

## CHAPTER - X

**Summary and Conclusion**

SUMMARY AND CONCLUSION

**SUMMARY :**

- 1.1 The pressure of the current events have forced upon us a closer study of human ecology than has never been made. The present day health problems compel us to give closer attention to the geographical distribution of Pathology.
- 1.2 The study of the distribution of pathology gave rise to a new branch of applied geography, viz. Medical geography, which is the study of the relationship between various pathogens and the various geogens. It is thus ultimately a study of correlations.
- 1.3 Tribal health is a study primarily carried on by sociologists and anthropologists. Although tribal dominated regions are more disease-prone, so far no attempt has been made to study the distributional pattern of the diseases and geographical impacts on diseases in this region.
- 1.4 The extra ordinary importance of "Health For All by 2000 A.D." in the developmental process and inexcusable neglect meted out to it had inspired the researcher to investigate this area.

1.5 The objectives of this study was to review the related literatures of medical geography and tribal health, to provide a back-drop of northern Orissa, to critically examine the concept of health and diseases, to examine the nutritional status of the study region, to analyse the distributional pattern of various health disorders at the block level and to investigate the environmental causes of those health disorders, to examine the health condition in perspective of the quality and quantity of food intake, to examine the available health care facilities and lastly to suggest remedial steps for the better health system in the northern Orissa.

1.6 The Chief limitations of the study, were the prevalent diseases, were not examined separately for tribals and non-tribals and rural and urban, the causative agent were discussed qualitatively and not quantitatively and the cases treated by the private practitioners were out of the purview of the study.

1.7 The area of the study is Northern Orissa comprising three tribal dominated backward districts of the state- Sundergarh, Mayurbhanj and keonjhar.

- 1.8 The secondary data were collected from directorate of health, Government of Orissa, Census of India, CDMOs of the three districts and various books, journals and reports. The nutritional data were collected from the field through an intensive survey of 112 villages in the study region.
- 1.9 The study was planned, executed and completed as per the details given in Chapter - I.
- 2.1 Review of previous research projects, which have some bearing on the present research, have been reviewed in chapter- II. These studies can be classified under two broad heads - studies related to medical geography and studies related to tribal health.
- 2.2 Safi, Siddiqi, Chaube, Mishra, Akhtar, Izhar studied the geography of nutrition. Diseases ecology had been studied by Learmonth and Akhtar, who are the pioneers in this field. Other research works on the disease ecology have been carried on by Joshi, Desande, Dutta, Ramesh, Hazra, Banerjee, Singh, Mathur and Sharma. Cultural aspects of human health had been studied by fonaroff, chakravarti, Akhtar and Bharadwaj. Health behaviour of population with particular reference to the acceptance and non-acceptance of various system of medicines had been studied mainly by

sociologists and anthropologists. The important geographical studies in this field have been carried on by Carstairs, Marriott, Ramesh and Hyma. Health care geography - another important branch of Medical geography have been studied by Akhtar, Mukherjee, and Izhar. Family planning aspect of medical geography have been studied by Blaikie, Karan and Boerner.

2.3 Tribal health is particularly a study of anthropologists and sociologists. Geographical study of the tribal health has not been attempted so far significantly. Pioneers in this field are Chaudhury, Bhattachacharya, De, Debnath, Das and Ghosh. Plants and herbs used by tribals to cure many diseases have been studied by Ghosh, Basu, Maiti, Jain and Satapathy. Tribal witchcrafts to cure the diseases have been studied by Denneby, Chaudhury, Sathpathy and Das Patnaik.

3.1 The northern Orissa from relief point of view is not a homogenous area, if we take into account of its geographical personality and setting.

3.2. Morphologically the northern Orissa can be divided into four parts, viz. the river valley and plains, the mountainous Country, the rolling uplands and the subdued plateau.

- 3.3 The whole region is drained mainly by five major rivers, viz. Ib, Brahmani, Budhabalanga and Salandi. The northern Orissa enjoys, on the whole a dry summer followed by a rather well-distributed monsoonal rainy weather.
- 3.4 Geologically the northern Orissa consists of the iron deposits of the Upper Dharwar Series. The soil of the area is mostly reddish and lateritic derived from the underneath igneous and metamorphic rocks due to fluvial action under humid tropical conditions.
- 3.5 About two-third area of the region, i.e. about 13197 sq.mtrs. area is covered by rich forest of tropical deciduous type which can be broadly classified into two major vegetation types such as tropical semi-evergreen dry deciduous type and tropical semi-evergreen moist deciduous type.
- 3.6 The region is one of the richest in Orissa so far as economic minerals and rocks are concerned. The most important are iron ore, manganese ore, dolomite, chromite, Kaolinite, lead ore, china clay and asbestos.
- 4.1 The distribution of population exemplify complex inter-relationships between culture and nature.

The size of population also controls the standard of living and quality of life. Many diseases and health problems are so directly related to the size and growth of the population.

4.2 According to projected population of 1991, the northern Orissa has a population of 3762304 which accounts 12.07 percent of the total population of Orissa. The density of population in the region was 165 per square Kilometer. As per the projected population of 1991 Sundergarh, Mayurbhanj and Keonjhar districts had 1111594, 1644611 and 1006096 population respectively.

4.3 Out of total fifty six blocks in the region, thirty six blocks had 50,000 to 80,000 population. Five blocks had more than one lakh population. The Ghasipura block of the Keonjhar district had the maximum population of 122924 while the Sukruli block of the Mayurbhanj recorded lowest of 38733.

4.4 The projected population of 1991 depicts that Sundergarh, Mayurbhanj and Keonjhar districts had 715904, 948955 and 504391 tribal population accounting 2169250 tribals in the study region. Only in five blocks the tribals dominated below 40% of total population of the block where as 37

blocks had 40% to 70% tribal population. In 14 blocks above 70% population were tribals.

4.5 The health of the people has direct relationship with the sex-ratio. The sex-ratio of the study region was lower than the state average in 1991. The sex-ratio in the study region was 964 females per 1000 males.

4.6 The Sundergarh, Mayurbhanj and Keonjhar had literacy rate of 44.39, 30.94 and 36.94 respectively as per the 1991 census. In the study region the literacy rate was 37.41.

4.7 A tribe is a collection of families or group of families bearing a common name, members of which occupy the same territory, speak same language and observe certain taboos regarding marriage, profession or coccupation and have developed a well assessed system of reciprocity and mutuality of obligations.

4.8 In northern Orissa sixty two types of tribes of varying strengths are met with. The major fifteen tribes of the northern Orissa are Santal, Kolha, Munda, Oraon, Bhuyan, Bathudi, Gond, Bhumij, Khariar, Kisan, Saunti, Ho, Shabar, Mundari and Juang.



4.9 Housing and drinking water are two most important factors in human's life. The study unit has various types of housing. The housing pattern of tribal dominated villages differ from one to another. Most of the houses are situated in unhealthy environment having no ventilation and mixed dwelling with the domestic animals. The entire study region suffers from safe drinking water problem in dry seasons.

4.10 The religion of the tribes in the study region is an admixture of animism, animatism, nature worships, fetishism, shamanism, anthropomorphism and ancestor worship. the annual cycle of rituals of the tribes is in tune with the cycle of economic activities and surrounded socio-economic interests and well being of the tribal Communities.

4.11 Tribal concept of health, of disease, of healing, of treatment, of life and of death is as varied as their culture. The fate of individual and the community at large, depends on their relationship with unseen forces which intervene human affairs. According to tribals, disease is caused by bad spirits and the spirits are bad either because one has not properly propitiated them.

4.12 The tribals believe in medicinal effects of different plants, roots and herbs. Very few research works have been attempted so far to study the medical effects of those plants, roots and herbs. The research findings relating to the use of those plants of Ghosh, Maiti and Basu, Jain and Satapathy have been summarised in chapter-IV.

4.13 The economy of the tribals in the study region is mainly characterised as subsistence oriented. They depend on primitive type of shifting agriculture like podu cultivation. Sizable agglomeration of tribal population in the study region has moved to mining, industrial and urban areas for earning a secured living through wage-labour.

5.1 Health is man's normal condition, his birth right. There are numerous definitions of health and disease in medical literatures which only shows how difficult it is to uncover the essence of health and disease, to solve the endless problems interconnecting these two conditions.

5.2 World Health Organisation (WHO) in 1948 defined "health is a state of complete physical, mental and social wellbeing, and not merely an absence of disease or infirmity".

5.3 Health status of man is the out come of the interplay between and the integration of two ecological universes, the internal environment of man and the external environment in which he exists.

5.4 According to WHO Concept, health has three domains physical, mental and social. So the health can be classified according to these three domains such as physical health, mental health and social health.

5.5 According to the ecological approach health is a state of dynamic equilibrium or adjustment between man and his environment. The determinants of the health are human biology, environment, ways of living, economic status and health services.

5.6 Disease is not a static entity; it is a process with a dramatic or insidious onset, a short or prolonged course and ending in recovery, disability or death.

5.7 From ecological point of view, disease is considered as "maladjustment of the human organism to the environment". The disease process is initiated by a disturbance of the balance between man and environment.

5.8 The natural history of disease comprises of two phases-pre-pathogenesis phase and pathogenesis phase. The pre-pathogenesis period refers to the preliminary period of the disease where as in pathogenesis period the clinical signs and symptoms in man alter.

5.9 The disease process initiated in man only when the three components e.g. agent, host and environment interact. The disease agents are classified into five broad groups as biological agent, nutrient agent, chemical agent, physical agent and mechanical agent. In epidemiological terminology human host is referred to as 'soil' and the disease as 'seed'. The environment is aggregate of all external conditions and influences affecting the life and development of an organism, human behaviour and society.

5.10 Park and park have summarised and classified the disease factors as biologic, nutrient, chemical, physical, mechanical, environmental, social, economic, psychological, Cultural, genetic and human behaviour.

5.11 There are certain stages in course of most communicable diseases. These are : Incubation period, Prodromal period, Fastgium, Defervescence, Convalescence and Defection.

5.12 Present day environmental pollution is affecting the human health condition in various ways. Air pollution, water pollution, soil pollution, noise pollution etc. are now creating the alarming condition in human health system.

6.1 For the maintenance of proper health and physique of the individual and of the community it is essential that there should be adequate supply of food. There are indeed a host of disorders that are directly caused by lack of certain nutrients in the diet.

6.2 Nutrition plays a vital role, so far as health of the people is concerned. Nutrition is necessary in the development of the quality of life. Nutrition is defined as 'the process of assimilating food and all processes of growth, maintenance and repair of living body which depends upon the intake of food'.

6.3 The food stuffs commonly consumed in the study region may be divided such as cereals, pulses, vegetables, fruits, milk, flesh foods nuts, oil seeds and sugar.

6.4 Cereals such as rice, wheat, bajra, jowar and ragi are staple foods which contain starch and therefore provide the bulk of calories. Pulses

are the various dhals and grams which contain proteins, iron, thiamine and riboflavin. Vegetables and fruits are the main sources of vitamins and minerals. Milk is a well known natural food containing protein, fat and other nutrients. Fats and oils consist totally of fatty materials. Flesh foods in all its forms is a food which contains valuable proteins of high quality, beside vitamins like those of the B groups and minerals like iron. Surgar and jaggery are particularly pure carbohydrates.

6.5 The foods that we eat contain nourishing substances called nutrients. There are five main types of these; Carbohydrates, Proteins, Fats, Vitamins and Minerals. Different foods have different nutrients in different proportions. Carbohydrates are the best sources of energy, proteins help in body-building, and fats and oils are concentrated sources of energy. Vitamins are very important for proper functioning of the body. Minerals and salts help in regulation of blood-pressure, muscle building and strengthening the bones.

6.6 To study the nutritional status of the study region, a diet survey had been conducted in the study region family wise. Two villages of each block had been selected using random sampling method. In this way 112 villages of the study

region had been selected. In each village ten families had been interviewed by a questionnaire. Attempts had been made to include families from different communities while conducting diet survey.

6.7 Total number of families interviewed in the study region was 1120 out of which more than 50% were tribal families. During the survey almost equal number of people of either sex had been included.

6.8 The basic aim of the diet survey in the study region had been to calculate the daily intake of nutrients and to study the deviation of the amount of the nutrients from the recommended allowances.

6.9 The calorie consumption in the study region had varied from 1622 to 2508, whereas the recommended calorie per day is 2400 in general. The highest position in calorie consumption had been occupied by Anandpur when the lowest position had been occupied by Lahunipada. Only fourteen out of fifty six blocks recorded more than 2000 calorie consumptions per day.

6.10 The protein consumption had varied from 33.54 grams in Nuagaon to 55.52 grams in Ghasipura

while the recommended allowance of protein is 55 grams per day. Only three blocks in the study region recorded more than 50 grams protein consumption per day.

6.11 In case of fats, the highest consumption i.e. 11.54 grams recorded in Barasahi, while lowest of 7.65 grams recorded in Sarasakana. Joda occupied highest position in carbohydrate consumption having 409 grams per day and Saharpada occupied lowest position having 342 grams per day.

6.12 In case of minerals, iron consumption had been highest in Bonei having 26.81 mg. and lowest in Kaptipada having 11.09 mg. In most parts of the study region iron consumption was low. In calcium consumption, the Baripada occupied highest position having 560 mg. daily whereas the Koira had occupied the lowest having 202 mg. daily. In the study region, in most of the blocks daily calcium consumption was less than the recommended amount.

6.13 Vitamins consumption was also low in the study region. Vitamin A consumption was lower than the recommended allowance in all blocks. Thiamine consumptions was also low in most of the blocks. The riboflavin consumption was lower than the



recommended allowance in whole study region. In comparison to other vitamins, vitamin C consumption was satisfactory in the study region.

6.14 From the diet survey it was revealed that the average diet of the study region was deficient and consumption found very less so far as protectives are concerned like milk, fruits and leafy vegetables. On the basis of diet calculation it was found that no family gets balanced diet in the study region. This malnutrition is responsible for many deficiency diseases in northern Orissa.

7.1 A disease is an unbalanced functioning of man's normal system and is supposed to have been caused by destructive forces within or without.

7.2 Different health personnels, health scientists and researchers have classified the diseases according to their needs. In present study, the researcher had classified the diseases of the study region in twelve broad groups. In Group - I dysentery and diarrhoea, in Group - II diseases of the digestive and alimentary canal system, in Group-III diseases of respiratory system, in Group-IV parasitic and viral diseases, in Group-V Skin diseases, in Group-VI Sexually transmitted diseases, in Group VII Eye diseases, in Group-VIII diseases of musculoskeletal system, in Group - IX

teeth and gum diseases, in Group-X diseases of urinary system, in Group-XI deficiency diseases and in Group- XII only malaria had been placed.

7.3 As there is no definite measurement to measure the distributional pattern of the prevalence of diseases, ranking of diseases is very useful in understanding the distributional pattern of the diseases in a region. In the present study, diseases had been ranked on the basis of their relative strength as reflected by morbidity due to each disease at the block level. Each disease had been ranked under the head of each block. As the diseases of respiratory system occupied first rank in 32 blocks out of 56, these were the most dominating diseases of the region. Other dominating diseases were deficiency diseases, diseases of digestive system, dysentery and diarrhoea and malaria. STD had occupied last rank in all blocks.

7.4 Intensity of diseases had been determined to study the frequency of occurrence of different diseases. It had been calculated statistically using the formula

$$Rb_1 = \frac{Dr_1 + Dr_2 + Dr_3 + \dots + Dr_n}{N}$$

where  $Rb_1$  is the disease ranking co-efficient value of block  $b_1$ ,  $Dr_1, Dr_2, Dr_3, \dots, Dr_n$  are the

ranks occupied by block  $b_1$  for groups of diseases  $r_1, r_2, r_3 \dots r_n$  and the  $N$  is the total number of groups of diseases. Lower the ranking coefficient value, higher the disease intensity.

7.5 After calculating the co-efficient values of each block, for the sake of delineation of disease intensity of the study region, the disease ranking co-efficient values had been grouped into five categories. Baripada, Hatadihi, Anandpur, Keonjhar, Bisra and Kusumi had been grouped under high disease intensity area. Twenty-two blocks had been placed under moderately high disease intensity and nineteen block were under moderate category. Only seven blocks had been grouped under moderately low disease intensity. Sundargarh and Banspal blocks had been categorised under low disease intensity area.

7.6 Dysentery and diarrhoea are the common health disorders of the study region. Saharpada block had recorded highest reported cases, i.e., 24.82 per cent of total registered cases and Khunta had recorded lowest of 4.25 per cent. According to the doctors of the study region these are frequent in rainy season. The contaminated water reservoirs are the main sources of the infection in northern Orissa.

7.7 Digestive and alimentary canal diseases inclusive ulcer, gastritis, appendicitis, colitis, and cirrhosis etc. were examined. This group of health disorders had recorded highest percentage in Sundargarh block having 57.20% of total registered cases and lowest in Jhumpura having 3.06%. These diseases were very frequent in all most all blocks in the study region. The frequency of these diseases are high in summer and rainy season and the main causes of these disorders are weak resistance power, food habits and polluted drinking water.

7.8 Diseases of respiratory systems include tuberculosis, asthma, bronchitis, pneumonia and common cold. This group of diseases was most dominant in the study region. The highest frequency had been reported in Udala having 49.27%. The causes of these health disorders are atmospheric pollution, industries, mines, low standard of living over crowding, smoking and the housing conditions.

7.9 The major parasitic and viral diseases of the northern Orissa are measles, typhoid, poliomyelitis, encephalitis, filaria, hepatitis, tetanus and the rabies. The frequency of these diseases were high in the study region. The

highest frequency had been recorded in Bisoi having 18.66% and lowest in Rajgangpur having 1.27%. According to the local doctors the chief causes of these health disorders are fluctuating weather condition, contaminated food and drinking water, open air defecation and urination, unhealthy housing condition, low standard of living and ignorance.

7.10

Major skin diseases of northern Orissa were scabies, leprosy, eczema etc. the frequency of skin diseases was highest in Gopabandhu Nagar (22.05%) and lowest in Betnati (0.51%). Other blocks where skin diseases had been rampant were Bonei, Thakurmunda, Hatadihi, Anandpur, Banspal and Bargaon blocks. The local doctors had established the different causes responsible for the skin diseases such as lack of skin and body care, lack of cleanliness, hot and humid climate, over crowding houses, use of common clothing among the family members, and the prejudice etc.

7.11

Sexually transmitted diseases (STD) include syphilis and gonorrhoea. These diseases ranked last in all 56 blocks. The highest frequency

was recorded in Lahunipada having 0.37% followed by Keonjhar having 0.34% and Ghatagaon having 0.23%. In four blocks no case of STD had been reported. These diseases are common among the people of lower socio-economic status. Due to prostitution in industrial areas, the venereal diseases have become a social problem in this region.

7.12 Most important eye diseases in the study region were trachoma, cataract, glaucoma and conjunctivitis. These disease had been recorded in large number in Suliapada, Bisra, Jashipur, Karanjia, Bangiriposi, Baripada, Bijatola and Anandpur. These diseases are mostly seasonal. Lack of vitamin A consumption is one of the major causes responsible for the eye diseases.

7.13 Diseases of musculoskeletal system include arthritis, spondylitis, rheumatism, ankylosis etc. These diseases had been recorded in large number in Subdega, Khunta, Samakhunta and other blocks. It was observed during the survey that these diseases need prolonged treatment, which rural people and tribals do not continue. Teeth and gum diseases were predominant in Khunta, Rairangpur and Karanjia. Poor dental care, malnutrition, infections, betel and tobacco chewing, hot and cold drinks and ignorance are the chief reasons of these diseases.

7.14 Major urinary system diseases in the region were nephrities, prostate hyperplasia, renal stone, and other kidney infections. The highest frequency of these diseases was recorded in Lephripada followed by Bisra and Kaptipada. Contaminated drinking water, over work, mental strain, improper diet and infections were the major causes of these diseases.

7.15 One of the major health problems of the region is malaria. It had been widely prevalent in whole region. Seventeen blocks had been grouped under low incidence group where as two blocks, viz, Telkoi and Banspal had occupied the high incidence group, where above 15% of total population had suffered from malaria. Intensity of malaria had been high in Gurundia, Telkoi, Patna, Banspal and Jhumpura, where more than 20% of the total registered cases were malaria. Malaria is a seasonal disease and the chief environmental causes of this disease are high atmospheric humidity, suitable atmospheric temperature, rainfall etc. The stagnant water bodies of the study region provide opportunities for the breeding of mosquitoes. Apart from these, the unhealthy surrounding, sleeping habits and lack of health care were responsible for the out break of malaria in the study region.

8.1 In Northern Orissa deficiency disease were rampant in all most all blocks. It is a major health problem in the region. Jamda and Morada blocks recorded high incidences of deficiency diseases. The major deficiency diseases were goitre, diabetes mellitus, osteomalacia, gout, avitaminosis and anaemia.

8.2 High incidences of avitaminosis had been reported in Champua, Anandpur and Hemgiri blocks. But in fifteen blocks no avitaminosis case had been reported. Intensities of anaemia were high in Baripada, Raruan and Karanjia. Avitaminosis and anaemia are the two major health disorders in the study region.

9.1 The purpose of health care services is to improve the health status of the population. Notwithstanding that there are vast disparities in health care services in the country, geographers in India can contribute significantly in the health planning process.

9.2 There had been 247 health centres in northern Orissa to serve a population of 3762304. So the health centre population ratio for the entire study region was 15232. At the block level, Khunta and



Lathikata blocks recorded high health centre population ratio where as Sundargarh, Tangrapalli, Lephripada, Bargaon, Raruan, Anandapur and Champua enjoyed low health centre - population ratios.

9.3 Bed-population ratio is another essential parameter to measure the degree of available health care facilities in a region. For the northern Orissa bed-population ratio was 2263. At the block level Lathikata and Harichandanpur recorded high bed-population ratios where as eleven blocks enjoyed low bed-population ratios.

9.4 In the study region there were 624 doctors to serve a population of 3762304. The doctor-population ratio for the northern Orissa was 6030. In two blocks, viz. Lathikata and Khunta the doctor-population ratios were recorded high. In Sundargarh, Bisra, Baripada, Udala, Rairangpur and Anandpur the bed-population ratios had been low.

9.5 This tribal dominated region is suffering from lack of better health care facilities. Regional imbalances was also evident. In some situations government has deviated from its own norms.

**CONCLUSION AND SUGGESTIONS :**

Medical geography is an emerging scientific discipline which attempts to find out the relationships between geographical environment and health, hygiene, incidences of diseases and health care. As a technical term 'Medical Geography' is often equated at least in part with geographical pathology, medical ecology, geo-medicine, disease ecology and by some with ecology. All these terms suggest a growing awareness of medical geography. Precise technical terminologies with universal acceptability are steadily evolving.

The present research deals with the disease ecology in tribal region of northern Orissa. This neglected tribal region has a number of health related problems. Its physical as well as cultural set-up is responsible for many health problems along with the callousness of its socio-political set up. When the nation is trying to achieve the goal of 'Health for All' by 2000 A.D., this tribal region of northern Orissa is suffering from lack of basic health care amenities. Urgent and well articulated programmes to educate the ignorant masses related to health care and possible causes behind the incidence of diseases in this tribal region need to be undertaken through health education. The present research

concludes here with the following suggestions :

- i) The level of education needs to be improved among the tribals which will help them to overcome their superstitions about the health and diseases.
- ii) Tribal medicines and their efficacy (or lack of it) should be studied carefully and scientific pursuit in this field to be encouraged.
- iii) Health care is a non-profit activity and as such is particularly a governmental monopoly. Therefore government should initiate urgent steps to check the respiratory diseases in the region, when it is a growing problem in the region with the growing environmental degradation.
- iv) Simple hygiene-promoting activities like provision of safe drinking water, clean community toilets etc. need to be provided on a massive scale.
- v) Government should take urgent steps to to check the rampant malaria in the region.
- vii) Sewerage system should be improved scientifically. Solid waste disposal facilities should be developed. Sanitation system needs to be improved.

- viii) Adequate urgent steps should be taken to protect the environment in the industrial and mining regions from the atmospheric and water pollution.
- ix) Necessary steps should be taken to control the unchecked population explosion. Population education may be introduced in the syllabus.
- x) There is no definite governmental norm of distance to set up the health-centres. Government should provide health care facilities to all people within an accessible distances.
- xi) Extra or additional privileges and facilities should be provided to the doctors working in the rural tribal area to attract them to serve in this area.
- xii) Doctors from the tribal community may be placed in this region, so that they will be sympathetic towards the common mass of the region. | question-  
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- xiii) More and more research studies on tribal-health should be encouraged.
- xiv) Major health disorders like malaria and anaemia should be studied separately at the micro-level.

- xv) Research works on tribal health at the micro-level should be carried on by the researchers drawn from various disciplines.
  
- xvi) Mobile health-units and door-to-door health visitors should be provided.
  
- xvii) More indoor treatment facilities should be provided. Mother and child health-care system should be improved.

*Safe drinking water !!*