Chapter 2

Geographical Setting of Study Area

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Chapter 2

Geographical Setting of Study Area

2.1 Introduction:

In previous chapter, the focus was on meaning of the medical Geography and facilities regarding health related issues. Present chapter throw lights on physical elements consisting of location, boundaries of the study area, historical background, physiographic, climate, rainfall, drainage system and soils etc. Natural elements are focused in this chapter. Hippocrates states that,

“Airs, waters, places - all played significant roles impacting human health and history”.

It is observed phonotypical factors affects in modifying the state of the health of man. However, these factors remain variable in nature. The disease producing elements are markedly influenced by the external environment. Scientists know the effect of the environment on human being's physical composition.

Human being is a rational animal and occupies all areas of knowledge. By using his talent and hard work human being achieved impossible things. In the sphere of medical geography many new technologies and researches has been coming in to existence. Health is determined by the physical environment. The Dry and cool weather helps to good health. Our country is known as developing country in the world. In each area of knowledge, we are developing fast. In India, health facilities are important because our population is second in the world and most of the people remain poor. The atmosphere in North India is beneficial for the health. Soil is also one of the impact factors on health. It is related to economy of the particular area. In fertile area, people are able to spent more money on health while in other areas unable to
do this. In Maharashtra, Sangli district is located at western part. This district has variety of land and water resources. The study of these resources is necessary how that affects on the health of the people in certain climatic condition where people live and resist.

2.2 Location, Boundaries of the study Area:

Solapur district is situated on the southeast fringes of Maharashtra state, lies in the entire of large plain 1800 feet above mean sea level. It lies entirely in Bhima-Sina-Man basins up to the Border of Karnataka. It is located between 17°10’ north to 18°32’ north latitudes and 74°42’ east to 76°15’ east longitudes. The east-west extension of Solapur district is 200 kilometres and north-south stretch of Solapur district is 150 kilometres. It is surrounded by Ahmednagar and Osmanabad in the north Osmanabad and Andhra Pradesh in the east, Sangli district and Karnataka state in the south, Satara and Pune districts towards the west. (Figure 2.1)

Shape of Solapur district resembles a flying eagle. The area of Solapur district is 14844.6 sq. kms. and its proportion as compared with the Maharashtra state area is 4.82%. The proportion of the Solapur district in the Pune division is 20 per cent. There are eleven tahsils in the district. North Solapur, South Solapur, Mohol, Madha and Pandharpur tahsils are situated in the central region. Tahsils like Malshiras, Karmala and Barshi cover-up the portion from east to west in the north part of the district whereas Sangola, Mangalweda and Akkalkot cover-up the portion from east to west in southern part of the district. Previously Barshi was the biggest tahsil (1630 sq.kms.) Now, amongst eleven tahsils Karmala is the biggest by area about 1609.7 sq.km. and other extreme the north Solapur is the smallest tahsil (736.3 sq.kms.) in the district.
According to the 2011 census released by Directorate of Census Operations in Maharashtra, Solapur had population of 4,317,756 of which
male and female were 2,227,852 and 2,089,904 respectively. In 2001 census, Solapur had a population of 3,849,543 of which males were 1,989,623 and remaining 1,859,920 were females. Solapur District population constituted 3.84 percent of total Maharashtra population. In 2001 census, this figure for Solapur District was at 3.97 percent of Maharashtra population.

2.3 Historical Background:

The Solapur District was ruled by various dynasties such as Andhrabhratyas, Chalukyas, Rashtrakutas, Yadavas and Bahamanis. is believed to be derived from the combination of two Sanskrit words: ‘Sola’ meaning "Sixteen" and 'pur' meaning "Village". The present city of Solapur was considered to be spread over sixteen villages viz. Aadilpur, Ahmedpur, Chapaldev, Fatehpur, Jamdarwadi, Kalajapur, Khadarpur, Khandervkiwadi, Muhammadpur, Ranapur, Sandalpur, Shaikpur, Solapur, Sonallagi, Sonapur and Vaidakwadi and all these villages are now merged with Solapur Municipal Corporation. It is evident from the inscriptions of Shivayogi Lord Siddheshwar of the time of the Kalachuristis of Kalyani, that the town was called 'Sonnalage' which came to be pronounced as 'Sonna lagi'. The town was known as Sonnalagi even up to the times of Yadavas. A Sanskrit inscription dated 1238, after the downfall of the Yadavas found at Kamati in Mohol shows that the town was known as Sonalipur. During the Muslim period, the town was known as Sandalpur. Subsequently, the British rulers pronounced Solapur as Sholapur and hence the name of the district.

On the plains of Ashti, the devoted Maratha general Bapu Gokhale fought a battle with General Smith on 19 February 1818 and died a hero's death for his master Peshwa Bajirao II who in his anxiety to escape had no patience to look after his fallen hero and his associates. Young Pratapsinh, the Chhatrapati and his party who were similarly left helpless on the camping ground with all Bajirao's treasure valued at about one crore, fell
into British hands. The Chhatrapati was soon handed over by General Smith to Elphinstone, the Commissioner of the Deccan. The Marathas still put up a last-ditch fight at the Sholapur fort under the direction of Ganpatrao Panse who used his ammunitions with effect, but he also fell wounded and the resistance was over.

When Bajirao left Maharashtra for good in 1818, one Bhagwantrao became the first Mamlatdar of Sholapur under the British, Venkatappa, Shriniwasrao and Bhagwantrao acting as administrators. In the course of the arrangements that followed subsequently, the western part of the present Sholapur district including Pandharpur fell within the jurisdiction of the Raja of Satara and the southern part including Mangalwedha remained with the Patwardhan Sardars.

The areas which now form Solapur district were formerly included in Ahmadnagar, Pune and Satara. Karmala was in Ahmadnagar, Mohol in Pune and Pandharpur, Malshiras and Sangola in Satara (which was then an Indian State). Barshi and Sholapur frequently changed between Ahmadnagar and Pune districts. The sub-collectorate of Sholapur was formed under Ahmadnagar district in 1830. The district of Sholapur was formed in 1838 and consisted of the following sub-divisions, viz., Sholapur, Barshi, Mohol, Madha, Karmala, Indi, Hippargi and Muddebihal. The district was, however, abolished in 1864. In 1869 the sub-divisions of Sholapur, Barshi, Mohol, Madha and Karmala together with Pandharpur and Sangola from Satara district were again formed into Sholapur district to which Malshiras was transferred from Satara district in 1875. There were no major changes in the district or tahsil boundaries between 1891 and 1941. Consequent upon the merger of the former Indian States two villages of Jamkhindi, 21 villages of Jath State, thirteen villages and one town of Kurundwad State, thirteen villages of Miraj Senior State, three villages of Miraj Junior State, 28 villages and one town of Sangli State and a part of Akkalkot State were
added and three tahsils of Mohol, Akkalkot and Mangalwedha were newly formed in 1949. The Sholapur tahsil was split up in two tahsils, viz., South Solapur and North Solapur.

In 1950, 53 enclave villages were transferred from Hyderabad State and included in the district in exchange for twelve enclave villages belonging to this district transferred to Osmanabad and Gulbarga districts. One village from Indi tahsil of Bijapur district was also added to Mangalwedha tahsil of this district in 1950. With the re-organisation of States in 1956 the district was included in the then Bombay State and since 1960, it forms part of Maharashtra.

2.4 Physiography:

Physiography determines the capacity of the particular area to produce the things essential for the survival of all living beings and also the viruses that cause diseases. The distribution of diseases in the study is determined by the physiography. Certain diseases are found at certain physiographic features. The effect of altitude on the spread of vectors of the diseases has certainly proved its correlation. Region of the high altitude due to its low temperature and clear air conditions do not allow to survive many vectors carrying the diseases. At the same time high altitude is conducive to good health for those who are suffering from tuberculosis. While considering the effect of physiography on the spread of diseases the relief features of the study area are studied. Solapur district falls in three parts based on physical structure.

Solapur district is part of Maharashtra plateau, which is part of Deccan plateau of India. It has flat and undulating area. Hence physiographically it can be divided into two parts: Hilly Region and Flat Plateau Region.
2.4.1 Hilly Region:

The district has no mountains but some isolated hills and small hill ranges, which are branches of Balaghat, Mahadeo and Shukracharya hill ranges in the district. Branches of Balaght range are found scattered in northern part of Barshi tahasil. Ramling donger is important in this range. Same type of hills are also found in Karmala and Madha tahasils. Waghoba and Bodaki hills are important hills in Karmala tahasil, while small Chinchgaon dongar(hill) range is important in Madha tahasil. Chinchgaon donger(hill) range is 6 km long and 100 m in height from surrounding area. In Malshiras tahasil hills and hill ranges are found in western and southwestern border of tahasil. These are nothing but branches of Mahadeo Donger range of Sahyadri Mountain. It continues towards the west side but broken towards the south west.

2.4.2 Flat Plateau Region:

About 90% part of district is flat and formed by lava flow during the volcanic eruption at about 20 million years ago. But due to uneven lava flow the surface of plateau has been made undulating. It has more height towards west, where average height is 500 m from ASL. It is tilted towards east and southeast side i.e. towards the Solapur and Akkalkot tahasils, where average height is 400 m from ASL. Large number of small and big streams and rivers like Bhima, Sina, Bhogawati, Harni, Bori, Man, Nira etc. have dissected the plateau at number of places. At the same time these rivers have developed their attractive scenic river courses at some places. These rivers have made their separate and small basins of low height in the district. Due to undulating surface, observer can observe the river basin at a time by standing on highlands; and observer can enjoy scenic beauty of river course. Along this, rearing sheeps and cattles, small settlements, farmers and their green fields, smoke, touching to the ground etc. This atmosphere may help to develop tourist sites to attract the tourist from distant places.
Area of the district Solapur, which falls on eastern side of the main Sahyadri range and most of it at even elevation of about 550 metres above mean sea level. It is more or less like a plateau region. There is no important hill system in the district. Only in the north of Barshi tahsil several spur of Balaghat range pass south for a few miles. Of these, the chief is the Barshi ghat about fourteen miles east of Barshi tahsil. There are also scattered hills in Karmala, Madha and Malshiras tahsils. Hilly portion is found is west of Madha and south-east of Malshiras and Karmala tahsils. There are also scattered hills in Karmala, Madha and Malshiras tahsils. Hilly portion is found in west of Madha and south-east of Malshiras and Karmala tahsils.

The central Karmala and central Madha have two small hills named as ‘Vaghoba’ and Bodaki respectively. The heights of these hills are 600 and 650 metres respectively. Southern part of Sangola is like covered by hills. The Phaltan range runs from west part of Malshiras tahsil to southern side of the Sangola tahsil, locally it is called as Mahadeo range. The Ramling hill spreads from north-west to south-east of Barshi tahsil. The low table land and small separate hills in Karmala and Madha tahsils act as the watershed between Bhima river and Sina river. Beside this area happens to lies in the basins of river Bhima, Nira, Man and Sina. Bhima basin is found in the tahsils of Malshiras, Pandharpur, Madha and South Solapur, while Sina basin in the tahsils of Karmala, Mohol, Madha, and South Solapur. These river basins plays an important role in the agricultural development of the district. It also plays important role in the development of agrobased industries. Except these features remaining area of the district looks like a table land. Generally, the shape of this district narrows down to the south-eastern part. (Figure 2.2)
2.5 Climate:

In a large measure, climate determines where man may live and thrive, what crops he may raise? What type of home he may appropriated
build? What sort of clothing he may were? and what pests and diseases he must combat? What type of home he may appropriately build? What sort of clothing he may wear? The potential crop producing capacity of a given area is dependent mainly on the existing climatic and soil conditions.

The climate of the Solapur district is on the whole agreeable and characterised by general dryness is the major part of the year climatically there are three season in the district namely summer, rainy and winter. The summer season starts from March to May, rainy season from June to October and the winter season from November to the end of the February. Generally climate is dry and healthy during the winter and tends to become chilly during rainy season. Particularly in winter it is refreshing with bright sunshine. In the summer season the dust storm and hot winds are experienced. The temperature also rises up to 45°C.

2.5.1 Temperature:

Without suitable temperature conditions germination of seeds and growth of plants are retarded. The temperature regulates all the chemical and physical processes of plant metabolism. The metabolic processes begin at a certain minimum temperature and increase with rise of temperature until they reach a maximum at a temperature called the optimum. Further, with rise in the temperature above the optimum level the metabolic activity is showed down until is ceases at a temperature called the maximum. Each species has its own minimum and maximum beyond which its life activity ceases. Each crop plant needs a certain number of effective heat units for germination, growth, stalking maturity and ripening. This is called the thermal constant and varies from crop to crop. The temperature above the minimum is, therefore, effective in furthering the growth of a plant towards maturity and ripening. The crucial air temperature is 16°C at which plant grow. Ideal temperature conditions for crop production are between 18.3°C and 23.9°C.
Table 2.1: Maximum and Minimum Temperature in °C in Solapur district

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Month</th>
<th>Solapur</th>
<th>Maximum Temperature</th>
<th>Minimum Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>January</td>
<td>30.4</td>
<td></td>
<td>15.3</td>
</tr>
<tr>
<td>2.</td>
<td>February</td>
<td>33.2</td>
<td></td>
<td>17.1</td>
</tr>
<tr>
<td>3.</td>
<td>March</td>
<td>36.8</td>
<td></td>
<td>20.8</td>
</tr>
<tr>
<td>4.</td>
<td>April</td>
<td>39.3</td>
<td></td>
<td>24.2</td>
</tr>
<tr>
<td>5.</td>
<td>May</td>
<td>39.9</td>
<td></td>
<td>25.1</td>
</tr>
<tr>
<td>6.</td>
<td>June</td>
<td>34.7</td>
<td></td>
<td>23.3</td>
</tr>
<tr>
<td>7.</td>
<td>July</td>
<td>31.3</td>
<td></td>
<td>22.3</td>
</tr>
<tr>
<td>8.</td>
<td>August</td>
<td>31.2</td>
<td></td>
<td>21.8</td>
</tr>
<tr>
<td>9.</td>
<td>Sept.</td>
<td>31.1</td>
<td></td>
<td>21.6</td>
</tr>
<tr>
<td>10.</td>
<td>October</td>
<td>32.1</td>
<td></td>
<td>20.4</td>
</tr>
<tr>
<td>11.</td>
<td>November</td>
<td>30.4</td>
<td></td>
<td>17.2</td>
</tr>
<tr>
<td>12.</td>
<td>December</td>
<td>29.3</td>
<td></td>
<td>14.8</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>33.3</td>
<td></td>
<td>20.3</td>
</tr>
</tbody>
</table>

(Source: Gazetteer of India, Maharashtra State, Solapur District P. 32)

The temperature of the Solapur district recorded by two meteorological observatories. One is at Solapur and second is at Jeur. The data of Solapur station is available for a longer period. The records of both the observatories may be taken as fairly representative of the meteorological conditions in the district in general. Generally, the temperature of the district is moderate and even except the hot months is March, April and May. The highest temperature is experienced in May and lowest in December. Mean daily maximum temperature is 39.9°C in May and mean daily minimum temperature is 14.8°C in December.

Winter season starts by the end of November, when temperature, especially night temperature begins to fall rapidly. December is the coldest
month with mean daily maximum temperature at Solapur centre is 29.39°C and mean daily minimum temperature records 14.8°C at Solapur centre. The period from middle February to the end of May is one of the continuous increase of temperature. May is the hottest month with the mean daily maximum temperature 39.9°C and mean daily minimum temperature 25.1°C. The heat during the summer season is intense and maximum temperature may sometimes go up to about 44°C.

2.5.2 Rainfall:

Rainfall is the dominant single weather element influencing the intensity and location of farming system and the farmers choice of enterprises. It is also becomes a climatic hazard to farming when it is characterised with scantiness, concentration intensity, variability and unreliability. The entire district falls in rain shadow area. The monsoon period in Solapur district covers the period from mid-June to end of September. The rainfall throughout the district is scanty and annual average is 577mm. for the district. The average rainfall is received from south-west as well as north-east monsoon. The paucity of total amount of rainfall and large variations both in extent and the distribution in different years makes the agriculture almost a gamble on the rains. In the district quite a major part is received during the four months and district receives a fall between 500 mm. and 700 mm. Entire rain (95%) is due to the south-west monsoon winds. The south-west monsoon commences by about the first week of June and the rains continue till about the beginning of October. Heaviest rain of the year usually occurs in July.

The records of the rainfall in the district are available for the period ranging from 1980 to 2000. The details of the mean annual rainfall and coefficient of rainfall variability from 1980 to 2000 are given in the Table 2.2.

| Table 2.2: Mean Annual Rainfall and Co-efficient of rainfall variation in Solapur district (2000-2011) |
Table 2.2 indicates that below 500 mm, there is mean annual rainfall recorded in Malshiras tahsil, whereas 500 mm to 600 mm mean annual rainfall was recorded in North Solapur, South Solapur, Akkalkot, Pandharpur, Sangola, Madha, Mohol, and Karmala tahsils from 2000 to 2010. Above 600 mm mean annual rainfall was observed in Barshi and Mangalwedha tahsils during the period of investigation.

The co-efficient of rainfall variability is calculated by the following formula:

Coefficient of rainfall variability = $\frac{S}{X} \times 100$

Where, $S$ = The Standard Deviation

$X$ = The arithmetic mean of rainfall during 11 years.

It is known from the table 2.2 that the variability of rainfall in the Solapur district ranges between 18.56% to 46.48% in Akkalkot tahsil and Malshiras tahsil respectively. In North Solapur, South Solapur and Akkalkot tahsils, rainfall variability is below 20%. About 20% to 30% rainfall

![Table 2.2: Geographical Setting of Study Area](image-url)
variability was noticed in Barshi, Pandharpur, Mangalwedha, Sangola, Madha and Mohal tahsils. Above 30% rainfall variability was experienced in Malshiras and Karmala tahsils during the period of the investigation.

2.5.3 Humidity:

According to Maharashtra Irrigation Commission report of 1961 the humidity is high during rainy season in this district. In general, the humidity is less in this district as compared to the other districts of Poona division with a high altitude and situated too far away from the sea. Relative humidity is about 60% to 65% in the monsoon period. In summer season, relative humidity is about 20% to 25% at the time of evening. From November to mid of the April the sky is clear over the entire district. In winter season relative humidity is about 30% to 35% in the district.

2.5.4 Winds:

Winds are moderate from May to August. In the monsoon season south-west monsoon winds comes from south-west and provides the rainfall to the various parts of the district. Sometime thunderstorms occur in April and May and just before the onset of the monsoon.

Sunshine is another relevant climatic consideration in crop growth. On the whole is adequate warmth and bright sunshine almost throughout the year to provide ripening conditions for food and other crops.

2.6 Drainage System:

Drainage system is an important part of Geography that affects health system as well. It plays an important role in the distribution of the water borne diseases in a region; however, they contain suspended material, consisting of mechanical, harmful more ever that might cause number of diseases. The surface outwash commonly ends in rivers due to that the river water might be contaminated by the disease vectors of land origin. The water borne diseases consists of Cholera, Dysentery and Diarrhea etc. The animal
diseases including anthrax, hog cholera, bovine tuberculosis and tapeworms occurs due to polluted rivers. The role of rivers in the spread of disease is important. Therefore, the deep study of drainage system is necessary.

Solapur district is drained by five major rivers viz. Bhima, Nira, Sina, Man and Bhogawati. During the rains all these rivers flows full and strong with occasional floods. But after the rains, they rapidly dwindle and in the hot summer season and pools remains only in the deeper hollows, with an occasional flow in the parts between. These rivers play important role in supplying water for drinking, agriculture and industrial purposes. The entire district is drained by the Bhima River.

2.6.1 River Bhima:

The river Bhima is Major River in the district and locally it is called ‘Chandrabhaga’ due to its present shape near holy place Pandharapur. The Bhima is main tributary of Krishna River; she rises at Bhimashankar in Sahyadri Mountain in the Pune district. First she flows towards east and then southeast direction in Pune districts and enters in Solapur district near Jinti village in the Karmala tahasil. & flows to south-east direction. Total length of her course in the district is 288 km. The Nira, Man and Sina are the main tributaries of Bhima. Hence the Bhima valley drains most of part of the district & then meets to Krishna in Karnataka state.

2.6.2 River Nira:

Nira is the third important river of the Solapur district. It is the right bank tributary of the Bhima river. It's source is in the Bhor tahsil of the Pune district. It flows north-east through Pune district and enters the Solapur district near Akluj village of Malshiras tahsil. It runs only 48 kms. in Solapur district across Malshiras tahsil and it joins to the Bhima river near the village Sangam on the border of the Malshiras tahsil.
2.6.3 River Man:

Man river is also a tributary of Bhima river. It originates in Man tahsil of Satara district and enters in the Solapur district in the northern part of Sangola tahsil and flows eastward draining Sangola tahsil and part of Pandharpur and Mangalweda tahsils. It drains for 80 kms. stretch of Solapur district. The river joins the Bhima river at Sarkoli village of Pandharpur tahsil.

2.6.4 River Sina:

Sina is another river, which flows towards south-east in the district. This river originates from Torna' village in Ahmednagar district and enters the Solapur district near Aljapur village of the Karmala tahsil. It has 180 kms. course in the Solapur district. It flows through Karmala, Madha, Mohol and South Solapur tahsils of the Solapur district. This river meets to Bhima river near Kural village near Solapur.

2.6.5 River Bhogawati:

Bhogawati is the fifth major river of the Solapur district. It originate in the Ramling hilly portion of the Barshi tahsil. Particularly it drains south-eastern part of the Solapur district. It runs for 64 kms. in Barshi and Mohol tahsil of the Solapur district and meets to Sina river near Mohol.

2.6.6 River Bori:

The Bhima river drains the central parts of the district comprising greater part of Karmala, Madha, Malshiras, Pandharpur, Mangalwedha, Mohol and Solapur tahsils. It enters the district near the village Jinti in Karmala tahsil and flows in a south-easterly direction, to leave the district and enter into Bijapur near the village Hilli in Akkalkot tahsil.
The river has an overall length of 289 km. within the limits of the district. For a winding length of about 110 km. The river separates Karmala
on the left from Indapur in Pune district on the right for about 10 km. It separates Madha on the left from Malshiras on the right for about 34 km. It separates Pandharpur on the left from Malshiras on the right for about 65 km. It passes through Pandharpur and for about 65 km. It separates Solapur and Akkalkot on the left from Bijapur on the right. The course of the river throughout the district is winding, with a general southeasterly direction.

2.7 Soil:

The geographical foundation of soil prevailing in Solapur district is mainly of Deccan trap of volcanic origin. The soil is undertaken by partially decomposed basalitic rock, locally known a 'Murum' which overlies parent material. On account of more or less complete absence of leading the soils are base saturated, the exchangeable calcium being the predominant climate. The lime reserve is fairly high (3.5% to 10%). The soils exhibit varying degrees of erosion and truncated profile is a common occurrence. The soils in the district can be classified into four categories on the basis of depth and structure namely;

a) Very shallow soils with depth below 7.5 cm.
b) Shallow soils between 7.5 to 22.5 cm.
c) Medium deep soils between 22.5 to 90 cm.
d) Deep soils with depth more than 90 cm.

It is broadly estimated that out of the total cultivated area very shallow soils occupy about 10%, shallow soils 20%, medium deep soils 45% and deep soils 25% area

Deep black and alluvial soils are found in the river valleys of Bhima, Nira, Man and Bhogavati. In Karmala tahsil about 50% soil is black and the remaining is red and light. The medium black soils are more clayey in
texture. The lime nodules are seen mixed up in these medium soils. They also track heavily depending upon the depth and clay contents. These soils are quite fertile and produce excellent crops. Soils in Mangalweda tahsil and part of south Solapur tashils are deep black however, some small tracts of fairly black clayed soil of fair depth are found along the banks of the river and in low-lying portion of the district (Figure 2.4).

The soil is generally light and moderate depth in North Solapur tahsil. Deep black soil of rich quality is however, between Sina and Bhima. In Pandharpur tahsil the soil is generally poor and capable of producing mostly Jowar, Bajara and Kardai. But along the Bhima river soil is better in Pandharpur tahsil. The soil of Sangola tahsil is poor and shallow. There are some patches of black soils in Sangola tahsil.

Barshi tahsil has the best soil in the district. In this tahsil the richest land is found at the bottom of the slopes. The soil is generally black and fertile. The soil of Malshiras tahsil is in general shallow and light in colour and retentive of moisture. Moreover, some part like Natepute, Malshiras, Piliv, Chandapuri, Salmukh, Mandaki, Bhalvani, Maloli etc. have poor quality murum soil. However, fertile black soil of sufficient depth is found in the numerous valleys of Nira and Bhima in Malshiras tahsil.

Larger portion of Madha tahsil has generally shallow soil with varying depth and quality soils in the villages along the bank of the Sina in Madha tahsil are mostly black and of great depth and excellent quality. In Akkalkot tahsil soil is rich in the vicinity of the rivers Bhima and Sina. In other part soil is medium but it is fertile.
2.8 Natural plantation:

Another important factor, which has impact on medical facilities in Solapur district, is natural plantation.

Natural plantation is important from the view point of rainfall distribution and the fertility of the soil. It also checks the soil erosion to the greater extent. It also keeps the environmental balance. It is also important for the protection of wild animals. Forests also provides wood for forest based industries. Fresh air and atmosphere is necessary for good health. Plants make the balance of physical structure on the Earth.

The district has a limited area under forest. There are a few scrubs and scanty forest with patches in Barshi and Malshiras tahsils. Only dry thorny, dry deciduous and common scrubs types of vegetation have spread in the district. The vegetation do not carry much importance from the view point of economic development.

Many positive correlations have been observed while studying the effect of cultural factors on the health of human being including migration that affects on the available medical facilities in the study area. The study reveals that the health of people is influenced by physiography, drainage and climate. The major climatic factors; Altitude, temperature and amount of rainfall determine the health of a community. Physiography determines the distribution of diseases in the area. The effect of altitude on the spread of vectors of the disease has certainly proved it correlation. Higher altitudes have low death rates and low lands have higher death rates. In low land areas of rivers waterborne diseases have common. While studying correlation between temperature, rainfall and deaths it has been observed that maximum deaths are occurring during rainy season. Maximum deaths occur in the month of August and September.
Summary

In this chapter geographical setting of Solapur district was studied. Solapur district is located between 17°10’ north to 18°22’ north latitudes and 74°42’ east to 76°15’ east longitudes. The area of Solapur district is 14844.6 sq. kms. and its proportion as compared with the Maharashtra state area is 4.82%. There are eleven tahsils in the district: North Solapur, South Solapur, Mohol, Madha, Pandharpur, Malshiras, Karmala, Barshi, Sangola, Mangalweda and Akkalkot. The climate of the Solapur district is on the whole agreeable and characterised by general dryness. The temperature rises up to 45° C. The rainfall throughout the district is scanty and annual average is 577 mm. for the district. Solapur district is drained by five major rivers viz. Bhima, Nira, Sina, Man and Bhogawati. The soils in the district can be classified into four categories on the basis of depth and structure namely; very shallow soils with depth below 7.5 cm., shallow soils between 7.5 to 22.5 cm, medium deep soils between 22.5 to 90 cm, and deep soils with depth more than 90 cm. It is broadly estimated that out of the total cultivated area very shallow soils occupy about 10%, shallow soils 20%, medium deep soils 45% and deep soils 25% area.
References


2. Wisher (1932): 'Special Field of Geography


