CHAPTER IV

HEALTH PROGRAMMES AND SERVICES
HEALTH PROGRAMMES IN TAMIL NADU

The health system in India is beset with problems which is common to almost all the developing countries of the world. Firstly there are too few resources being invested in the health sector. The 2.1% of the GNP that India spends on health care represents about Rs. 9 per capita. Further the accent of this expenditure is on the minority of urban population.

Secondly though it is eight times more expensive to train a physician than a medical auxiliary, the emphasis continues to be on training the former. Ordinary people have little control over their own health care, i.e., self-reliance in matters of health is almost non-existent which makes the rural population heavily dependent on the official health machinery.

Thirdly this has resulted in a perceptible erosion of indigenous cultural values and the entire health care pattern and the administrative structure based on the expensive, western oriented curative hospital based system.

It is, therefore, the objective of the 'Health for All' concept to surmount these limitations and reach out to the common man especially the villager, not only to provide the
much-needed health and medical facilities but to do so in a simple and yet an effective and comprehensive way, not merely to treat him of diseases but to immunise and protect him from further disability and also to instil certain confidence and knowledge in him to sustain a safe and protected environment by himself.

The basis of such a strategy is 'primary health care.' And India like most developing countries has come to realise that conventional approaches copied from industrialised countries as is evident from the national health plans have been helplessly inappropriate, in terms of meeting, within a reasonable period, the health needs of its vast population.\textsuperscript{1} Primary Health Care may be described as essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part of both the country's health system and of the overall social and economic

\textsuperscript{1} Henry J. Labouisse, Executive Director, UNICEF Conference of Primary Health Care, Alma-Ata, 1978.
development of the community. It is the first level of contact of individuals, the family, the community with the national health system, bringing health care as close as possible to people where they live and work and constitutes the first element of a continuing health care process.²

The delivery of such a health care involves an integrated scheme of activities and services. In conformity with the principal objectives of Primary Health Care, the emphasis is on the preventive and promotive aspects. Another significant purpose of primary health is protecting and promoting the health interests of vulnerable sections of the community, most importantly women and children. Thus an effective and a total provision of public health services cover a varied range of health programmes and services, directed not only towards controlling and eradicating of diseases, especially the communicable ones and preventing their recurrence, but also enhancing the resistance capacity of the individuals against the onslaught of such diseases.

These programmes, while constituting the overall primary health care system focus on specific areas and particular sections

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of the community. They could therefore be classified into two major areas. The 'disease-oriented' programmes which include those directed towards control or eradication of a particular disease and the 'target group' schemes such as the ones directed towards a particular section or group of the community. Some of these programmes are financed by the Central Government and are implemented uniformly throughout the country. They constitute the 'National Programmes' and cover most of the eradication schemes.

This chapter discusses some of the important national and state health programmes directed towards the achievement of the health objectives of the Government of Tamilnadu. It describes each programme in terms of the national and regional policy perspectives, organisational and personnel pattern and its effectiveness. The primary thrust of these programmes is to actively promote the movement of 'Health for All by 2000 A.D.' in terms of attaining for all the citizens, a level of health that will permit them to lead socially and economically a productive life.

A cardinal feature of these programmes is that they are implemented at the lowest grass-root levels of the rural community and constitute the very backbone of the primary health
complex. However, this feature involves certain problems and issues such as the extent of decentralisation, selection and training of appropriate personnel, targets of population coverage area to be covered and follow-up activities. Above all, though they are predominantly preventive, all the schemes involve a large degree of curative and clinical functions and naturally involve both institutional and field services. Further these programmes involve a fundamental primary health care principle in that the field staff are not only required to fulfill their technical and health responsibilities, but should establish rapport with the local community, motivate, educate and enhance their health and social consciousness. Thus most of these programmes are heavily dependent on what has been recognised as an indispensable function of primary health care delivery namely 'community participation'.

Being implemented at such close proximity and contact with the individuals and the family, the administration of the programmes need to be in conformity with and adapted to the local cultural values and practices, habits, traditions and even superstitions\(^3\) especially in areas such as child birth and ante-natal care. Accessibility, equipment and effective

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communication, are of vital importance. These services involve maximum decentralisation and rational dissemination of the services, equitably over a wide area. Tamilnadu like the rest of the country being a diverse state in terms of demography and topography, the operations of these schemes require a well-developed local level organisational structure and logistics.

Finally, all these programmes emanate from a central nucleus health unit namely the Primary Health Centre. However, due to their highly compartmentalised nature at the operational level and mostly involving different personnel operating within their own frames of references, all the programmes need a high degree of co-ordination and integration in order to channelise their results and benefits towards the overall increase of the health status of the population. The Primary Health Centre constitutes the most vital administrative unit in this regard.

**National Malaria Eradication Programme (NMEP)**

Malaria is one of the most menacing public health problems in the tropical and sub-tropical countries like India. Though not a highly fatal disease, mortality rate being only 1 per cent of the adult victims, it is a chronic invalidating one and a major cause of infant mortality. Moreover, victims of repeated

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attack of malaria become physical wrecks with low efficiency and work potential. In India it was estimated during 1947 that no fewer than 75 million people suffered from it each year and during epidemics the toll was twice as much. It has been calculated that half of the five and half million deaths in India from all causes were accounted for by fevers and more than one third of the deaths were attributed to malaria.5

Tamilnadu was one of the pioneering states in the country to recognise the importance of the conquest of malaria through a sound policy and organisation by establishing the 'Malaria Board' as early as 1911. Eradication of malaria constituted one of the major health policies of both the centre and the State and was given top priority during the First Five Year Plan, which ultimately led to the establishment of the NMMP. It was implemented in Tamilnadu during 1953-54. The NMMP, consolidated under a single programme all the independent malaria operations in the State. The overall planning and organising the programme was completed in 1956.6

The objective of the NMMP is to eradicate the malaria parasite through a time-bound programme which is implemented in three phases namely the 'attack' or the 'control' phase, the

'consolidation' phase and maintenance phase. 7

Operational structure in Tamilnadu:

The whole state is divided into five operational malaria zones namely,

1. Cuddalore
2. Thanjavur
3. Coimbatore
4. Salem, and
5. Tirunelveli

Each zone is under the control of a Zonal Officer who is responsible for all malaria operations in the zone. Each zone consists of four districts. The District Malaria Officer is in-charge of the malaria activities in each district. The Primary Health Centre forms the basic unit responsible for all anti-malarial activities with the Medical Officer in-charge of all technical operations in the intensive area. All the field surveillance functions are carried out by the 'Basic Health Worker' attached to the Primary Health Centre. Special malaria control units or the 'hypo-endemic' units also form part of the scheme. Each unit, depending on the intensity of the disease in the area.

covered is classified under one of the three phases mentioned earlier. There are at present 31.45 units in Tamilnadu covering a population of 35 million. 28.4 of these units fall under the maintenance phase while the other 3.5 function under the consolidation phase. 8

The operations are carried out mainly through intense surveillance of all the intensive areas covered by the units by the Basic Health worker for the malaria spreading parasite or the 'Malaria Vector'. This operation is called the 'Parasite Index Assessment'. The malaria control measures consist mainly of 'spraying method' and anti-larval measures. The former consists of spraying of insecticides such as D.D.T. and Lindane in both indoors and in the surrounding areas. The latter involves detecting and eliminating the potential breeding areas of the malaria spreading vector. Besides intensive detection drives for malaria cases are carried out throughout the State. All the measures require thorough surveillance operations by the field staff and are termed as the 'Domiciliary Vigilance Activities'.

By 1965 the incidence of malaria was tremendously reduced from 75 million a year to one lakh and the disease was almost eradicated by 1967 and Tamilnadu registered a record decline of 83% over the decade. 9

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9. ibid., p.23.
Further the malaria problem in urban areas are tackled by the 'Urban Malaria Scheme'. This scheme besides undertaking spraying and anti-larval measures, operates 'Feaver Treatment Depots' and 'Drug Distribution Centres', with the help of health personnel like the sanitary Inspector, health assistants, health visitors and maternity assistants. Malaria clinics are also established in collaboration with voluntary and social service organisations. At present this scheme is operating in ten urban centres in Tamilnadu. These facilities have also been extended to rural areas and at present there are 398 malaria clinics, 8,428 fever depots and 10,173 drug centres in the State.

However, from the late sixties onwards there has been a consistent increase in malaria cases all over the state and especially in the coastal belt of Rameshwaram. Table I shows the incidence of malarial cases at the all India level and in Tamilnadu.

<table>
<thead>
<tr>
<th>Year</th>
<th>All India</th>
<th>Tamilnadu</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>87,306</td>
<td>592</td>
</tr>
<tr>
<td>1975</td>
<td>60,00,000</td>
<td>1,03,300</td>
</tr>
<tr>
<td>1981</td>
<td></td>
<td>71,571</td>
</tr>
</tbody>
</table>

11. ibid., p.15
Appendix VIII shows the incidence of malaria from 1960 to 1981. Appendix IX shows the distribution of malaria in Urban and Rural areas.
The Government of India appointed two high-powered committees in 1970 and 1974 to make an in-depth study of the malarial situation in the country. These committees concluded that under the prevalent conditions, total eradication of malaria was not possible and recommended effective control operations in accordance with the morbidity rates. Based on these recommendations the Government of Tamilnadu implemented a 'Modified Plan of Operation' in April 1977. The primary objectives of the plan were to prevent deaths due to malaria, to maintain industrial and farm production by undertaking intensive anti-malarial measures in such areas and to consolidate all the anti-malarial measures. The main features of the plan were:

a) Intensive insecticidal spray operations in all rural areas which record the incidence of 2 or more cases per thousand population.

b) Re-organisation of malaria units to conform to the geographical boundaries of the districts.

c) Decentralisation of laboratory services at the Primary Health Centre level to expedite the examination of blood smears to identify positive cases; and

d) Appointment of 12 entomological teams in order to study the effectiveness of the insecticides and drugs.

The modified plan yielded some perceptible results, in that the incidence of malaria declined by about 26% in 1977, and about 11% in 1978. Malaria is caused by several biological, environmental and human factors and any eradication or control programme has to depend on constant vigil and immediate action. The primary reasons for the recrudescence of the disease in recent times are based on factors such as —

a) resistance to insecticides by the malaria vectors;

b) non-identification of the local foci of malaria;

c) lack of proper entomological studies to indentify the behavioural changes of the vectors for quick action;

d) increase in water stagnation due to improper drainage, sewerage and storage facilities;

f) late identification of cases imported to Tamilnadu from outside the State; and

g) general decrease in people's co-operation in implementing anti-malarial measures.

A vital aspect of the administration of NAEP is the absence of information, data and statistics concerning all malarial operations, for quick consolidation and further action through an effective communication system. While Tamilnadu possesses quite an effective vigilance and surveillance system, it has to be given the technical assistance by the laboratory services to identify the technical nature of the problem and take effective action. Above all the laboratory facilities at the Primary Health Centres need to be enhanced with better equipment to analyse the blood smears and to undertake local experiments to study the degree of resistance of the malaria vector.

Financial constraint have proved to be the major reason for relegating the goal of malaria 'eradication' to 'control'. Steep price hikes of insecticides and effective pesticides have dampened the NAEP objectives and adversely affected the spraying activities. Inadequate basic health staff to cover all the villages in every zone is no less responsible for the upsurge in malarial cases.

The most important aspect is that there has not been adequate community participation in combating this disease.
Malaria is one disease which can be controlled or eliminated only to a certain extent with the help of the official machinery. It is directly related to the environmental sanitary conditions and the malaria operations by the Basic Health Worker should be adequately buttressed by effective health education by other field staff of the Primary Health Centre. It is for this purpose that under the 'modified plan' the Primary Health Centres were given total responsibility and supervisory authority over all malarial activities.

**National Filaria Control Programme (NFCP):**

Filariasis is another major public health problem similar to malaria and caused by the same vector. About 236 million of the Indian population lies in filaria endemic areas and 138 million have been detected as micro-filaria carriers and 14 million are chronic filaria patients. Thus filaria requires the same surveillance and prevention methods as malaria. However, the endemicity of the disease is much less than the former.

This programme was launched in Tamilnadu originally as a centrally sponsored scheme during the Second Five Year Plan in 1957 in the endemic districts of Chingleput, North Arcot and Vellore. Later it was taken over by the State Government.

15. Goswami, S.L. *Health Care Administration, Levels and Aspects*, Sterling Publishers, New Delhi, 1980, p. 4
Four Filaria Units were established initially to cover the endemic areas. Each unit has headed by one Filaria Officer and consisted of -

a) Entomological Assistant ... 1
b) Health Inspectors ... 6
c) Field Assistants ... 6
d) Laboratory Assistants ... 6
e) Mazdoors ... 60

The mazdoors or the last grade servants undertook all the spraying operations. In 1969 the programme was reorganised to extend its coverage and new control units were established in (1) Villupuram, (2) Cuddalore, (3) Thanjavur, (4) Nagapattinam, (5) Pudukottai, (6) Srirangam, (7) Kancheepuram and (8) Madras City. These units, however, could not adequately conduct the surveillance operations on an extensive scale.

Therefore, in 1976 two Regional Units (Insect Control) were established with headquarters at Thanjavur and Coimbatore, each covering six districts consisting of about 100 local bodies. These units formulated anti-filaria schemes and conducted intensive survey in all the hitherto uncovered areas. Besides they provide all technical advice and suggestions in

this regard to the local bodies and supervise the proper spending of the grants offered to these bodies.

Central assistance was available to Tamilnadu for anti-filaria operations by way of supply of materials and equipments free of cost while the expenditure towards the operational costs was met from the state funds. In 1980 the pattern of central assistance was changed whereby the material and equipment costs were to be equally shared by the Union and the State Governments. Currently there are 19 control units, 33 filaria clinics and 2 survey units in the state. 17

The major drawbacks with the filaria operations in the State is lack of adequate coverage by the field staff which was a principal reason for discontinuing the 'mass drug' administration in 1961. 18 Further, the most important filaria preventive measure namely the 'anti-larval' measure involves minor engineering operations which requires co-ordination of activities with the other related departments such as water-supply, drainage and sewerage. Lack of such proper co-ordination or liaison has led to haphazard work and excessive proliferation of the vector. This is a factor that has also strongly affected the anti-malarial operations.

Enhanced entomological surveys and experiments are greatly needed to up-date and reinforce the preventive measures especially in terms of the efficacy of the insecticides and sprays. However, the more vital aspect of the problem is to distribute on time, in adequate quantity the drugs, sprays and other prophylactics to the field units.

It was also observed that most anti-filarial operations are carried out uniformly without a proper survey of the nature and degree of endemicity of a particular area. Regular survey plans and operations based on these surveys are necessary to concentrate more in the intensive areas. This would ease the shortage of personnel problem especially amongst the basic workers. It may be reiterated that health education is about the most important element in combating this disease.

National Smallpox Eradication Programme (NSEP):

Though India has been declared completely free from smallpox by the World Health Organisation, the disease in a sporadic manner constitutes a public health problem of some magnitude and demands intensive vigilance operations if recrudescence is to be avoided. The mortality rate during epidemics lies in the region of 50 per cent and the disease leaves indelible ravages on the body of the surviving victims. Thus preventing the disease is the most inevitable alternative.
Traditionally immunising the people through vaccination was the main preventive measure against the disease. However, owing to limitation of staff particularly in rural areas, lack of communication and relative ignorance of the population, it was not possible to offer complete protections to the vulnerable groups, as was desirable or necessary. Therefore, based on the recommendations of the expert committee on smallpox appointed by the Government of India, the NSMP was launched in Tamilnadu in March 1963. The scheme was based on the principle that if the population could be immunised to the extent of 85 per cent and maintained at that level by repeated primary and re-vaccination over a period of 5 years, then even if it was introduced from outside, the disease would not be able to effect the community and eventually die out.

The scheme was launched in two phases, namely, the 'eradication' and the 'maintenance' phases. The 'maintenance' phase was a follow-up of the first one to cover the sections of the population that may have been omitted during the first phase. Omission may occur due to (a) sickness, (b) temporary absence (c) refusals and under age (below 6). This section of the population did not, however, exceed 20 to 25 per cent.
The Primary Health Centre again was the focal point from which the operations radiated. The Health Inspector and health assistants belonging to Primary Health Centre were fully responsible to carry out vaccination activities for the population covered by the Primary Health Centre. An important issue in this regard was the maintenance of the immunisation records, lest vaccination process be unnecessarily repeated or ignored totally.

In 1974 the World Health Organisation launched the 'Smallpox Global Eradication' project with the primary objective of involving the people actively, whereby all medical and non-medical workers were made to contact the people in all the villages, however, remote their location was. An intensive search operation was carried out coupled with incentives of cash rewards for those who reported a case. This brought out many cases which were hidden due to superstitions and social taboos leading to isolation and vaccination of family and community contacts. Thus India was declared free of smallpox by the committee of experts belonging to the World Health Organisation from the middle of 1977. Appendix X shows the incidence of smallpox from 1968 to 1977. This may be considered one of the greatest public health achievements in the country.19

After the eradication of smallpox, the need for compulsory vaccination was minimised. Therefore, the attention of the health department was directed towards immunisation against diseases such as tuberculosis, D.P.T. and Cholera. This led to the conversion of the National Smallpox eradication Programme into the 'extended programme of immunisation'. According to this scheme more emphasis was laid on immunising children against the above mentioned diseases, especially in the school going age.

**National Cholera Control Programme (NCCP):**

Cholera is mostly a water borne disease directly influenced by the extent of environmental sanitation. It is common in developing countries like India with acute shortage of safe drinking water and inadequate sewerage facilities. Thus the most cholera prone areas of Tamilnadu are the deltaic and relatively dry districts of Thanjavur, Tiruchirapalli, Tirunelveli, South Arcot and Salem. 20

The Cholera control programme started functioning in this State in 1969 in the cholera endemic districts of North Arcot, South Arcot, Coimbatore and Tiruchirapalli with complete central assistance. In 1974 the programme was shifted to the charge of

the State funds. A 'cholera cell' was formed at the Directorate of Public Health at Madras. Initially a staff of 152 cholera workers and 6 supervisors functioned in the five districts.  

The cholera cell, staffed with one Laboratory technician, one Field Assistant, one Sample Collector and One Assistant, conducts technical experiments and assessments on food samples to detect the cholera germs, and suggests appropriate control measures.

Cholera control is predominantly carried out by the 'Mobile Units'. These units tour regularly the endemic and cholera suspect areas and besides treating the cases and immunising the others, render training to the medical and para-medical personnel at the block level to keep them abreast of the latest techniques in treating and preventing the diseases. There are seven mobile and three epidemic control units in the State at present. Besides three 'Cholera Combat Teams' were set up with central assistance in the endemic districts of North and South Arcot and Coimbatore in 1975, 76 and 77 respectively.  

23. ibid., p.37.
Higher experimentation and epidemiological studies are carried out regarding the epidemiological pattern of the disease at the epidemiological unit at the Madras Medical College.

Cholera control has been implemented rather successfully in Tamilnadu. Deaths due to cholera have been reduced from 160 in 1971 to 32 in 1981 and there has not been an outbreak of an epidemic during the decade. Appendix XI provides the details of cholera attacks, deaths and number of inoculations from 1971 to 1981. Preventive measures like chlorination and inoculations have been effective enough to reduce the disease from an epidemic level to that of an individual disability. Though the incidence of cholera has rapidly declined over the years, it requires intensive environmental protection, adequate sanitary conditions and above all protected water supply if the resurgence of the disease is to be restrained.

These national programmes are directed towards the control and eradication of some of the most vicious and infectious diseases and cover the entire state in their implementation. However, there are certain diseases which constitute public health problems of lesser intensity, nevertheless requiring immediate and effective action or acquire immense proportions.
The following are programmes implemented entirely by the State government to tackle such diseases.

**Plague Control:**

Though not a serious epidemic problem in the State, plague is a dreaded disease that originates from infectious rodents, especially rats. There has not been any incidence of plague in the State since 1965. However, the State undertook preventive and surveillance activities by establishing the 'Plague Unit' in 1960. The District Health Officer supervises all the anti-plague activities and is assisted by the Unit staff consisting of one entomological assistant, 24 Health Inspectors, one laboratory assistant, one Plague Overseer, 74 Plague Inspectors, 238 Plague mazdoors (Last-Grade Servants), 2 Junior assistants, and 25 Basic Servants.24

The scheme was implemented in the plague endemic districts of Dharmpuri and Periyar. The anti-plague measures generally adopted are laying of rat traps and powder spraying to kill the infectious rodents. This is carried out by the mazdoors and plague maistries who undertake periodical house to house surveys in these areas. The surveillance operations need to be thorough and effective as most of the village dwellings are crammed without any ventilation with open storage of provisions and other

edibles. Such conditions provide ample opportunities for the rodents to breed. Plague control in the State has been effective with no case reported from 1965. Even the endemic areas have not reported any rat fall for the last decade and a half. 25

Guineaworm Eradication Programme:

Guineaworm again is a common waterborne disease. Guineaworm breeds in any stagnant water and causes excessive contamination. This disease mostly attacks children of 10 years and below and constitutes a major public health problem, as water contamination is a common malady in the rural areas.

The programme is a non-plan scheme and the endemic areas in the State are divided into six zones. Each zone is headed by an entomologist who supervises three to four Health Inspectors who in turn have three or four field assistants working under them. The primary objective of the programme is the treatment of all drinking water sources and storage areas with D.D.T. powder to destroy the guineaworm vector called 'Cyclops'. Besides the victims are treated by the field staff. Besides water treatment, extensive surveys are conducted in all villages in the endemic area to detect the cases for treatment.

Appendix XII lists the details of infected villages and the cases detected from 1974. The state has recorded an enormous reduction in the incidence of this disease from 164 cases in 1974 to only 2 in 1981 and the number of infected villages from 32 to only 1 for the said period. Although statistics present an optimistic picture, there is the problem of undetected or unidentified cases. This is evident from the fact that 35% of the morbidity rate is due to digestive disorders. This again calls for an improved surveillance system.

The programme is to be continued as a non-plan scheme until water supply is adequate and well protected in all the villages. However much depends on the water treatment strategy, as the major sources of water in most villages are ponds, wells and streams to which people have direct access. It also places greater responsibility on the local residents and the community as a whole to protect these sources and desist from unduly polluting them. The most important step to be taken in this direction is to specifically demarcate and separate the sources of drinking water and water used for purposes other than drinking.

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Yaws eradication Programme:

'Yaws' is a common tropical disease which causes blisters and eruptions of the skin. This disease is prevalent among the socio-economically backward classes in certain pockets of Tiruchirapalli, Madurai, Salem, Dharmapuri and South Arcot Districts.

The programme for eradication of Yaws was launched in 1974, whereby two units were started under the plan scheme. In October 1977 four more units started functioning under the non-plan scheme. However, due to the scaling down of the number of cases, the four non-plan units and one unit under the plan scheme were disbanded. Currently only one unit is operating with headquarters at Attur, Salem District to cover the tribal population in the Kalrayam Hill area. The control measures in this area is to continue until the entire area is surveyed and the detected cases treated. Thereafter the unit would undertake survey among tribal population in other areas of the State.

The unit consists of one Health Inspector, one basic servant and driver. The main functions of the programme are to carry out Yaws surveys, detect cases and their contacts and
treat them with paridene. Listed below are the details of work done under this programme.27

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of villages surveyed</th>
<th>No. of cases recorded</th>
<th>No. of cases treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1974</td>
<td>1,001</td>
<td>373</td>
<td>143</td>
</tr>
<tr>
<td>1975</td>
<td>634</td>
<td>134</td>
<td>111</td>
</tr>
<tr>
<td>1976</td>
<td>1,322</td>
<td>275</td>
<td>306</td>
</tr>
<tr>
<td>1977</td>
<td>986</td>
<td>176</td>
<td>11</td>
</tr>
</tbody>
</table>

These disease oriented programmes are directed towards the control and eradication of specific physical maladies that can affect and disable a substantial portion of the community through outbreak of epidemics. Protection of the population from the onslaughts of these diseases constitute the primary objective of the public health department and more so the primary health care programme.

**Target Group Approach:**

As stated earlier another vital aspect of primary health care is the protection and enhancing the physical quality of life amongst the most vulnerable sections of the community namely

women and children, whose well-being reflects the general public health content of any community. Problems of Indian children are many and varied. They arise from controllable as well as non-controllable causes, macro-level and micro-level determinants, society-based and family-based situations. The problem is complex, representing a background of poverty, illiteracy and uneven growth of the economy.

The effects of poverty are most severe and adverse on growing children (below 15 years). An estimated 60 per cent of the children in rural areas and 50 per cent in urban areas fall below the subsistence level. These are children who need services related to health, nutrition, education, access to safe water supply, etc. Programmes have to be specially designed to meet their priority needs in all aspects of their development—physical, social, cultural and psychological.

Although there has been considerable reduction in the level of infant mortality, general mortality has declined faster than the former. The primary reason is that while general mortality has responded to the community health measures such as control of infectious and parasitic diseases, the

reduction of infant mortality is largely linked with the availability of medical facilities to expectant mothers in rural areas in the ante-natal period, and the extent of institutionalisation of births. Although infant mortality rate has decreased from 160 per 1000 in 1947 to 125 per 1000 in 1980, it is still considered very high. Further, levels of rural infant mortality has remained the same for a decade from 1970.

In Tamilnadu nearly 60 per cent of infant deaths occur within one month of birth (neonatal). Neo-natal mortality is directly related to ante-natal or pre-birth care which affects the condition of the mother and availability of trained health personnel or access to health institutions for delivery. It is estimated, that in the rural areas over 75 per cent of births are domiciliary. The infant and child mortality survey in 1979 reported that with the increase in the level of education amongst women, there was reduction in infant mortality. Infrastructure facilities like water supply, access to medical

30. Ibid, p.5.
31. Ibid, p.6
32. Analysis of the Situation of Children in India, UNICEF, New Delhi, p.8 refer case study in Chapter VI.
facilities and motorable roads showed significant association with lower levels of child mortality.\textsuperscript{33}

The major causes of death among children (1-4 years) were, fevers (25 per cent), respiratory disorders (23 per cent) and digestive disorders (22 per cent). The 1979 survey found that among the 1-5 year olds, the major causes of death were typhoid, pneumonia, dysentry, diarrhoea and influenza.\textsuperscript{34} It could broadly be stated that the two major factors that contribute to child mortality and morbidity are undernutrition and infections.

A closely related issue is the nutritional status of children of 0-5 years and disorders arising out of early malnutrition. Nearly 60 per cent of children of 0-6 years suffer from nutritional anaemia and protein calorie malnutrition. Three fourths of the children of 0-6 years have body weights below 75 per cent of standard weight of well nourished children. One out of every four cases of blindness is due to dietary deficiency of vitamin-A and is therefore preventible.\textsuperscript{35}

\begin{flushright}
33. Analysis of the Situation of Children in India, UNICEF, New Delhi, p.9 Refer case study in Chapter VI.
34. idem.
35. ibid, p.10.
\end{flushright}
A related problem affecting women is maternal mortality. Estimates of maternal mortality range from 373 to 570 maternal deaths per 1 lakh child births. These constitute nearly 3 per cent of all female deaths. Poor health and nutrition status coupled with inadequate medical facilities, untrained birth attendants or dais and poor spacing of births are mainly responsible for this.

The health programmes addressing these vulnerable sections of the community, thus have to take cognizance of these factors and set about catering to the specific and general problems that beset these sections.

Maternity and Child Health Programmes (MCH):

This programme was initiated with the purpose of tackling the above mentioned problems. However any consideration of MCH services must first define its scope. The term refers to all health and medical services for mothers and children from birth through the reproductive period. It is the policy of the Central and the State Governments to provide top priority to MCH services and in Tamilnadu the expenditure for the scheme is met mostly from the State funds.

The major objectives of the MCH services are the protection and improvement of the health of these vulnerable groups through a widespread network of relatively simple facilities, staffed by auxiliary personnel, that is either readily available or easily accessible to the population. In relation to the needs of the mothers there must be available a health or maternity personnel to perform the maternity duties. Such a person, in keeping with the principles of 'primary health care' would cater to the needs of the children as well as offer to the mothers ante-natal and delivery service and adequate post-natal care.

The Primary Health Centres are the focal points from which all MCH services radiate to the mothers and children in the rural areas through the network of sub-centres attached to it. The sub-centres are also termed as 'maternity centres' and are established at the rate of one for a population of 10,000 within the Block area. The Medical Officer (General) or (Family Planning) in the Primary Health Centre is the leader of the team to render MCH services through the auxiliary staff consisting of the Health Visitors (HV) and the Auxiliary Nurse Midwives (ANM) and Ayahs who are the permanent staff of the Primary Health Centre.
Initially the establishment and maintenance of the sub-centres were the responsibility of the local bodies namely Panchayat Union Councils with the Medical Officer exercising technical authority. The Panchayat Unions received 2/3 grants from the State government for three sub-centres and from the Central Government under the Family Welfare programme for the remaining sub-centres in the block. This arrangement was creating considerable amount of problems regarding supervision and authority, between the Panchayat Unions and the Primary Health Centre due to the dual responsibility. In order to set right the situation, the Government in 1980 assumed full charge of the sub-centres by placing them along with the auxiliary staff under the authority of the Medical Officer of the Primary Health Centre. Besides sub-centres are also run by voluntary and private bodies and certain autonomous State agencies. There are at present 4,012 sub-centres in the State. Table IV provides the list of the sub-centres run by various agencies.37

### Table IV

| 1. Sub-centres under the Government of Tamilnadu (formerly under the Panchayat Union) | 2,814 |
| 2. Sub-centres under the Institute of Public Health, Poonamallee. | 8 |

3. Sub-centres Backward area development programme 76
4. Sub-centres under tribal areas 2
5. Sub-centres under multipurpose Health Workers Scheme 718
6. Sub-centres Tamilnadu Nutrition Project 119
7. Sub-centres under non-area projects 180
8. Sub-centres under DauMAD 95

4,012

MCH services are rendered both institutionally at the main and the sub-centres and at the homes of the women through the 'Domiciliary Midwife Service'. In order to render effective institutional service, each Primary Health Centre is furnished with four beds exclusively for maternity cases. The Primary Health Centres also undertake tubectomy operations. These are attended to by the Medical Officer of the Primary Health Centre. Potentially difficult cases are screened by the Medical Officer and are referred to nearby hospitals with better facilities. The Health Visitor attends to cases at the sub-centres.

The Domiciliary midwife services is about the most important aspect of the MCH programme which aims at providing
trained assistance to all deliveries that take place within the jurisdiction of the Primary Health Centre. The Auxiliary Nurse midwife and the health Visitor make regular rounds of the villages in the Primary health Centre area once or twice a week and register all cases of pregnancies for which the Medical Officer maintains a master record. The field staff either persuade these cases to visit the Primary health Centre or advise and treat them after thorough examination. The Medical Officers and the field staff further conduct 'pre-natal' and 'post-natal' clinics in villages to educate the mothers. Besides post-natal care is assumed for every registered delivery for a period of 7 days by the Maternity Assistant after which the Health Visitor takes over the care of nursing the mother, the infant, the pre-school and the school child. 38 Thus the MCH services comprise of the pre-natal, natal and the post-natal services. See Appendix for the physical target achieved under the MCH services in Tamilnadu since 1977.

A major problem in this sphere is that, most rural women resort to local delivery services by untrained midwives called 'dais' due to certain traditional customs. This unscientific practice was proving to be highly detrimental to the mother and child. The Government, therefore, started a scheme of selecting

a 'dai' in each village and training her in basic MCH practices so that they could render proper assistance to the rural women.

**Immunisation Programme:**

This constitutes the important follow-up action of the MCH services directed at the child. The aim is to give children up to 5 years, the triple-antigen vaccines as immunisation against Diphtheria, Pertussis and Tetanus. The triple vaccine is supplied by the Central Research Institute at Kasauli to four regional centres in the state and distributed by the District Health Officers to the Primary Health Centres. In 1979, this scheme was extended under the 'extended Programme' of immunisation to immunise the child against seven childhood diseases.\(^{39}\) A detailed surveillance system is established at the Primary Health Centre to obtain adequate information on the incidence of these diseases.

**Integrated Child Development Services (ICDS):**

This scheme was sanctioned on an experimental basis in 1976 in two districts of Dharmapuri and Madurai covering a population of 2.27 lakhs. The main objectives of the programme was to improve both the nutritional and the health status of the children of 0–6 years, achieve co-ordination amongst various

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departments to promote child development and to enhance the capability of the mother to look after the normal health and nutritional needs of the child. These objectives were sought to be achieved through a package of services which included:

1. Preschool non-formal education
2. Supplementary nutrition
3. Immunisation
4. Regular medical check up
5. Effective referral services and
6. Functional literacy for women.  

_School Health:_

This constitutes a major child health activity of the Primary Health Centre. It was started on an experimental basis in 1965 in 12 Primary Health Centres and is at present implemented in 63 Primary Health Centres. Under this programme, the Medical Officer of the Primary Health Centre carries out medical inspection of the school children in his area in the age group of 6-11 years. Students showing signs of ill health are either treated at the Primary Health Centre or are referred.

to nearby hospitals for specialised treatment. In order to assist the Medical Officer in this programme an extra Health Visitor was posted in each Primary Health Centre.

Thus Maternal and Child Health comprises an array of activities involving the mother and child at various stages of development. It also constitutes an indispensable health delivery component directed towards the vulnerable section of the population which constitutes 60 per cent of it. MCH covers within its orbit almost all the aspects of Primary Health Care. However, considering its importance and wide coverage, MCH services are still inadequate due to certain fundamental problems.

The first one is the extremely inadequate coverage of the Primary Health Centre area by both the Medical Officers and the Auxiliary staff. The Medical Officers are hard pressed for time to undertake regular tours to cover all the villages in their area due to the clinical work at the Primary Health Centre and other health activities on the field. The Auxiliary staff consisting of 2 auxiliary nurse midwives and 3 Health Visitors cannot possibly cover all the one hundred and odd villages. Most villages are inaccessible except by foot and the population density also differs from area to area within the Primary Health Centre jurisdiction. All Primary Health Centres follow a
uniform schedule of village visits by the auxiliary staff unmindful of these geographic disparities. Thus a primary issue in this areas is that the Medical Officer should demarcate the Block area based on the density of population, including eligible couples, Child population, accessibility in terms of road facilities and the time taken to reach it and redraw the field visits accordingly. Absence of this leads to the Auxiliary staff wasting their time at villages which have easy and quick access to the Primary Health Centre while a more remote village loses their services or gets only a half-hearted one.

Storage and distribution of the D.P.T. vaccines is another vital area that affects the MCH services. The vaccines are transported from one of the regional centres to the District Family Welfare Officers who distributes them to the respective Primary Health Centres. So far this distribution is not done under cold storage conditions, when preservation of the vaccines in the generally hot climate becomes a major problem till it reaches the Primary Health Centre, even if the delivery is made according to schedule. A central cold storage in every district is essential to prevent the decay of the vaccines. Though the Primary Health Centres are equipped with refrigerators for the preservation of vaccines and essential drugs, they are mostly under repair or are switched off at nights.
Health Education:

The concept of 'Health education' constitutes the very foundation of an effective and a viable primary health care delivery system. Educating people to change their behaviour in order to prevent disease and maintain health is probably primary health care structures most important type of activity.\(^{42}\) It aims at increasing the health awareness and social consciousness of the community by motivating it to participate in the implementation of the health programmes. A health education programme requires three kinds of careful planning, namely,

a) diagnosing or assessing the health needs
   problems, attitudes and behaviour of individuals, families and communities and deciding which of these ways of behaving could be changed by education and the ways of changing them;

b) designing and testing a health education programme with the participation and support of the people who will be involved in it; and

c) co-ordinating the programme with other development workers and organisations that can assist in development and education.\(^{43}\)

\(^{42}\) Ines Durana, \textit{Teaching Strategies for Primary Health Care}, Rockefeller Foundation, 1980, p.28.

\(^{43}\) \textit{ibid.}, p.44.
In order to create such awareness and social interest, the 'State Health Education Bureau' was established in 1960. It consists of 7 units, namely,

1. Study Unit
2. Field study and Demonstration Centre
3. Media
4. Teacher Training Unit
5. The Student Health Education Unit
6. Research-cum-Action Projects, and
7. District Health Education Units.

The Bureau was established with the following objectives:

a) to help people observe better health status by their own action and efforts and to shoulder the responsibility of maintaining their community's health;

b) to encourage them to utilise fully the services provided by the Government and other health agencies;

c) to provide pre-service and in-service training to all the health staff especially at the Primary Health Centre and school teacher in the techniques and methods of health education; and
d) to produce, procure and distribute suitable health education materials and improve school health by including health topics in the school curriculum.

All the seven units of the Health Education Bureau are geared to achieve these objectives. These units conduct demonstrations and field surveys, experiment with new teaching techniques and collect base line data about the different programmes and the different beliefs and practices among the people to suggest suitable techniques of health education. The school health unit tries to impart health consciousness to the school children by adding health topics along with the syllabus. School teachers are also trained to become effective health educators. Above all, the entire staff of the Primary Health Centre including the medical Officers are training in health education. This is most essential as the Primary Health Centre staff are in constant contact with the community and community co-operation is indispensable in successfully implementing the various health programmes.

Health Education operations are carried out through class room training and seminars, field propaganda which involves screening of films, posters, distribution of pamphlets and
public lectures and evaluating the various health programmes. The table below lists the personnel trained by the Bureau till 1980.44

<table>
<thead>
<tr>
<th>Designation</th>
<th>No. Trained</th>
<th>No. of Batches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary and High School Teachers</td>
<td>880</td>
<td>36</td>
</tr>
<tr>
<td>Medical Officers</td>
<td>150</td>
<td>10</td>
</tr>
<tr>
<td>Health Visitors</td>
<td>300</td>
<td>20</td>
</tr>
<tr>
<td>Health Inspectors</td>
<td>250</td>
<td>15</td>
</tr>
</tbody>
</table>

Though the Bureau has vastly expanded from the time of its inception, it has not still made adequate impact at the local village level. The primary reason for this is that information gathered regarding the local practices and customs have been peripheral. An important aspect of health education is to identify the channels of communication within local groups, the leaders or heads who can really influence the local opinion and also indent the services of traditional healers who play a central role in the health education programme.

Further, an important factor is the inter-organisational and inter-departmental co-ordination. Health education is a comprehensive process that involves not only health but also all the related activity such as housing, food production, water supply, agriculture and general education. The people should be provided with an overall perspective of development and their share in it. However, considering the diversity of a typical village community, in terms of its social, economic and cultural values, health education must adopt a gradual and a phased implementation and in every stage must fully gain the confidence of the community. Otherwise it would only prove to be an official exercise in futility.

**Mobile Health Services**

One of the major purposes of primary health care is to reach out to the people and to be provided as close to their homes as possible. Besides adequate accessibility to the Centre, the next most important aspect is the accessibility of the health staff to even the remotest corners of the Block. Though the PHCs were started with an objective of delivering comprehensive health services to the rural masses, the Medical Officers and other auxiliary staff could not visit all the villages in a block due to certain constraints.
Map showing the primary health centres where mobile teams are functioning.
Mobile Health Services was conceived by the Government of Tamilnadu to provide the much-needed transport facility to the PHC staff in order to intensify the coverage of the area and the populace. The scheme was started as a pilot project in 1977 in 24 PHCs, two vehicles are provided in each PHC where the scheme is sanctioned. The Block area is divided into three sectors to be served by each of the three Medical Officers serving in the PHC. Each Medical Officer and his team of field staff are responsible for the health care of the population in his area. While two doctors attend to the out-patient clinics at the PHC the third one sets out to visit the villages in his sector.

Each team covers six to eight villages every day and covers the entire Block in a week's time, complicated cases are either referred to the PHC or to other hospitals. The Health Inspectors play a vital role in preparing the necessary groundwork, liaising between the visiting mobile team and the local population, by organising and collecting suitable cases for treatment in the village and initiating follow-up actions after the treatment by the mobile team. Thus the mobile health services carry the medical and health facilities in the form of a doctor and the auxiliary personnel to the very doorstep of the villagers.
Further, several villages lying outside the immediate vicinity, of the PHC are made aware of the existence of the PHC and the various programmes through the mobile teams. The mobile health service provides the most unique opportunity to the personnel of the PHC to motivate the community to involve themselves more in the health activities in their villages, by establishing personal rapport with the local people especially the village leaders.

The implementation of the scheme in the 24 PHCs cost the Government a sum of 7.15 lakhs. An amount of Rs.10,000/- per annum was sanctioned for each PHC under this scheme. In order to strengthen the scheme, the Government also appointed a pharmacist to each of the PHCs implementing the scheme.

When the Government of India in April 1977 introduced the Community Health Workers (CHW) scheme in the rural areas, the State Government suggested the extension of the mobile health services to other PHCs in lieu of the CHW scheme. This suggestion was made on the grounds that the villages should have the benefit of the medical services and facilities offered at the PHC which cannot be provided by the community health worker.

46. ibid., p.28.
who receives only a minimum training. Another reason adduced was that the medical facilities through mobile medical teams could be successfully rendered in view of the excellent infrastructure facilities available in the shape of good connecting roads and electricity in Tamilnadu.47 Thus the State successfully substituted the CWH scheme with the Mobile Health Unit. The scheme was implemented in hundred other PHCs by the end of 1979. Appendix lists the names of all the PHCs in which the scheme has been implemented. Appendix showing the map of Tamilnadu with the PHCs in which the mobile teams are functioning.

The mobile health services was started with the objectives of combining the factors of reaching out to the community along with the provision of the maximum health services to the rural population. While the scheme was greatly welcomed by the people, it possesses certain constraints, especially since it has been implemented instead of the community health workers' scheme which provided for the training of a local member of the village to be trained in certain basic health activities.

Firstly it warrants a health scrutiny by health inspectors prior to the visit of the team in order to screen the cases.

which are to be treated by the team and a follow-up action on
the cases and the entire village. Each PHC possess only 3 to
4 HIs who cannot possibly cover all the villages and HIs them-
selves have to depend on the local transport facilities to reach
the villages. Follow-up action again required constant visi-
tation on the part of the HIs and other auxiliary staff.

Secondly, the medical Officers do not possess adequate
financial authorization for the maintenance of the vehicles. Since
not all the villages are connected by good roads, and since
the local roads, due to lack of good construction and mainten-
ance wear out fast, the vehicles which ply on them also are
subjected to intense wear and tear. The grant sanctioned has
proved to be extremely inadequate in sustaining the intensive
coverage of the mobile team.

Thirdly some of the vehicles belonging to the PHCs get
deputed to the district headquarters or for other projects
some for several months, depriving the Block of the mobile
services. Sometimes the same vehicle is used by more than one
PHC, which again hampers the total coverage of the Block area.

Thus while the mobile health units possess the distinct
advantage of providing the PHC staff with mobility, it lacks
the permanence of a health representative in the person of a community worker who will be a resident of the village and who by virtue of this factor could provide an impetus to the community involvement. While the mobile health service has succeeded in catering to the curative needs of the people in terms of increasing the number of patients treated by the Medical Officers by 45 per cent,\textsuperscript{48} it has not had a commensurate influence on the preventive or promotive aspects of health care delivery, especially with reference to motivating the people.

These health programmes, therefore, constitute the very fabric of the primary health structure. For these are provided, as close to the rural population as possible, using simple methods and by combining the preventive and curative elements of health care, with the accent on preventive and promotive aspects.

But the important purpose of these programmes is more than merely protecting the health or the physical quantity of the community, it is more oriented towards environmental health, the purpose of which is to create and maintain ecological conditions that will prevent diseases and thus promote health.

\textsuperscript{48} Achievement Report of the PHCs, Directorate of Primary Health Centres, Government of Tamilnadu, 1972-82, p.42.
Firstly the health care workers who are involved in implementing these programmes should be able to demonstrate, teach, supervise and to a lesser degree evaluate the different methods which influence the factors in the environment that affect health.

Though most of the preventive programmes have, to a great extent succeeded in stemming the incidence of the diseases, there is an enormous need for further and more effective epidemiological studies to enhance the efficacy and the coverage of the programmes, especially the ones aimed at highly communicable diseases. It is necessary to have decentralised epidemiological centres in each district which can compile simple, reproduceable vital statistics, collect all social and technical details of the nature of a disease and the degree of its resistance and response to preventive measures and then understand how to interpret and use those details. The programmes thus should be constantly reinforced and updated so as to increasingly strengthen the health of the community. These factors along with maximum co-operation from the community are imperative to sustain the health status of the people and the utility of the programmes in a system that is suffering from an acute shortage of auxiliary health personnel, equipment and which is to be equitably distributed over a vast and a disparate area.