CHAPTER 10. 3

SOCIO-ECONOMIC SET-UP OF THE REGION
CHAPTER NO. 3
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To analyse the incidence of diseases and the problems related to Health Care Services within the study area an attempt was made to represent the different aspects of the problem. The aspects taken into consideration can be grouped into three broad categories:

1) Demographic,
2) Social,
3) Economic.

1) DEMOGRAPHIC ASPECTS:
   i) Density of Population,
   ii) Infant Mortality.

2) SOCIAL ASPECTS:
   i) Proportion of Scheduled Tribes and Scheduled Castes to total population,
   ii) Proportion of literates to total population.

3) ECONOMIC ASPECTS:
   i) Transportation facilities,
   ii) Medical facilities.
1) Demographic Aspects

Demand for amenities is influenced along with other socio-economic factors by demographic factors as well. Distribution of population, proportion of literates and proportions of scheduled tribes and scheduled caste to the total population, are some of the demographic factors influencing demand for amenities, particularly health care service in any region.

1) Density of Population

As per 1981 census, the total population of Pune district was 4,162,284. Average density of population was 203 persons per Sq.Km, which was almost double the average density for the state (103 persons per Sq.Km.) within the district, the density of population varies from 250 persons per sq.Km. for Beveli tehsil to 82 persons per Sq.Km. for Velhe tehsil (Map No.3.1) in Pune City tehsil (being entirely urban has been excluded).

In the western part of the district, the density of population is lower than the average for the district with Velhe tehsil having the lowest (82 persons per Sq.Km.)
This is due to the fact that this part is traversed by the western ghat and its offshoots. The settlements in this region are mainly concentrated in the valleys formed by rivers like Ahime, Indrayani, Tule-Athta and Sunjawani, which run from west to east. Density of population is higher than the average for the district in the Beramati tehsil located in the eastern part and Haveli tehsil located in the central part of the region. Development of prosperous commercial agriculture in Beramati tehsil and modern industries in Haveli tehsil are the contributing factors.

11) **Infant Mortality**

Increase in proportion of literates among females, and consequent better care which infants receive, is immediately reflected in lowering of the infant mortality rate.

Pune City tehsil has highest proportion of literate females (53.07%) which is significantly higher than those for other tehsils of the district. The western hilly tehsils namely, Velha, Mulshi, Haveli and Ambegaon have lower proportion of female literates because of lack of adequate educational facilities.
For the district, the average infant mortality is 50 infant deaths per 1,000 live births. Surprisingly, for Pune City tehsil, both proportion of literates among females as well as infant mortality rate, are higher. This is probably due to more accurate and complete death records. A comparison of the distribution of infant mortality for the years 1971 and 1981 reveals that Barasati and Purandhar tehsils have continuously shown low rates. By and large, except Shirur, Mulshi, Khed and Ambegaon tehsils, the average rate of mortality has decreased in other tehsils since, 1961.

2) **SOCIAL ASPECTS**

1) **Literacy**

Literacy has a direct bearing on health consciousness of people. On an average literate people are more health conscious, which in turn is responsible for lower morbidity rate. Proportion of literate to total population for the district is 44.62% as against the average for the state 32.13%.

Within the district, this proportion varies from more than 50% for Pune City tehsil to less than 14.40% for Velha tehsil located in the south-western part of the district (Map No. 3.2).
PUNE DISTRICT

Proportion of Scheduled caste to the total population (1981).

- < 3%
- 3% - 5%
- > 5%

MAP NO. 3-4

PUNE DISTRICT

Proportion of Scheduled tribes to the total population (1981).

- < 5%
- 5% - 10%
- 10% - 15%
- > 15%

MAP NO. 3-3

PUNE DISTRICT

Proportion of literates to the total population (1981).

- < 30%
- 30% - 50%
- > 50%

MAP NO. 3-2
The western tehsils, namely, Khed, Mawal, Mulshi and Velhe, have very low proportions. This is reflected in morbidity rates. Morbidity rates are higher for these tehsils than the average for the district. Though, it is not the only reason for high morbidity rates, it shows a high correlation with proportion of literates.

ii) Scheduled tribes and Scheduled castes

Scheduled tribes live in hilly parts and have a different way of life. They depend upon the primary activities like hunting and food gathering and a very primitive type of agriculture. Economically, they are very backward.

Within the district, the proportion of scheduled tribes varies from more than 15% in the western hilly tehsils to less than 5% in the central and eastern tehsils (Map No. 3.30).

In the western hilly tehsils, Ambegaon and Khed tehsil have higher proportion of scheduled tribes (19.77% and 11.44% respectively). This proportion varies between 10% and 15% for Mawal, Mulshi and Velhe tehsils, and for Junnar and Bhor tehsils between 5% and 10%. All these tehsils have higher proportions than the average for the district (3.64%).
It seems from the distribution of the scheduled tribes that they have been forced to move from the eastern plain region to the western hilly tehsils.

Scheduled Castes:

These are the people who have well-settled in the plain region as landless labourers. Their proportion is higher in the region where the "Dalutekar" system still exists and where land ownership is concentrated in the hands of few big landlords.

Proportion of people belonging to scheduled castes for Pune district is significantly lower (4.95%) than the average for the state (9.81%). This proportion has declined during last 20 years because most of the scheduled castes people have changed their religion from Hinduism to Buddhism. Within the district, the proportion of these people to the total population varies from more than 5% for the eastern tehsils to less than 3% for the western tehsils.

In the western hilly tehsils, the proportion is substantially lower than the average for the district (Map No. 3.d).
3. Economic Aspects:

1) Transportation facilities:

Transportation facilities are to be judged in two ways: (i) the type of the transport and (ii) the distribution of the transportation facilities.

The region under study is not adequately served by transportation network. The central part of the region, from East to West is traversed by Bombay-Madras railway route, while the South-Central part is traversed by Poona-Miraj route. Northern and South-Western parts are not served by railway network at all.

The region is relatively better served by highway network. Accessibility is tolerably good in all parts except the South-Western hilly region consisting of the tehsils of Bhor, Velhe and Mulshi.

The rivers are not used for inland navigation on a larger scale.

Though railway and highway network serve the region, their distribution is very uneven. Mainly in the Western hilly tehsils except Maval, there are no good roads. Maval tehsils is served by both highway and railway route connecting Bombay with Pune.
In other Western hilly tehsils, the transportation facilities are inadequate, and the roads that exist are non-useable during the South-West monsoon season. In the central and eastern tehsils, the transportation facilities are comparatively better. This being a plain region, the net-work of roads is reasonably good. These roads are usable throughout the year.

Transportation facilities and the use of the medical facilities have a direct relationship. In Velhe, Mulshi and Ambegaon tehsils, due to absence of good roads, the patients cannot be taken to primary health centres in time. This, ultimately increases the mortality-rates. Therefore, in most cases, people die, not because of a particular disease which is many times easily curable but due to failure to reach a primary health centre or a dispensary in time. (Map No. 3.5).

11) **Primary Health Centre in Pune District**

The primary health centres are under the control of Pune Zilla Parishad. The District Health Officer is the incharge of the health organisation.
On the basis of the number of villages and the total population of a tehsil, the primary health centres are allotted. In Pune district, the health organisation has been developed as follows:

(TABLE No. 3.1)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type of Health Centre</th>
<th>Number of Centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Primary Health Centre</td>
<td>24</td>
</tr>
<tr>
<td>2.</td>
<td>Primary Health Sub-Centre</td>
<td>83</td>
</tr>
<tr>
<td>3.</td>
<td>Primary Health Units</td>
<td>60</td>
</tr>
<tr>
<td>4.</td>
<td>Dispensaries</td>
<td>18</td>
</tr>
<tr>
<td>5.</td>
<td>Leprosy Centres</td>
<td>40</td>
</tr>
</tbody>
</table>

Pune district has 14 tehsils. Except Pune City tehsil, being 100% urb^n the primary health centres have been allotted to each tehsil on the basis of population. Total population number of health centres and population allotted to each health centre has been shown below in Table No. 3.2.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Taluka</th>
<th>Total Population (1961)</th>
<th>No. of Primary Health Centres</th>
<th>Population per Health Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ambageon</td>
<td>1,33,390</td>
<td>3</td>
<td>46,464</td>
</tr>
<tr>
<td>2</td>
<td>Junnar</td>
<td>2,08,574</td>
<td>3</td>
<td>69,525</td>
</tr>
<tr>
<td>3</td>
<td>Khed</td>
<td>1,97,117</td>
<td>3</td>
<td>65,706</td>
</tr>
<tr>
<td>4</td>
<td>Shirur</td>
<td>1,49,735</td>
<td>2</td>
<td>74,868</td>
</tr>
<tr>
<td>5</td>
<td>Mawal</td>
<td>1,51,452</td>
<td>1</td>
<td>1,51,452</td>
</tr>
<tr>
<td>6</td>
<td>Bevili</td>
<td>3,65,397</td>
<td>3</td>
<td>1,21,966</td>
</tr>
<tr>
<td>7</td>
<td>Beude</td>
<td>1,45,899</td>
<td>2</td>
<td>72,950</td>
</tr>
<tr>
<td>8</td>
<td>Kulshi</td>
<td>91,617</td>
<td>1</td>
<td>91,617</td>
</tr>
<tr>
<td>9</td>
<td>Puranchar</td>
<td>1,50,387</td>
<td>1</td>
<td>1,50,387</td>
</tr>
<tr>
<td>10</td>
<td>Velhe</td>
<td>55,573</td>
<td>1</td>
<td>55,573</td>
</tr>
<tr>
<td>11</td>
<td>Barwadat</td>
<td>2,27,713</td>
<td>2</td>
<td>1,13,857</td>
</tr>
<tr>
<td>12</td>
<td>Indapur</td>
<td>1,97,290</td>
<td>1</td>
<td>1,97,290</td>
</tr>
<tr>
<td>13</td>
<td>Bhor</td>
<td>1,13,829</td>
<td>1</td>
<td>1,13,829</td>
</tr>
</tbody>
</table>

Pune district has 1498 villages with total population of 41,62,284 (as per 1961 Census). The average number of villages and average of population to be served each primary health centre comes to 63 villages and 1,73,428 persons respectively.
The geographical distribution of primary health centres in this district is very uneven. Ambegaon, Junnar, Khed and Hevli Tehsils have three primary health centres, each. Shirur, Deund and Baramati Tehsils have two each and the rest of the Tehsils have one each. (Map No. 3.6).

The functioning of Primary Health Centre depends upon the expected number of people to be served and the expected area to be served. In the following table, the number of villages and total geographical area to be covered by the primary health centre has been given in Table No. 3.3.

**(TABLE NO. 3.3)**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Tehsil</th>
<th>Total No. of Villages</th>
<th>Total Geographical Area (Sq. Km)</th>
<th>Total No. of Centres</th>
<th>Average No. of Villages Per Primary Health Centre</th>
<th>Average Area per Primary Health Centre (Sq. Km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ambegaon</td>
<td>100</td>
<td>1043</td>
<td>3</td>
<td>33</td>
<td>314</td>
</tr>
<tr>
<td>2.</td>
<td>Junnar</td>
<td>144</td>
<td>1364</td>
<td>3</td>
<td>48</td>
<td>461</td>
</tr>
<tr>
<td>3.</td>
<td>Khed</td>
<td>159</td>
<td>1400</td>
<td>3</td>
<td>53</td>
<td>466</td>
</tr>
<tr>
<td>4.</td>
<td>Shirur</td>
<td>79</td>
<td>1357</td>
<td>2</td>
<td>39</td>
<td>678</td>
</tr>
<tr>
<td>5.</td>
<td>Mewal</td>
<td>181</td>
<td>1131</td>
<td>1</td>
<td>181</td>
<td>1131</td>
</tr>
<tr>
<td>6.</td>
<td>Hevli</td>
<td>124</td>
<td>1317</td>
<td>3</td>
<td>41</td>
<td>439</td>
</tr>
<tr>
<td>7.</td>
<td>Deund</td>
<td>67</td>
<td>1290</td>
<td>2</td>
<td>33</td>
<td>645</td>
</tr>
<tr>
<td>8.</td>
<td>Mulshi</td>
<td>137</td>
<td>1039</td>
<td>1</td>
<td>137</td>
<td>1039</td>
</tr>
<tr>
<td>9.</td>
<td>Velhe</td>
<td>132</td>
<td>497</td>
<td>1</td>
<td>132</td>
<td>497</td>
</tr>
<tr>
<td>10.</td>
<td>Purenahar</td>
<td>76</td>
<td>1104</td>
<td>1</td>
<td>76</td>
<td>1104</td>
</tr>
<tr>
<td>11.</td>
<td>Baramati</td>
<td>63</td>
<td>1382</td>
<td>2</td>
<td>31</td>
<td>691</td>
</tr>
<tr>
<td>12.</td>
<td>Indapur</td>
<td>85</td>
<td>1468</td>
<td>1</td>
<td>85</td>
<td>1468</td>
</tr>
<tr>
<td>13.</td>
<td>Bhor</td>
<td>191</td>
<td>892</td>
<td>1</td>
<td>191</td>
<td>892</td>
</tr>
</tbody>
</table>

*Source: Census Handbook of Pune District, 1981.*
PUNE DISTRICT
Map showing the location and area served by Primary Health Centre

For Name of P.H.C. see next page

Map No. 3-6
NAME OF THE VILLAGES WITH PRIMARY HEALTH CENTRE

A) Jumner :
   1) Utur
   2) Serayangeon
   3) Apetale

B) Ambegaon :
   4) Shodegaon
   5) Shamaeni
   6) Dimbe (Kh.)

C) Sheed :
   7) Weda
   8) Chaken
   9) Schena

D) Deweli :
   10) Behu
   11) Khedakwale
   12) Magnoli

E) Dewel :
   13) Khedakela

F) Pulshi :
   14) Feud

G) Bhur :
   15) Bhur

H) Purnehar :
   16) Baswad

I) Incapur :
   17) Nimjaonketk

J) Duna :
   18) Rawengeon

K) Velhe :
   19) Yavat
   20) Velhe

L) Jeramaeti :
   21) Supa
   22) Penedere

M) Shirur :
   23) Kendour
   24) Shevera.
As the area allotted per health centre increases, the efficiency of the centre declines. As the distance to be travelled to reach the health centre increases the proportion of people reporting to the primary health centre decreases. This has a direct connection with the time-distance ratio which depends upon the type of road and the type of vehicle available. As far as the rural areas of Pune district are concerned, good motorable roads are very rare in the western hilly tehsils namely, Ambegaon, Khed, Mulshi, Velhe etc., the roads become almost useless during the monsoon season. In the following table, the road density in each tehsil has been given.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of Tehsil</th>
<th>Total Geographical Area (Sq.Km.)</th>
<th>Road Density (meter per sq.Km.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Ambegaon</td>
<td>1043</td>
<td>549.59</td>
</tr>
<tr>
<td>2.</td>
<td>Junnar</td>
<td>1384</td>
<td>416.64</td>
</tr>
<tr>
<td>3.</td>
<td>Khed</td>
<td>1400</td>
<td>468.58</td>
</tr>
<tr>
<td>4.</td>
<td>Shirur</td>
<td>1357</td>
<td>797.19</td>
</tr>
<tr>
<td>5.</td>
<td>Pawna</td>
<td>1131</td>
<td>312.70</td>
</tr>
<tr>
<td>6.</td>
<td>Naveli</td>
<td>1314</td>
<td>360.31</td>
</tr>
<tr>
<td>7.</td>
<td>Deund</td>
<td>1290</td>
<td>484.43</td>
</tr>
<tr>
<td>8.</td>
<td>Mulshi</td>
<td>1039</td>
<td>341.94</td>
</tr>
<tr>
<td>9.</td>
<td>Velhe</td>
<td>497</td>
<td>609.49</td>
</tr>
<tr>
<td>10.</td>
<td>Purandhar</td>
<td>1104</td>
<td>145.14</td>
</tr>
<tr>
<td>11.</td>
<td>Baramati</td>
<td>1352</td>
<td>505.58</td>
</tr>
<tr>
<td>12.</td>
<td>Indapur</td>
<td>1468</td>
<td>559.20</td>
</tr>
<tr>
<td>13.</td>
<td>Bhor</td>
<td>892</td>
<td>513.69</td>
</tr>
</tbody>
</table>
In the tensils having higher road density, the working of the primary health centre is satisfactory. It has a direct relationship with the relief. Hence, the Eastern tensils having plain regions have better working of the primary health centre than those located in Western parts, which are hilly and where the road density is very low.

In the next chapter, the geographical distribution of the important diseases in the study area has been discussed.