Preventive medical service through the Public Health Department did not exist in any of the covenating States before the formation of the Saurashtra State. The cursory perusal of the various Administrative Reports of different States from year to year appears extremely monotonous, cooked up and devoid of any essential information on this vital matter. These Reports are stereotyped and if read superficially, appear to give the impression that at least the medical or the curative side was well attended to by the States in general.

Some big States like Gondal, Bhavnagar etc., maintained hospitals at the State headquarters and dispensaries in a few towns in the State. Most of the Reports assert from year after year the prevalence of malaria, small-pox and diseases of the skin, eye and intestinal worms.

Bhavnagar had a hospital as early as 1666. There was only one hospital started by the British Government before 1866 and that was the Rajkot Civil Hospital started in 1836. By 1882 the number of hospitals and dispensaries rose to 56 almost entirely supported by the States. By 1902 there were 118 medical institutions in Saurashtra which treated more than 7 lakhs of patients. The total
expenditure on these institutions was 2.77 lakhs of rupees.

Most of the former States maintained medical departments, and hospitals and dispensaries in some of the important towns of the State. The number of hospitals and dispensaries however, was dependent on the resources of the State concerned and the interest of the ruler in medical relief. There were wide variations in the equipment and facilities provided by each State.

The Memorandum submitted by the prominent medical men in Saurashtra to the Gadgil Committee (1953) also asserts that there were many medical institutions run by the former Saurashtra States. In fact each State maintained some medical institutions while the bigger ones had hospitals at their capitals. These medical facilities were also almost free to the public. But their chief defect was that they were most unevenly distributed and except for some States like Morvi the village people hardly got any benefit out of these medical facilities. Only the town people got advantage. The States had undertaken these activities not because of any desire for doing real good but it was to a great extent under compulsion. The standard of these dispensaries and hospitals was pathetically poor. They were short of modern equipment and even at times medicines. Costly medicines also could not be used by these institutions. These States moreover did not do anything for preventing diseases. They totally neglected
the preventive medical service. Health is not a negative state of mere absence of disease. They did not bother about keeping their subjects in a state of perfect health by creating hygienic environment conducive to healthful living. The preventive side was totally neglected. No State ever thought of ascertaining the extent of the common diseases like malaria or blindness. They also did not provide adequate and nutritive food, proper housing, safe water supply and proper removal of human wastes to their people. The state of public health was, therefore, poor as the environment was unhygienic. There were various causes as to why the States neglected the preventive aspect of public health. These States cared more for outward progress and were not at all interested in the amelioration of the condition of the masses. The development of the public health of their subjects could not be a visible outward mark of progress of the State or of the State capital. They would spend lavishly on the marriages of their sons and daughters or when the Political Agent or the Viceroy visited their State, but would be short of funds for undertaking work which would ensure healthy life.

The States maintained health-departments but they did very little to attend to the preventive side of health-services.

In attending to the curative side the State of Morvi was perhaps the foremost of all the States. A special
feature of the medical relief given by the State was the assistance given by the Chief Medical Officer to villages that were in need of such assistance. This could be done due to the net work of district roads and telephone lines all through the length and breadth of the State. The village emergency aid was a speciality of Morvi State as special arrangements were made for the benefit of the outlying villages. It appears from many Administrative Reports of the State that adequate medical aid was placed within the easy reach of all classes and masses of the people of the State. For this purpose a net work of hospitals and dispensaries had been established throughout the State. The free medical aid was a great blessing to the poor. The Administrative Report for 1941 of the State tells us that the State had adopted a scheme for increasing the number of dispensaries, so that eventually when the plans were fully carried out no village in the State would be, more than five miles away from a dispensary.

But the majority of States were merely contented with maintaining a few dispensaries and probably a hospital in the capital town. This was maintained because it was a political necessity.

Another and most important defect of the medical

administration of the State was the lack of statistical information regarding the prevalence of particular diseases. They never collected any statistical information regarding the prevalence of particular diseases. They never collected any statistical information regarding these diseases and did not undertake any surveys for ascertaining the incidence of diseases like malaria, filaria or blindness which are the most important diseases in Saurashtra.

The State also never cared to develop the local-self governing bodies. The municipal activity was practically non-existent till the formation of Saurashtra. It was because of this that many preventable diseases were allowed to take a heavy toll. People lived under unhygienic conditions in both towns and villages. They were not able to get pure and adequate supply of water. Their roads were dirty beyond imagination. The dirty water from the houses on both the sides of the road flowed on these so-called road cum gutters. Roads and lanes were freely used by children for easing and so the air in the locality was always spread with a "layer of abomination". Houses in which people lived were not built from the point of view of sanitation and ventilation. The municipalities only concerned themselves with the removal of the human refuse.

The only activity of a preventive character which was undertaken by these States was vaccination against small-pox and even this due to the insistence of the Western
India State and Agency. It was under its control. Some States undertook disinfecting wells with potassium permanganate at odd and convenient intervals.

The problem of public health is a deep rooted problem with the roots extending into the neglect of a number of years and the superstition and traditions of false modesty that permeate the social structure.

On the eve of integration there were 32 hospitals and 170 dispensaries in Saurashtra. The area served by a hospital was 501 square miles while by a dispensary it was 94 square miles.

Preventive medical service through the Public Health Department did not exist in any one of the covenaniting States before the formation of Saurashtra. The Medical Departments of these States only looked after vaccination against small-pox. There were also various other defects as pointed out before in the administration of the Public Health in Saurashtra before 1948. As pointed out before, these states looked after the curative side only and totally neglected the preventive side.

Saurashtra Government first established the Public Health Department with the purpose of concentrating on the preventive aspect of health services. The aim of the Department is to improve the hygienic conditions in Saurashtra. The Director of Health Services is the
administrative head of the Medical Department and exercises general control over all the medical institutions in the State. In 1949 the functions of the Medical Dept. and Public Health Dept. were integrated under the direction and control of the Director of Health Services.

Rapid surveys were undertaken to ascertain the extent of some social diseases and large scale endemic and epidemic diseases. These surveys established a large number of cases of intestinal diseases like typhoid, dysentary, diarrhoea and worms in rural areas for want of protected water supply and clean environments.

Saurashtra is lucky to have physical facilities for dispensary and hospital buildings as there were many States. But these medical institutions did not meet with the requirements of the public. The hospitals and dispensaries which were taken over were running without adequate supply of medicine and equipment. As the resources at the disposal of the States were limited these dispensaries and hospitals could not use expensive medicines. Serious illness usually came to the private practitioners; only the poorest and the lowest, because they could not afford, resorted to the State hospitals, and dispensaries. Major surgical cases, however, were handled in the State hospitals. The other defect of the medical organization of the former States was that these hospitals and dispensaries were mostly situated in capitals. The rural areas were totally
neglected. Prior to the integration control of the physical environment of the individual was not at all considered as the duty of the State. Hence hospitals and dispensaries were congested in one area when large tracts were without any medical facilities. The States maintained these probably because they wanted to show to the Political Agent that they were at least as progressive as others. They first catered to the needs of the Ruling family. For the general public only ordinary medicines were used. But we have no correct idea of the total expenditure on medical relief by all the States although in their respective Administrative Reports they usually gave some figures of expenditure. The Agency Administration spent Rs. 22,000 for 1,500 villages with a population of about 11 lakhs. Some of the States like Morvi and Bhavnagar liberally spent on medical relief. The Health Department of the Government of Saurashtra puts the preintegration expenditure on medical relief at Rs. 25 lakhs per year. The Economic Survey puts the figure at Rs. 12.76 lakhs per year on the eve of integration.

The Memorandum prepared by the Director of Health, Government of Saurashtra for presentation to the Gadgil Committee (June 1953) gives the following figures of expenditure on medical services.

2. Economic Survey of Saurashtra, Table XXI, page 356 by C. N. Vakil.
TABLE NO. 95

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure on Medical Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs.</td>
</tr>
<tr>
<td>Pre-integration expenditure on medical services</td>
<td>25,00,000/-</td>
</tr>
<tr>
<td>1948-49</td>
<td>22,51,000/- (excluding Sorath)</td>
</tr>
<tr>
<td>1949-50</td>
<td>37,41,000/-</td>
</tr>
<tr>
<td>1950-51</td>
<td>42,60,000/-</td>
</tr>
<tr>
<td>1951-52</td>
<td>45,29,000/-</td>
</tr>
<tr>
<td>1952-53</td>
<td>41,86,000/-</td>
</tr>
<tr>
<td>1953-54</td>
<td>48,11,000/- (budgeted)</td>
</tr>
</tbody>
</table>

It is clear from the above Table that the expenditure on medical relief has been doubled by the Saurashtra Govt. during the last five years.

In five years though the Saurashtra Government was not able to meet all the requirements of the public they tried to increase the medical facilities which were available to the public as is shown by the following Table: (Table on next page).


Director of Health Services, Government of Saurashtra.
TABLE NO. 96*

Pre-integration period

<table>
<thead>
<tr>
<th>No. of hospitals and dispensaries</th>
<th>No. of beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>213</td>
<td>1363</td>
</tr>
</tbody>
</table>

Post-integration period

| 303 (168 Allopathic (135 Ayurvedic) | 1959 |

The Saurashtra Government has rightly give top priority to developing the medical and health departments. Saurashtra Government tried to remedy the situation of medical and health services immediately after integration. The provision for maternity hospitals was inadequate. Besides increasing accommodation in the Bhavnagar maternity hospital new maternity homes were started at Sihor, Gadhada and Kundla.

The Government has a plan to provide special facilities for T.B. patients by creating special wards of 20 beds each at the district hospitals. A special hospital with 300 free beds is also going to be erected. Hospitals are being fitted with new equipment like X-rays, refrigerators,

* Medical Facilities in Saurashtra, File, page 116,
Director of Health Services, Government of Saurashtra.
The position in India is below the average in England and Saurashtra position is still more unsatisfactory. But

* Figures for Saurashtra taken from Files of the Health Department, Government of Saurashtra and for India and England from the Five Year Plan, page 490.
the position in Saurashtra is not so unsatisfactory if we take into account the number of private hospitals and private practitioners. In 1949 there were in all 37 hospitals in Saurashtra (28 Government and 9 private) with 1975 beds. Exact figures of the number of private medical practitioners in Saurashtra are not available, but according to a Government estimate there were 500 private practitioners in Saurashtra. The Economic Survey, therefore, gives one doctor to 5000 population. This is much better proportion than the proportion in India. But still the want of Saurashtra is consultant and hospital services of all kinds including general and special hospitals, maternity accommodation and specialized treatment.

There is the demand for medical facilities in rural areas and in towns and cities the demand is for better hospitals equipped with modern appliances and up-to-date medicines.

Another and most important work undertaken by the Saurashtra Government is the collection of vital statistics. The chief difficulty of working on the population problem in Saurashtra is the lack of vital statistics of births and deaths. At least something was done in India in this respect. In Saurashtra the position was most unsatisfactory and so correct vital statistics are not available. The States, in their annual Administration Reports, published some figures under the heading of vital statistics but
without any reasonable claim to accuracy. They submitted these reports in a standard form which was given by the Political Agent. There was no uniform standard and method of registration of births and deaths and incidence of infectious diseases in the State. There was no central office like the Registrar of Vital Statistics where this information could be recorded.

The data available from rural areas was very unsatisfactory and the figures available were hardly for 20 per cent of the population. Information for 80 per cent of the population was not available at all. The Saurashtra Government Memorandum submitted to the Gadgil Committee (June 1953) gives a very interesting example of the inaccuracy of the vital statistics in the former Saurashtra States. "In one municipality, the birth-rate was worked out at 77 per 1000 and in another the death-rate was shown higher than the birth-rate though the census showed no sign of decline in population and there was no appreciable migration from the State." 3

As pointed out above no data is available about the incidence and extent of serious diseases except in Bhavnagar State.

The Department of Public Health has undertaken the responsibility of collecting vital statistics in Saurashtra. A special division called the Vital Statistics Division has undertaken the collection of vital statistics in a uniform and scientific manner in the State. The Medical Officers of various dispensaries and the Police Patels of various villages collect information for the rural areas while the Municipal Officers for big towns keep record of this data and forward it to the Department of Health. There were no laws for notification or segregation of patients suffering from infectious or communicable diseases till 1948. Saurashtra Government had to make a beginning in this respect also. By 1950 the Indian Epidemic Diseases Act of 1899 and the Bombay District Vaccination Act of 1892 were applied to Saurashtra. But even by 1951-52 the compulsory Registration of Births and Deaths Act was not passed. The Report of the Health Department for 1951-52 tells us that vital statistics were collected in urban areas by municipalities but the collection and reporting of vital statistics from the rural areas were incomplete and irregular as registration was not compulsory.

As already observed, Saurashtra was not poorly served or backward in medical facilities, though it had no Public Health Department. The former States had not done anything in the field of Public health but there was no dearth of medical institutions. In 1902 there were 118 medical
institutions in Saurashtra, which treated more than 7 lakhs of patients, more than 7,000 being indoor ones. Medical facilities were provided mostly free or at a nominal cost. On the eve of integration (i.e. 1948) there were 28 Govt. hospitals and four private hospitals while the number of dispensaries was 174.

Saurashtra has made considerable progress in increasing medical facilities as also expenditure. The following Table (Table No. 98 on next page) shows the position of Saurashtra in 1948 and 1952 in so far as medical relief and facilities are concerned.

Though the above Table takes into consideration only Government institutions the progress in five years appears to be satisfactory. The expenditure on medical facilities has almost doubled and there is an appreciable increase in the number of dispensaries. But there is still good deal of room for improvement even in medical facilities. It is necessary to remove the lopside nature of the development of medical facilities. Maintenance of medical services at their present level requires recurring expenditure which has to be made available. These facilities are also in need of modernization by replenishing medical appliances and up-to-date drugs.

There are certain diseases which are very common in Saurashtra. The general and most common diseases prevail-
**TABLE NO. 98**

<table>
<thead>
<tr>
<th>No. of hospitals</th>
<th>Area and population served by one hospital</th>
<th>Area and population served by one dispensary</th>
<th>Area and Total hospital and population served by one dispensary</th>
<th>No. of hospitals</th>
<th>Area and population served by one hospital</th>
<th>Area and population served by one dispensary</th>
<th>Area and Total hospital and population served by one dispensary</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>766 sq. miles</td>
<td>174 dispansaries</td>
<td>739 sq. miles 22-1/2 lakhs</td>
<td>29</td>
<td>739 sq. miles</td>
<td>247 dispansaries</td>
<td>86 sq. miles 41.86 lakhs</td>
</tr>
<tr>
<td></td>
<td>142857</td>
<td></td>
<td>142667</td>
<td></td>
<td></td>
<td></td>
<td>16750</td>
</tr>
</tbody>
</table>

* Table prepared from figures of area and population as given in the Census Report for 1951 and Health Deptt. Reports for 1948 to 1952.
-ing in Saurashtra were - and even to-day are - malaria, filaria, blindness, diseases of the skin and diseases of the digestive organs. But the exact incidence of these diseases was never known.

As in the rest of India malaria is the major preventable disease in Saurashtra. It has been estimated that about a million deaths are caused in India every year by malaria and that 100 million people suffer from this disease. These figures are only estimates but in Saurashtra incidence of malaria was never estimated nor ascertained. But it was easily the most common disease in Saurashtra. Though no data are available regarding the various diseases for Saurashtra as a whole, figures for the former Bhavnagar State are available. In Bhavnagar malaria was the most important disease followed by diseases of the eye and skin diseases. In 1944-45 malaria accounted for 30% of the 2 lakhs 71 thousand patients treated at the State hospital and dispensaries. Eye diseases accounted for 9.6%, skin diseases 7.3% and diseases of the respiratory system 7.2%. But even here (i.e. in Bhavnagar) we do not know the incidence of death due to these diseases.

For different parts of Saurashtra, the incidence of malaria is shown by Table No. 99 on next page.

In Halar malaria is most rampant and the proportion has gone as high as 50% in 1949. Zalawad shows the lowest
percentage of malaria in Saurashtra. It appears that due to the efforts of the Saurashtra Government the incidence of malaria has declined in 1950 from its former high position but still malaria is the scourge of the population.

The figures of patients treated in hospitals as given by the various Administrative Reports of these States unmistakably prove the above contention. Malaria was epidemic as also seasonal. Some of the potential areas like the Gir forest are greatly feared by the people

* Adopted from Table No. XXI - 18, page 36 of Economic Survey of Saurashtra by C. N. Vakil.
particularly after rains because of malignant malaria. It has been estimated that at least half the population of Saurashtra i.e. about 2 million, needs protection against malaria. According to the Report of the Health Department for 1950, there was one case of malaria for every four persons. The same Report points out that the exact data about the incidence of malaria and the deaths due to it cannot be precisely stated.

This surveying was the most important work undertaken by the Government of Saurashtra after integration. The most important problem before the Government was to estimate the magnitude of malaria and to work out the practical methods for its control. The Memorandum of the Saurashtra Government to Gadgil Committee (June 1953) gives the incidence of malaria in Saurashtra as shown in the following Table. The figures are prepared from the representative figures from 19 dispensaries and give the percentage of patients suffering from malaria to the total patients.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of patients suffering from malaria to total patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>22</td>
</tr>
<tr>
<td>1949</td>
<td>35</td>
</tr>
<tr>
<td>1950</td>
<td>26</td>
</tr>
</tbody>
</table>

4. Papers of the Health Department, Government of Saurashtra prepared for Gadgil Committee (1953 June).
5. Memorandum of the Saurashtra Government to Gadgil Committee (June 1953) page 96.
There is some divergence in the figures of this Table and that of Table No. 99 but the difference is not appreciable when we take into consideration that these figures are for 19 representative dispensaries only. The high incidence of malaria is quite obvious from the above Table. People fall an easy prey to malaria as they cannot protect themselves against the swarms of mosquitoes that roam about both in towns and villages. The general unhygienic conditions and the lack of proper drainage facilities are mainly responsible for the prevalence of malaria on such a scale. Malnutrition and economic privation have also their share in bringing about the final result.

In 1948 an experiment in anti-malarial activity was undertaken. The survey pointed out that the splenic rate was 59%. Twelve villages with a total population of 12,530 were treated with D.D.T. spray. The result pointed out that the D.D.T. spray actually cut down the incidence of malaria. It also had the effect of killing dangerous insect pests like flies, fleas etc. Paludrine tablets were also distributed. According to the Report for 1949-50 of the Health Department of the Saurashtra Government the repeated D.D.T. sprays in rural areas had reduced the incidence by about 40 per cent on an average. In 1950-51 the anti-malarial campaign was extended to over 359 villages. The results according to the Report (1950-51) were very encouraging. The entire population of the areas expressed
satisfaction. They could attend to their work in malaria season. The spleen rate was found to have fallen from 65 per cent to 24 per cent in the sprayed areas.

It is clear from the above experience that if side by side with D.D.T. spray the areas are provided with better drainage and other sanitary arrangements the incidence of malaria will be greatly reduced.

Blindness is another important disease in Saurashtra. As pointed out by the various Administrative Reports for different States in Saurashtra, blindness is next only to malaria. The returns of blindness on the whole are more truthful and reliable than those of other infirmities as it can be least concealed. Moreover a person is likely to parade it before others for exciting their sympathy. The Bhavnagar Census Report for 1931 tells us that in every lakh of the population there were 459 blind as against 309 in 1921. The incidence of blindness for the Kathiawar Division of Baroda State also showed a greater percentage than for Gujarat proper in 1931.

Blindness is essentially a disease of the advanced age which is marked by low vitality and weak health resulting in the loss of eye-sight. It is a disease of the adult

and old people. But there are certain causes which explain the higher incidence of blindness in Saurashtra. There are certain regional and climatic causes. "Blindness is far more common in tropical countries than in those with temperate climate and its prevalence varies with the rainfall. The glaring sunshine and dust-laden winds of the hot weather cause inflammation of the eyes, which frequently results in ulceration and permanent injury. The smoky atmosphere inside the small, dark, ill-ventilated houses and huts is also a frequent cause of affections of the eyes resulting in blindness. In Saurashtra the incidence is higher as the population lives in an area which is signalized by a high degree of glare, from sea, sandy shore and salt flat. The people of Saurashtra are exposed to the heat radiating from sandy and barren soil. The incidence of blindness is also higher after the age of 35 in females than in males. "Women submit their eyesight to a greater strain than do men. They are more shut up in smoky and ill ventilated cooking rooms and they do much needle work of a kind that, unless properly guarded against rapidly impairs the efficiency of the eyes."


The Kathiawari kitchens are particularly small and ill-ventilated. Needle work is a speciality of Kathi-women as the majority are fond of it. Both these factors together with the fact that women are generally confined to their dingy kitchens must be responsible for the higher percentage of blindness among women.

Elephantiasis or Filariasis is a very ugly disease and is a scourge of the coastal areas of Saurashtra. Filaria is rampant particularly in Porbandar, Khambaliya, Solaya, Jamnagar, Navi Bandar, Mangrol and Veraval. In 1949-50 the Health Department of the Saurashtra Government with the help of Major Raghavan, Assistant Director, Malaria Institute of India carried out an intensive filaria survey in Porbandar city. The Saurashtra Government is spreading anti-filaria campaign so as to cover all the areas. It spent Rs. 50,000 in fighting elephantiasis in 1950. The problem can be permanently solved by setting up an organization under Health Department which can tackle both malaria and filaria.

Tuberculosis is a major public health problem next in importance only to malaria in India. It is estimated that about 5 lakh deaths occur every year and about 2-1/2 million people suffer from active disease. The incidence of tuberculosis in Saurashtra is not known. Many of the Saurashtrians go out to seek jobs to urban areas and they return home when down with tuberculosis in order to get
themselves cured, as they believe that Saurashtra is good for the cure of tuberculosis. They spread infection throughout the country side. The Saurashtra Government undertook the B.C.G. work during 1950-52 as shown below:

**TABLE NO. 101**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No. of persons tested for B.C.G.</th>
<th>Positive No. of persons</th>
<th>B.C.G. Vaccinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>1,27,960</td>
<td>53,815</td>
<td>38,048</td>
</tr>
<tr>
<td>1951-52</td>
<td>75,310</td>
<td>29,479</td>
<td>29,563</td>
</tr>
<tr>
<td></td>
<td><strong>2,03,290</strong></td>
<td><strong>83,294</strong></td>
<td><strong>67,631</strong></td>
</tr>
</tbody>
</table>

Positive number of persons is little less than 50 per cent of the total number of persons tested for B.C.G.

Saurashtra requires an increase in beds for isolation and treatment of people suffering from tuberculosis. The B.C.G. vaccination is an effective and safe preventive measure, but even with the assistance of the W.H.O. only about 75 per cent of the positive cases could be given protection. We shall now examine the role of municipal organization in the public health of Saurashtra.

Very few States had municipalities before integration. Statutory municipalities are a growth mainly after integration. Municipalities now exist in 61 places. Nothing was done before the emergence of Saurashtra in the field of environmental hygiene. The provision of an environment conducive to healthful living is an essential requirement for the maintenance of public health. In countries where water supplies and waste disposal have been properly attended to, cholera, typhoid and dysentery have almost disappeared. Infant mortality rates and the intestinal parasitic infection rate have also been reduced. Municipal organization can greatly help public health by ensuring pure and adequate water supply constructing under ground covered drainage and enforcing the building of sanitary houses. In Saurashtra prior to integration civic amenities were conspicuous by their absence. No separate finance was provided even in States where the municipalities existed but they were run as departments. The difficulties of the municipalities are mainly financial.

Even the most elementary and obligatory function of providing water supply was not properly attended to. Saurashtra has only one town, viz. Bhavnagar - where water supply is filtered, and that too, not fully. The provision of a safe and adequate water supply is a basic requirement and should receive the highest priority. Water supply of towns and villages continues to be most unsatisfactory
and inadequate in Saurashtra. Because of an unsatisfactory water and drainage arrangement, Saurashtra has to suffer from malaria, filaria and guineworm. In 1950 guineworm broke out in an epidemic form in a small town named Prabhas Patan. It was 20 to 30 per cent of the population of the town. The source of water supply was step wells which were infected. Large amount of suspended matter which normally should be removed by settling filtration and chlorination, affects the general health of the public and combined with unhygienic market supplies of food and confectionaries leads to a heavy incidence of gastro intestinal diseases.

If this is the story of water supply, proper drainage system is obviously a far off thing. Systematic and planned underground drainage is a primary condition of healthy environment when large masses of humanity live together as in modern towns. In Saurashtra there had been no city survey at any place for setting up drainage or sewage. Some municipalities are now putting up surveyed drainage schemes which have been partly executed. Underground drainage appears to be a far off dream to be realized by all the municipalities. It is only Bhavnagar that has made some effort in this direction. The position of the people in towns and villages regarding the availability of latrines and bathrooms has already been discussed in the chapter on the Standard of Living. Now the picture is completed. Both, public and private hygiene are in a deplorable con-
dition in Saurashtra. It is no wonder, therefore, that people fall an easy prey to various epidemics. The level of sanitation is bound to be extremely low in the absence of proper drainage system. Improvement of public hygiene is improbable without scientific, planned and covered drainage system.

In Saurashtra no efforts have been made in the direction of slum clearance. Roads are in a pathetically hopeless condition. Even in a newly developed area like the Jagnath Plot in Rajkot, the capital of Saurashtra, roads are not maintained in proper order and the dirty water of the latrines of the houses in both the sides is allowed to pass freely on the road.

Malaria, filaria and guineworm can be easily combated by improving the drainage system and by providing safe and protected water supply.

In addition to the above mentioned conditions which are greatly responsible for a very bad state of public health there are other contributory causes which reduce the power of resistance of the people and make them easily susceptible to diseases. Malnutrition is perhaps the most important single factor which affects the maintenance of health and resistance to disease.

There is both under nutrition and malnutrition in
Saurashtra. The people in Saurashtra neither get an adequate diet nor a balanced diet. Their caloric consumption is below the required standard. There is an excessive preponderance of cereals in their diets. The consumption of milk is too low, only 3 ozs. per head per day. Fruits, ghee and vegetables are beyond the reach of many. The average diet of a Saurashtrian is lop-sided due to the extremely high cereal content. The diet lacks in adequate amounts of protective foods leading to inadequacy and sometimes even to the total lack of proteins of good quality. Inadequacy of minerals and most of the important vitamins in more or less varying degrees is the other important feature. The diets do not contain the adequate amounts of B group of vitamins due to the large consumption of carbohydrates.

"There is no doubt that malnutrition occupies a very prominent position in the causation of high infantile, maternal and general mortality rates in India. In addition to well-recognized deficiency diseases, there are numerous other diseases in the causation of which nutritional factors are concerned. The general effect of malnutrition in lowering resistance to microbic and parasitic diseases must also be emphasized. Numerous investigations among school children in India have shown that a large percentage of children are in a poor state of nutrition with consequent impairment of physical and mental growth. Again in the
adult population the ill effects of malnutrition are widely evident in the shape of low level of general health and reduced capacity for work."

Constant scarcity conditions have undermined the health of the people in Saurashtra. This has been indicated by the nutritional survey carried out in various primary schools covering 20,000 children. The survey found that only 10 per cent of the children were in a sound and healthy condition while 90 per cent suffered from one or the other kind of nutritional deficiency. It is needless to point out that the problem of nutrition can not be solved unless the economic position of the masses is improved. The majority of the people simply cannot afford a satisfactory diet.

Insanitary habits of the people in Saurashtra also aggravate the situation. People in Saurashtra, as in other parts of India need health education. To a considerable extent illness is due to the ignorance of simple hygienic laws or indifference to their application. People must co-operate with the Government to fight diseases like malaria, filaria or guineworm.

Malaria could be greatly reduced if people know and apply their knowledge to preventing it by keeping their

houses clean and by using the mosquito net. People must be educated so that they will not spit round about them or go to the step-wells when they are suffering from guineworm.

Men freely blow their noses irrespective of place and spit anywhere on the road after eating pan, women throw on the road any house-rubbish which comes to their hand and children freely ease themselves on both the sides of the lane in the morning and pollute the whole atmosphere. Thus, men, women and children all contribute their quota in polluting the atmosphere. People apparently have absolutely no idea of public hygiene and the wrong which they do to themselves. It is necessary that women should be properly educated regarding the simple laws of health. Educating the woman is educating the whole family. The agency which would reach this class is the child health staff, the woman doctor, the health visitor, the midwife or the dai. The primary schools should devote more time and attention to the inculcation of health habits than to academic instruction. The most pressing problem in Saurashtra towns and villages is the control of malaria. The water-supply of rural as also urban areas is most unsatisfactory. Drainage requires to be put on scientific lines. It is also necessary to know the exact incidence of various common diseases in Saurashtra such as malaria, filaria and blindness. Malnutrition and under nutrition exist in Saurashtra
and it appears exceedingly difficult to improve the people until the whole economic position is improved. The efforts of the Saurashtra Government in improving public health are praise-worthy, but they should be speeded up. Government have also increased expenditure on medical relief. But Rome cannot be built in a day.

Unhygienic and insanitary conditions of living, scanty water supply, faulty drainage system, malnutrition and under nutrition and lack of sanitary habits among the population are some of the long standing evils which cannot be eradicated immediately. But if the public health is to be improved it is necessary that they are remedied as early as possible.