would be low among the poor. However neither of these assumptions are fully borne out by the pattern of utilisation of institutions for child births [Table IV.8 ]. Among the urban poor the preference is clearly for the government hospitals. Among the rural poor except for the lowest fractile other poor income groups have access to government medical institutions, though at a lower level than the urban poor. The rate of utilisation is lower in the rural areas but only marginally so.

Table IV.8 : Percentage of hospital births by type of hospitals

Kerala	[Rural]			[ Urban ]			
	Fractile Group	Of hosp. births	Type of Hospital	Of hosp. births	Type of Hospital		
		Govt.	Others		Govt.	Others	
	0-10	55.3	34.65	65.36	72.39	73.11	26.89
	10-20	77.88	60.16	39.84	100	72.87	27.12
	20-40	73.75	58.28	41.72	74.49	53.92	46.08
	40-60	84.18	52.69	47.31	77.55	77.5	22.51
	60-80	91.06	47.15	52.85	66.3	62.25	37.75
	80-90	91.59	24.78	75.22	100	40.25	59.75
	90-100	100	50.01	49.99	100	42.18	57.84
	All	77.58	49.6	50.4	78.75	65.39	34.61

[ Source : Sarvekshana Vol.XIV No.4 ]

A comparison of the reasons for non-utilisation of hospitals for in-patient services and child births [ Tables II.7. and II.8 ] show that there may be factors other than income differentials at work. The proportion of people not having recourse to hospitalised deliveries on account of financial reasons is low in the rural areas and practically non-existent in the urban areas in contrast to the non-treatment of sickness. This could possibly be due to the fact that the family has more time to plan the expenses for a delivery while the onset of a sickness is likely to be sudden. Hence more than the burden of the expenditure

Table IV.9 : Percentage distribution of non-hospital births by reasons for non-hospitalisation

Kerala Rural

Fractile Group	Preferred	Too expensive	Not available	Ava-	Others	Not reported
0-10	34.77	12.2	12.83	34.16	6.04	
10-20	71.33	0	13.36	15.3	0	
20-40	46.02	8.98	0	12.42	32.58	
40-60	51.36	0	16.22	32.42	0	
60-80	100	0	0	0	0	
80-90	0	0	0	0	100	
90-100	0	0	0	0	0	
All	47.55	6.65	9.55	23.29	12.97	

Kerala[Urban]

Fractile Group	Preferred	Too expensive	Not available	Ava-	Others	Not reported
0-10	62.19	0	0	37.81	0	
10-20	0	0	0	0	0	
20-40	0	0	0	0	100	
40-60	0	21.26	0	0	78.74	
60-80	0	0	0	100	0	
80-90	0	0	0	0	0	
90-100	0	0	0	0	0	
All	20.03	3.72	0	47.46	28.8	

[Source : Sarvekshana. Vol. XIV, No.4]

needed for treatment of the sick it may be the unpredictability of the expenditure that makes it difficult for the lower income

group to consume the amount of health care they would otherwise have. <sup>8</sup> This is an important aspect to be considered when providing amelioratory measures. It is also seen that the lower income groups and some of the middle class in the rural areas prefer to have their child birth at home possibly due to cultural reasons while no such constraints affect treatment of sickness. Similarly in the rural areas medical facilities are reported as not being available while such a constraint did not affect in-patient facilities. As pointed out in chapter II, it can only be inferred that the facilities considered acceptable for in-patient care need not be treated as suitable for child births.

#### IV.5. Health care system and services with externalities

As pointed out in chapter I and earlier in this chapter some medical services, in addition to their utility for the individual consumer also benefits the society. Therefore it is in the interest of the society to persuade the individual to consume the service by subsidising his consumption of such services. In a health care system which is predominantly run by the private sector it is unlikely that the providers of health services will subsidise consumption of these services. Hence the pattern of consumption of these services under the health care system as it has evolved today is to be examined. Two services examined here are: immunisation of children and family planning services.

---

<sup>8</sup> An aspect pointed out by Arrow: See Cooper and Culyer (1973)

#### IV.5.1:- Immunisation services

Immunisation of children take place before and after birth. Hence the pattern of immunisation could be ascertained from data on registration of children for paediatric care and registration of mothers for pre-natal care.

All the villages in Kerala are covered by a network of Primary Health Centres which have workers dedicated to maternal and child welfare. Therefore the coverage of children registered for paediatric care may be expected to be larger in the public sector than in the private sector. The facilities expected for

Table IV.10:- Percentage of children regd. for paediatric care

Percentage of Children				Percentage of Children			
Registered		Treated in th		Registered		Treated in th	
for care		Pub.	Pvt.	for care		Pub.	Pvt.
Rural				Urban			
India	11.93	65.34	28.26	India	29.4	57.91	37.67
Karnataka	21.34	72.67	21.2	Karnataka	45.2	58.6	33.14
Kerala	32.19	46.86	43.43	Kerala	32.64	46.81	51.15

[ Source: Sarvekshana, Vol. XIV, No.4 ]

immunisation are of a lesser order than that required for medical treatment as an inpatient. Hence the public sector which has greater number of institutions in the villages as compared to the

private sector may be expected to have their facilities used by a larger percentage of people seeking immunisation services. Table IV.10 shows that in the rural areas, unlike in the case of medical treatment, the public and private sector hospitals are evenly matched. A look at the choice of different income groups for the choice of institutions for immunisation shows that the public sector is chosen by all but the upper income groups<sup>9</sup>.

This could be the result of there being a better availability of facilities for immunisation unlike for hospitalisation. Immunisation requires only proper storage and sterilisation facilities. The materials and the equipment required for immunisation are made available free of cost by the UNICEF through the government of India, unlike the materials required for medical treatment, which have to be paid for from the state resources. Hence the shortage of funds for equipment and medicines from the state budget will not adversely affect the immunisation programme. This, along with the availability of health workers dedicated to immunisation activities, probably account for more people using public facilities than private ones.

If the above inferences are true then it may be safe to presume that had similar facilities ( in terms of both equipment and materials) been available for hospitalisation, then in the rural areas too poor patients would have preferred the public health

---

<sup>9</sup> Sarvekshana, Vol. XIV, No.4 .

system to the private. But this does not explain why the private sector which has a substantial presence does not make a larger impact on the immunisation activities. Families would be expected to meet all their health needs from one institution if possible. Data on this is not available. But one possible reason for this could be that the money that can be charged on this is too low for private institutions to provide these services profitably. This was checked out by enquiries with two leading private hospitals of Trivandrum. Both the hospitals reported that they charged only two to three rupees as service charges, the drugs being made available by the government agencies. Thus the preference for the government sector could mean that the government sector, under no budgetary limitations as in the case of curative services, provided satisfactory services leading to their being preferred over private services. But this does not make sense as the rates reported by private hospitals too are very low. Either the rates reported by the private hospitals do not include the full charges ( as registration charges ) or the private sector, finding that the operation is not profitable and not being in a position to charge higher rates due to adequate supply of subsidised services, does not encourage these services.

Another important instrument in ensuring maternal and child health is the ante-natal protection given to the mother. The percentage of mothers registered for prenatal care by fractile groups and type of institution are given in table IV.11.

Facilities required to provide pre-natal care are more elaborate than that required for immunisation though considerably less than that required for inpatient treatment. Unlike in the case of paediatric care the private sector has more customers than the public in rural area while the reverse is true of urban area. Reading together the data on immunisation and pre-natal care of mothers [ the data on post - natal care of mothers is not examined as the majority of mothers are not covered. Only 38.07 percent in the rural area and 34.59 percent in the urban area are

Table V.11:-

Percentage of mothers registered for pre-natal care by hospital

	Percentage			Percentage			
	of mothers Registered	Hosp. option public private		of mothers Registered	Hosp. option public private		
	Rural			Urban			
India	21.15	61.54	34.72	India	46.83	59.02	39.67
Karnataka	36.97	70.65	24.09	Karnataka	64.43	73.39	25.75
Kerala	72.68	45.7	52.62	Kerala	65.24	50.07	44.88

[ Source: Sarvekshana, Vol. XIV, No.4 ]

covered ] it is evident that the public sector hospitals continue to play the major role in immunisation of children.

#### IV.5.2:- Family Planning services

Another area where Kerala is seen to have achieved considerable

progress in the adoption of family planning methods. The government attaches high priority to family planning. In addition to the possible benefits an individual receives from adoption of family planning- better maternal health, less financial burden of bringing up too many children and more time devoted per child- the society also benefits. These cannot be internalised by a market based system. The effect of the health system as it has evolved in the State on the family planning activities are examined next. The data collected by the 42<sup>nd</sup> NSS round (From 'Sarvekshana', June -September 1992) on the degree of adoption of family planning services\* is given below.

As may be expected Kerala has better figures for both sterilisation and adoption of other family planning services.

Table IV.12:- Percentage of eligible couples ever sterilised or ever received FP services

	Rural		Urban	
	Ever Sterilised	Ever Recd FP servcs	Ever Sterilised	Ever reced FP service
India	20.55	24.92	26.16	36.78
Karnataka	30.87	33.32	27.35	31.62
Kerala	36.85	43.56	37.7	48.42

[ Source :- Sarvekshana, Vol. XVI, No.1 ]

Thus at present Kerala has not had an adverse impact from the predominance of private sector in the rural areas. But it must be

remembered that as in immunisation services there is a dedicated system for family planning services too. To assess the impact of the impact of private hospitals we may look at the source of sterilisation services (Table IV.13 ).

Table IV.13:- Percentage of couples sterilised by category of service received

RURAL					
	With in centive	From Govt.		From others	
		Free	On Payment	Free	On Payment
India	71.38	16.75	3.69	5.14	3.06
Karnataka	76.04	14.16	1.36	5.36	3.08
Kerala	64.03	14.14	5.56	2.7	13.57

  

URBAN					
	With in centive	From Govt.		From others	
		Free	On Payment	Free	On Payment
India	55.91	20.32	10.71	7.12	5.94
Karnataka	69.13	21.11	0	2.96	6.8
Kerala	45.94	36.92	8.31	0	8.86

[ Source :- Sarvekshana, Vol.XVI, No.1 ]

While the number of people who paid for sterilisation is considerably higher in rural Kerala than the rural regions in the rest of the country it may be seen that the majority still made

use of the financial incentives or free service from government<sup>10</sup>. The question of whether they would still have demanded the same amount of family planning services has to remain in the realm of conjecture due to lack of data. However in the field study conducted by Zachariah<sup>11</sup> 93% of those who had undergone sterilisation responded that they would have availed of the services even if there had been no incentives.

In family planning services as in immunisation the preference is for government hospitals. As in immunisation the facilities required for providing these services are limited. The services are provided and promoted by the government sector and the population both rural and urban are content to avail themselves of the facility offered. What could happen to the immunisation and family planning activities if the government sector were to withdraw can only be a matter of conjecture. However if the society considers the services to be important enough to be actively promoted then it is only logical that the state fund these activities.

---

<sup>10</sup> As in immunisation services the private sector appear to have avoided providing family planning facilities. In 1986 only 11% of private hospitals offered these services. (The survey of private medical institutions in Kerala, 1987)

<sup>11</sup> See Zachariah, K.C. (1992)

#### IV.6:-Conclusion

The nature of government expenditure had led one to expect that the private sector would adapt its investment decisions to government investment by setting up more institutions and facilities to satisfy the demand left unmet by reduced public expenditure and concentrate on areas neglected by the public sector. The response of the private sector to activities with significant benefits to the society was also seen to be unpredictable.

When the total facilities and institutions in the health sector in Kerala are analysed, it is seen that most of the hospitals and beds in the State are in rural areas inspite of the urban bias of government hospitals and facilities noted in Chapter III. This is because the private sector has responded to the urban bias of the government sector by setting up most of their institutions and facilities in rural areas. The private investment is seen to have concentrated, like government investment, in the developed districts of the Travancore-Cochin area. Thus, while the urban bias of the public sector was corrected by private investment the bias towards the developed districts was further accentuated, with the notable exceptions of Idukki.

The pattern of consumption of health services show that while in

the rural areas of other States most of the population get their medical care from government facilities, in Kerala most of them, in all income classes, utilise private facilities. In the urban areas of the State the poor visit government facilities and the rich the private ones. It is inferred that due to urban bias of government facilities the poor in the rural areas are forced to utilise private medical facilities as government facilities are not available in rural areas. This also explains why the percentage of sick who cannot afford health care are more in rural areas than in urban areas.

When the utilisation of family planning services and immunisation of children was examined it was seen that these two activities are carried out predominantly in the government sector. Thus, inspite of the way the health care system has developed in recent years the services with significant externalities are still being provided in the government sector and the degree of their utilisation by the people of Kerala is very high.

This Chapter has shown that, utilising the opportunity offered by the resource crunch in the public sector, the private sector has invested large amount of money in the health sector. As against urban bias of the government sector, the private sector has invested more in rural areas to profit from the unmet demand for health services in these areas. However it has not concentrated on the districts where the government investment is low.

Considering the intensity of government efforts in family planning and immunisation activities, it has largely avoided involving itself in these activities which continue to be provided by the government sector. Thus it is seen in this chapter that the private sector has adapted its investment decisions to the nature of government expenditure decisions. This has had an impact in the pattern of health care services in the State.

CHAPTER V  
CONCLUSION

The study has attempted to analyse the influence of government expenditure on the development of the health care system in Kerala. The government expenditure decisions are taken in response to a certain socio-economic milieu and through a certain decision making process. Hence, it may be expected that the decisions would favour the services which the decision makers consider important. Medical care is a service that the people of Kerala seek and, therefore, response of the society will depend upon the nature of need for health care and the social factors that influence provision of health care services. This response would determine the way health care system of the State develops. This, in turn, set the pattern of consumption of health services in the State. This is the hypothesis that the study set out to explore.

A review of the health status of the population of Kerala shows that the state enjoyed a better health status than other states in India. An important factor in achieving this status has been the government expenditure on the provision of health care services. A comparison of the government expenditure on health of all states in India with Kerala shows that the latter spent a larger share of its budget on health upto late seventies. Since then it has been at the same level or lower than that of all

other Indian states. The per capita expenditure on health in Kerala is also higher than that of the other states. These differences with other states have declined in the eighties which coincide with the period of fiscal deficits of the government. Hence, the decline in the health expenditure of the government in Kerala could be the direct offshoot of fiscal deficits of the state. However, the decline in this expenditure is not seen to have affected the availability of health facilities in the State.

A detailed analysis of health expenditure of the government by their category is carried out to discern the type of service and expenditure that the government consider important. This analysis is done by disaggregating budget allocations into such categories as pay and allowances, medicines and diet, office expenses, purchase of hospital equipments, vehicles, construction and grants; and, types of expenditure such as medical establishment, medical education, health care institutions, Medical College Hospitals and grants. The analysis shows that the share of pay and allowances in the total health expenditure have been increasing steadily. The trend in all the other expenditure categories have been either stagnant or downwards. The share of office expenses shows a decline indicating that unproductive expenditure on administration has been under control.

The benefit of increase in personnel to different groups would be

based on the category of personnel in which the increase has occurred. If the increase in the number of functional group, like doctors and para medicals, are more than that of others, consumers as a group would benefit. Medical students stand to gain from an increase in the category of teachers. And, interests of health service personnel would be furthered by an increase in supervisory officers.

An examination of the composition of the personnel shows that the maximum growth has occurred in the segment of teachers followed by officers. The growth in the category of teachers reflects the importance that the government attaches to medical education. Although the number of officers has grown, the number of persons supervised by these officers has come down. It indicates over manning in the category of officers compared to earlier periods, which results in each doing less work now than in earlier days. The growth in the functional group has been less than that of teachers and the administrative staff.

Although the share of expenditure on personnel in the total budget has increased, the productivity has not increased correspondingly. It shows that the increase in expenditure had not been commensurate with the increase in productivity. It therefore, suggests that the increase in the share of expenditure of personnel has not increased the efficiency of the health care system.

While analysing the apportioning of revenue expenditure between various allopathic institutions, it is seen that the share of medical establishment has tended to come down and that of hospitals and dispensaries remained steady. However, a large share is being spent to keep up the medical education system of the state and to provide highly specialised medical care in the largest cities of the state. This results in subsidising the medical education and specialised medical care. The desirability of this subsidy, when basic medical facilities have not been made available to some regions and some sections of the society is open to question.

The only *raison-de-etre* for the state funding of the health care in Kerala is to assist the poor who have less access to health care due to financial reasons. Though it is difficult to ascertain the benefits the poor get from different expenditure categories, the decline in the provision for medicine and diet, diagnostic services and inpatient care suggests that the poor had not been favoured by the expenditure incurred. The growth of personnel is largely found to be in the category of officers, clerks and teachers. The increase of expenditure on such personnel would also not be in the interests of the poor. Thus, this study finds that the expenditure decisions of the government have not favoured the poor.

When the allocation of resources by government between rural and

urban areas are examined, it is seen that the share of urban areas is high. The rural areas had a relatively a higher share in the number of institutions, which had also gone up over the years. An examination of the facilities provided by government for inpatient care shows that less than 13 per cent of the rural areas have these facilities. This could be due to channelising resources to setting up of speciality hospitals, which are highly capital intensive, in large urban centres. Had the emphasis been on providing basic health amenities everywhere rather than adding to the existing facilities of large urban hospitals, the government facilities would have been distributed equitably between urban and rural areas.

Some districts especially in the erstwhile Travancore Cochin had a headstart in the provision and consumption of health services. An analysis of the allocation of resources between districts shows that the differences between districts has been reduced as compared to the position in 1960, although large disparities still exist. It might be in the interests of the society to ensure that people consume certain services such as immunisation of children or family planning services. Therefore, it may be considered necessary to finance these services from the exchequer. Analysis shows that this is the policy adopted by the government of Kerala.

Since the public sector has concentrated mostly in the urban

areas and in the developed districts, it is possible that the demand for health services would be largely left unmet in the rural areas and in the under developed districts. This presents an opportunity and incentive to the private sector to invest in the rural areas and in the under developed districts. As inadequacy of funds restrict the ability of the state to continue to provide facilities in urban areas, the private sector would be likely to expand its operations in the urban areas too.

The study shows that the private sector availed of the opportunity provided by the failure of the public sector to maintain the rate at which it had grown in the past. The private sector has set up large additional capacity during the period from 1977 to 1987. The growth of private institutions and facilities between 1978 and 1988 shows that the private sector grew at 5 times the rate at which public sector grew. It has invested more resources in rural areas than in the urban areas. This may be seen as a response to the concentration of public sector investment in urban areas. However, while restricting their investment in districts where the government facilities are available on a large scale, the private sector has not preferred the under developed districts over the developed ones. The private sector has also not invested large amounts in facilities for immunisation and family planning services, perhaps due to the satisfactory performance of public sector in provision of these facilities. Thus, it may be said that the health care system

that has emerged in the state is the result, partly of public expenditure decisions and partly the investment decisions of the private sector in response to the public expenditure decisions.

Analysis of the pattern of consumption of health services shows that public health institutions are preferred over the private for immunisation and family planning services. The analysis of the health services both in the rural and urban areas shows that while poor in the urban areas rely on government facilities and the rich go the private hospitals, all income groups in rural areas utilise private facilities. It suggests that the rural poor visit private hospitals because of non-availability of facilities in nearby government hospitals. The lack of facilities provided by the government in rural areas seems to explain why the percentage of poor who could not afford to have health care services due to financial reasons is more in the rural areas than in the urban areas of the state.

<sup>o</sup>  
Government needs to define its intentions in intervening in the health care market. When these have been defined, the services and expenditure categories may be graded according to the degree to which they contribute to them. The type of expenditure that contribute the most may be given priority over the others. Government has to revise the purpose and nature of its intervention in response to the health care needs in a changing social scenario.

## BIBLIOGRAPHY

- 1)- Abel-Smith, B. and Rawal, P (1992) : ' Can the poor afford "free" health services ? A case study of Tanzania,'Health Policy and Planning, Vol.7 No.4
- 2)- Akin J.S., (1981) : 'The demand for child health services in the Philippines',Social Science and Medicine, Vol.15
- 3)- Akin ,J.S.,Birdsall,N. and de Ferranti, D.(1987) : 'Financing Health Services in Developing Countries: An Agenda for Reform' , World bank, Washington, D.C.
- 4)- Berman, P. and Khan, M.E. (1993): 'Paying for India's Health Care', Sage Publications, New Delhi.
- 5)- Birdsall, N. and James, E (1990) : 'Efficiency and Equity in Social Spending,'Policy, Research and External Affairs, Working Paper No.274, Population and Human Resources Operations Division, The World Bank, Washington D.C.
- 6)- Caldwell ,J.C (1986):'Routes to low mortality in poor countries', Population and Development Review,Vol.12, No.2.
- 7)- Caldwell, J.C and Orubuloye,I.O (1975): 'The impact of public health services on mortality: A study of mortality differentials in a rural area of Nigeria', Population Studies, Vol.29 No.2.
- 8)- Caldwell, J.C (1979):' Education as a factor of mortality decline; an examination of Nigerian data', Population Studies Vol.33, No.3

- 9)- Chandhok, H.L. and the Policy Group(1991): 'India Data Base. Vol.I, Living Media, New Delhi .
- 10)- Cooper,M.H and Culyer, A.J-editors, (1973):'Health economics', Penguin,Harmondsworth.
- 11)-de Ferranti, D.(1985) : 'Paying for Health Services in Developing Countries - An overview ',World Bank Staff Working Papers, No.721,The World Bank, Washington D.C.
- 12)- De Winter, E.R. (1992): 'Are we ignoring population density in health planning? The issues of availability and accessibility;' Health Policy and planning, Vol. No.2
- 13)- Flegg,A.T(1982): 'Inequality of income, illiteracy and medical care as determinants of Infant mortality in Underdeveloped countries', Population Studies, Vol.36,No.3
- 14)- George,K.K (1993): 'Limits to Kerala Model of Development: an analysis of fiscal crisis and its implications', Centre for Development Studies, Trivandrum
- 15)- Gertler, P, Locay, L. and Sanderson W.(1987): " Are User Fees Regressive? The Welfare Implications of Health Care Financing Proposals in Peru." Journal of Econometrics, Vol 36 No.1/2 [PP.67-88], North-Holland, Amsterdam.
- 15)- Griffin, G.C. (1989) : 'Strengthenong the Health Services in Developing Countries through the Private Sector', International Finance Corporation, Discussion Paper No.4, The World Bank, Washington D.C.
- 17)- Halstead, S.B.,Walsh, J.A,and Warren, K.S.(1985): " Good

Health at Low Cost", Proceedings of a conference held at Bellagio, Italy from April 29 to May 3, 1985, Rockefeller Foundation, New York

- 18)- Heller, P.S., (1982) : 'A Model of the Demand for Medical and Health Services in Peninsular Malaysia', Social Science and Medicine, Vol 16. No.3, PP.267 to 284.
- 19)- India, Government of ( ): Statistical Abstract for British India, Department of Commercial Intelligence and Statistics, Calcutta.
- 20)- India, Government of, (1991) : 'Child and Maternity Care,' Sarvekshana, Vol. XIV, No. 4, New Delhi.
- 21)- India, Government of, (1992) : 'Utilisation of Family planning, NSS 42<sup>nd</sup> round (1986-87)', Sarvekshana, Vol.XVI, No.1, New Delhi.
- 22)- India, Government of : 'Health Statistics of India', Directorate General of Health Services, New Delhi. Various issues.
- 23)- India, Government of, (1992) : 'Morbidity and Utilisation of Medical Services NSS, 42<sup>nd</sup> round (1986-87)', Sarvekshana, Vol.XV, No.4, New Delhi.
- 24)-Kabir, M and Krishnan, T.N (1992): 'Social intermediation and health transition: Lessons from Kerala', Working Paper no.251. Centre for development Studies, Trivandrum.
- 25)- Kannan, K.P., Thankappan, K.R., Ramankutty, V., Aravindan K.P (1991): 'Health and Development in Rural Kerala', Kerala Sashtra Sahitya Parishad, Trivandrum.

- 26)- Kerala, Government of, : 'Report of the Kerala Pay Commission', Various issues, Trivandrum
- 27)- Kerala, Government of, : 'Demands for Grants and Detailed Budget Estimates', Various issues, Trivandrum.
- 28)-Kerala, Government of, Directorate of Economics and Statistics (1987): 'Report on Survey of private medical institutions in Kerala,' Trivandrum.
- 29)- Minhas, B.S., Jain, W.R and Tendulkar, S.D., (1991): 'Declining incidence of poverty in the 1980's. Evidence versus Artefacts, Economic and Political Weekly, Vol. XXVI, No. 27/28, July 1991. [ PP. 1673-1682 ]
- 30)- Moni Nag (1983): 'Impact of social and economic development on mortality, Comparative study of Kerala and West Bengal', Economic and Political Weekly, Annual Number
- 31)- Mysore, Government of, (1950): 'Statistical Abstract of Mysore from 1923-24 to 1947-48', Commissioner of Economic Development and Planning, Bangalore.
- 32)- Nair .P.R.G (1974): 'Decline in birthrate in Kerala', Economic and Political Weekly, Annual Number.
- 33)- Olson, M, ed. (1981): 'A New approach to the economics of health care', American Enterprise Institute for Public Policy Research, Washington.
- 34)- Panikar, P.G.K and Soman C.R (1984): 'Health Status of Kerala', Centre for Development Studies, Trivandrum
- 35)- Panikar, P.G.K (1992): 'High Cost of Medical Care in Kerala. Tentative Hypothesis', Economic and political weekly,

June, 1992 [PP. 1179-1181]

- 36)- Reserve Bank of India, : 'Reserve Bank of India Bulletin', Various issues, Bombay.
- 37)- India, Government of, (1991) : 'NSS consumption Survey, 44<sup>th</sup> round', Sarvekshana, Vol. XIV, No. 3, New Delhi
- 38)- Selowsky, M. (1979) : 'Who benefits from government expenditure', World Bank Research Publication, Oxford University Press, New York.
- 39)- Sharma, O.P and Rutherford, R.D (1987): 'Recent Literacy Trends in India', occasional Paper No.1 of 1987, Office of the Registrar General and Census Commissioner, India, Ministry of Home Affairs, Government of India, New Delhi.
- 40)- The World Bank, (1993) : 'World Development Report 1993, Investing in Health', Oxford University Press, New York.
- 41)- The Institute for Economic Affairs, (1976) : 'The Dilemma's of Government Expenditure , Essays in political economy by economists and parliamentarians', London
- 42)- United Nations (1975): 'Poverty, Unemployment and Development Policy', United Nations Publications, New York
- 43)- Yoder, R.A. (1989) : " Are people willing and able to pay for health services? " Social Science and Medicine. Vol. 29, No. 1 [PP. 35-42], Oxford.
- 44)- Zachariah, K.C and Patel Sulekha (1982): 'Trends and determinants of infant and child mortality in Kerala.' World Bank, Washington.
- 45)- Zachariah, K.C. (1992) : 'Demographic Transition in Kerala

in the 1980s - Results of a survey in three districts',  
Centre for Development Studies, Trivandrum and Gujarat  
Institute of Area Planning, Ahmedabad.

46)-Zachariah,K.C(1983): Anomaly of the fertility decline in  
Kerala, Technical notes, Population, Health and Nutrition  
Department, World Bank, Washington.