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CHAPTER VIII
LEVELS OF DISPARITIES AND STRATEGY FOR DEVELOPMENT

8.1. INTRODUCTION:

It is recognized that the planning for the economic development in order to remove disparities for different region within the region understudy, it should have a conscious perspective. In fact, the regional plan should also be prepared on the basis of regional perspective. Thus, the aggregate as well as sectored planning should suit, regional needs, potentials, priorities off course within the general constraint of national objectives and priorities. Such a plan based on regional requirement directly benefits. Such a plan based on regional requirement directly benefits the local people, and stimulates local participation. Thus, an ideal plan strategy is one that integrates the sectoral plan to spatial plans.

The study aims to identify the following points,

1) Identification of developed regions according to levels of development.

2) To understand the dimension and typology of backwardness and development,

3) To understand varied causes of differential levels of development.

The study is intended to help the policy maker and regional planner to draw different development strategies to suit the requirements of various types of region identify in the region under consideration. To evolve a plan strategy or to draw a regional plan is not the purpose because it falls outside the preview of this study.

The change, either positive or negative directions, provides an understanding of the region to consider for socio-economic planning.
With the help of change in the socio-economic conditions, one may diagnose the region for planning. The terms such as development, progress, growth, change, and deterioration, all are associated with the existing conditions of a region. It is necessary to make clear, at the very outset, the differences between development and deterioration, on the one hand, and between growth and progress on the other. The term change, often is used for both positive as well as in negative sense, Here, we are concerned to understand various aspects associated with socio-economic conditions of the Solapur district and to find out the levels of different regions within the district at tahsil levels and to diagnose these regions with the help of certain indices for the planning to uplift such regions, which are socially and economically lag behind. It is in fact, natural phenomena that all the regions on the earth are not equally endowed with the natural resources. Some regions are fortunate to have favorable natural conditions, while others, at the same time do not have.

The disparities and imbalances in natural conditions in terms of terrain, climate such as temperature, rainfall, soil types, drainage, forest cover, minerals transport and communication net work etc lead to imbalance socio-economic development. Even a small micro level region like Solapur district does not have homogeneous social and economic development. There are some areas which are better developed due to favorable natural conditions, while others are socially and economically much backward. The purpose of this study is to remove the disparities and inequalities between the developed and backward regions. Within the region under study a broader perspective should be adopted by the people, to have equal and same look in terms of liking and disliking for the others. In Indian context there is saying in Sanskrit “SARVEY
SU Khina Bhawantí" meaning all should live happily on the earth. This gives a great message, if applied by all, than the earth, may become a place like paradise, where there is no deficiency of anything but all the necessary things are in abundance. The purpose of regional planning is to make the region self supporting and socially and economically well developed. There should be no gap between rich and poor, educated and non educated and among the different groups of the people and society in different regions.

In order to bring out, the region under study from the various kind of disparities and imbalances regional development, an attempt has been made here to find of out different levels of socio-economic development within the Solapur district. The term development is a multidimensional perceived, in different ways by the different people. The development of region may be understood by different ways, particularly in terms of time and space. For example the measurement of changes in the spatial development between the two given point of time and secondly the present conditions and pattern of any phenomena.

The regional planners and policy makers take into consideration, the diagnostic plan on priority basis to eliminate the regional imbalances and disparities to make the region socially and economically balanced. The present study is based on the changes in the levels of socio-economic development during the last few decades. The distribution of functional gravity of socio-economic facilities is considered for the year 2001. There are numbers of socio-economic facilities, such as levels of agriculture development, various industries, such as large medium and small scale. Industrial levels of development, levels of development for socio-economic facilities and population characteristics such as levels of
growth, distribution and compositions have been considered for the working out levels of development.

**Development Levels by Rate of Change:**

Many times the areal variations among the components, the areal unit affects the distributional pattern of development parameters which do not provide realistic and authentic results of the socio-economic development. In order to overcome this problem, the percentage changes have been used in the present analyses. However, the method of percentage change in many cases, provide leading results as an equal extent of percentage change between the two given points of time. It becomes, rather difficult for planners to understand precisely to implement the functional quantities between spatial units. In order to avoid this problem, care should be taken by adopting other method for recognition of the specific region for planning. Therefore, to insure the better results for determining the levels of development through the rate of change in percentage or desirable proportion, an attempt has been made here to device development index. Consequently, both the methods have been employed in explaining the levels of development in the Solapur district. On the basis of these indices the diagnostic process is selected for the implementation of certain policies by the planners.

**8.2. COMPUTATION OF INDEX FOR THE DEVELOPMENT**

There are different aspects, which have been considered for the analyses, in order to find out the levels of development within the district of Solapur. The important points for the socio-economic planning are as given under:
The first chapter is associated with the introduction of the problem with certain hypotheses objectives and methodology. Some backgrounds like physical, social, political are discussed in the second chapter, the physical background deals with the variation in physiographic and relief structure particularly in terms of plain, Plateau and hilly regions. It is also concerned with the variations in climatic conditions like variations in temperature, rainfall and humidity. The planning for these natural aspects is not the primary concern of the researchers, to bring out the stage of equilibrium in terms of relief and climate conditions, at macro meso and micro levels. But, for a very micro level areas or regions, the planners are engaged to level down the land, for example to make buildings and set up industries. This study is concerned with the disparities in the levels of economic development for Solapur district.

In addition to this, the study of population growth density and composition has also been studied in third chapter in order to find out the regions of high growth rate of population, medium and low growth of population. It also deals with density high, medium and low density of population. Literacy pattern and occupational structure have been taken in to consideration for the social and economic development purposes.

The fourth unit is concerned with the land use pattern and agricultural development. The levels of agriculture development have been identified for different tahsils of the district, with the help of certain technique adopted.

Similarly, the fifth unit is associated with the industrial development in Solapur district it has also been carried out in depth and changes have also been traced out during the last few decades. In order to
recognize the region for the industrial development have also been recognized by adopting certain techniques.

The medical facilities and education facilities have been analyzed in the sixth chapter and their availability and deficit requirement is assessed. The education facilities have been studied in depth as well.

The transport and communication facilities make the subject of seventh chapter. Various aspects of road length railways, post offices, bank facilities along with market facilities have been considered in this section.

All these aspects make up the subject matter of social and economic aspects in Solapur district. As a matter of fact, every aspect needs to identify the degree of vulnerability, in order to boost that particular aspect for the development. There are many techniques and approaches through which the region may be identified for the social and economic development. For computing the development index, the composite score of medium threshold values for the indices of socio-economic facilities, have been considered for the functional gravity to planning. The method of computation of the development index for the region under study has been explained in the following manners.

i. Firstly, taking into consideration, the actual functional gravity of given each component of areal unit for the two different periods as gravity one and gravity two respectively. Their difference is calculated considering it as absolute change in functional gravity of the concerned areal unit.

ii. Taking into consideration the computed value of the absolute change in the gravity of the given a real unit for the given
component meant for the given duration, its percentage is calculated.

iii. In the next steps the mid-ideal functional gravity of the given component areal unit is worked out. A particular region, if consists of all the facilities taken in to account, their absolute composite score, is taken as the gross ideal functional gravity for that particular region. The half of this gross ideal functional gravity has been considered, the mid-ideal functional gravity. For an ideal region, because if entire region attained, the medium state of the gross ideal functional gravity, hence, the functional structure of the region would represent a pattern of optimal spatial organization, which is ideal for the planning for development.

iv. On the basis of computed composite score of medium threshold values of indices of all the given socio-economic facilities in the region under study. For instance, if the gross ideal functional gravity for the Solapur district in the year 2001, is found to be 500 than the mid-ideal functional gravity may be taken 250.00, thus, multiplying this value of mid ideal functional gravity, with the total number of areal sub units of given component areas unit, and its mid-ideal functional gravity may be calculated conveniently.

v. Now, dividing the computed value of the mid-ideal functional gravity of the given component areal unit, by its value absolute change of the given time period, and thus relative change in the functional mass of the areal unit for the considered period may be determined.
Finally, by dividing the computed value of the percentage change in the functional gravity of the given a real unit, within two given points of time, by its relative change, the result obtained is the value of the development index. This is meant for determining the state of change in the functional gravity of a given region as for a component areal unit.

Thus, on the basis of the above theoretical explanation, the district under a study may be evaluated for the socio-economic planning. On the basis of computed values, the poor, vulnerable and deficit region may be identified and necessary, steps may be taken by the planners to uplift the region concerned.

### 8.3. LEVELS OF AGRICULTURAL PRODUCTIVITY INDICES:

In order to find out the levels of agricultural development within the different parts of Solapur district, the important crops grown in the region have been selected. Wheat, Jawar, Bajara, pulses, Tur, Gram, Sugar cane, Cotton and Groundnut are the important crops grown in the district. Sugar cane and Jawar account for more than 50 percent total cultivated area of the region. Jawar is grown in both rabi and kharip season, in the region. Wheat is more common in dry areas, where as sugar cane is principal crop in irrigated part of region. The productivity of various crops has changed in response to many technological developments in the field of agricultural during the last few decades. The adaptation of hybrid seeds, fertilizers and irrigations through mechanization, has resulted in to increase of crop production
and diversifying the production pattern. Thus, all these factors in fact, have changed the agricultural productions. (Table 8.1)

For the regions under study, the levels of productivity for important crop have been found out for different tahsils in Solapur.

**Table 8.1**

Yield per hectare of important crops in Solapur district

<table>
<thead>
<tr>
<th>Crops</th>
<th>Yield per hectare in Kg.</th>
<th>Production in ‘00’ tones</th>
<th>1981-2001 Change in Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jawar</td>
<td>349</td>
<td>443</td>
<td>449</td>
</tr>
<tr>
<td>Bajara</td>
<td>282</td>
<td>383</td>
<td>415</td>
</tr>
<tr>
<td>Wheat</td>
<td>942</td>
<td>1083</td>
<td>1100</td>
</tr>
<tr>
<td>Tur</td>
<td>199</td>
<td>243</td>
<td>387</td>
</tr>
<tr>
<td>Gram</td>
<td>355</td>
<td>497</td>
<td>564</td>
</tr>
<tr>
<td>Groundnut</td>
<td>915</td>
<td>1688</td>
<td>932</td>
</tr>
</tbody>
</table>

**Source:** Socio-economic Abstract of Solapur district (1980-2001)

The productivity levels of different groups do not give the average picture of agricultural productivity hence, the over all levels of productivity are attempted by applying standard quantitative method as mentioned below.

Identification and delineation of various area of agricultural productivity have been attempted by many scholars by using various techniques. In the present investigation two important methods such as Kendal’s ranking efficient method, and Yield index methods have been used for the measurement of agricultural productivity.
8.3.1. Measurement of the Levels of Productivity By Kendal's Ranking co-efficient method.

Here, the Kendal's ranking co-efficient method (1968), is used while applying this technique, six major crops grown in all the tahsils of the district are selected. The crops have ranked in order to their yield per unit area. Then the arithmetic mean of these ranks is obtained which Kendal's, called as ranking co-efficient and the same is represented cartographically. Lower the co-efficient value, higher is the productivity level of agriculture.

Results and discussion:

Three areas of agricultural productivity have been identified as follows:

I. Areas of high productivity
II. Areas of Moderate Productivity
III. Areas of low productivity

I. Areas of high Productivity

This category is confined largely to northern and eastern part of Solapur district comprising the tahsils of South Solapur, North Solapur, Mohol, Barshi, and Karmala. The rivers in this area provide water for irrigation in Rabi season. The river basins have fertile soils and many farmers in this area are adopting new inputs in agriculture by using fertilizers, machinery, improved seeds etc. All the favorable factors and human efforts have resulted in to the high agricultural productivity in the region of Solapur district.
II. Areas of Moderate Productivity

This category of productivity covers four tahsils. The co-efficient value in this area ranges from 5.5 to 6.5. Akkalkot tahsil is quite famous for pulses cultivation. Other tahsils like Sangola, Pandharpur, Malshiras have fertile soil but scarcity of water for irrigation and high variability of rainfall have resulted in to moderate agricultural productivity.

III. Areas of Low Productivity:

The low productivity areas cover two tahsils, where the co-efficient value is above 6.5. The high variability of rainfall and low intensity of irrigation have led to low agricultural productivity in dry areas of the district.

8.3.2. Measurement of Productivity By Yield Index Method:

The regional imbalance in agricultural productivity of Solapur district is measured by using index method. While applying this method, the six important crops grown in most of the tahsils are selected. The yield index of each crop is calculated by equation given below:

\[
\text{Yield of crop} = \frac{\text{Yield of crop ‘a’ in the areal unit}}{\text{Yield of crop ‘a’ in the region}} \times 100
\]

Then the composite yield index was obtained for each tahsil and the same is represented cartographically on the map of Solapur district.

Results and discussions:

Three categories are obtained such as

i. Areas of high productivity

ii. Areas moderate productivity

iii. Areas of low productivity
i. Areas of high Productivity:

It is mainly confined to the central and eastern part of district excluding south Solapur tahsil. Thus, the tahsils of Mohol, Karmala and North Solapur recorded high productivity.

ii. Areas of Moderate Productivity:

This category of productivity is mainly observed in western part of Solapur district except Karmala. The rainfall is low in Sangola tahsil and hence, irrigation facilities are not much developed. The average yield of crop is low. Kharif crops are dependent on monsoon and Rabi crops are grown only where water is available for irrigation.

iii. Areas of low productivity:

In the central part of Solapur district low production is recorded. These parts consist of Madha, Pandharpur, Mangalwedha and Akkalkot tahsils. Hence, the yield of crops is very low. The irrigation facilities are not developed. Agricultural implements are old and traditional. Rainfall is uncertain, thus, the combined effect of all these factors leads to the low agricultural productivity.

On the basis of results obtained by the Kendal's and yield index methods, three areas of the agricultural productivity have been identified for different tahsils of the district, which have been represented through charopleth maps in the chapter three. It may be concluded that for the regional planning, the areas of low agricultural productivity may be given some priority in terms of fertilizers, high yield variety seed and increase in irrigational facilities by the state Government in order to enhance the levels of agricultural development through the implementation of mechanization. Similarly, the moderate productivity area should be given due attention to enhance the levels of agricultural development. On the
contrary areas, of high-agricultural productivity should not be neglected by the farmers and their levels should be retained for the future generations.

8.4. LEVELS OF INDUSTRIAL DEVELOPMENT:

At present there are more than 70 industrial estates in the state of Maharashtra; out of these four industrial estates are found in Solapur district alone, which are as under:

i. MIDC estate Akkalkot road Solapur city
ii. MIDC estate Chincholi (North Solapur)
iii. MIDC estate Tembhurni (Madha)
iv. MIDC estate Kurduwadi (Madha)

It has been proposed by the state Government recently that, MIDC industrial estates will start functioning, very soon at Karmala, Akluj, Mangalwedha, Pandharpur and Barshi tahsils Headquarters.

Apart from the MIDC areas, there are ten co-operative industrial estates in the district as given bellow:

i. Solapur co-operative industrial estate, Solapur.
ii. Sangola co-operative industrial estate, sangola
iii. Barshi co-operative industrial estate Barshi
iv. Shankarao Mohite patil co-operative industrial estate Akluj.
v. Mangalwedha co-operative industrial estate Mangalwedha.
vi. Santhnath co-operative industrial estate, Vairag
vii. Kamladevi co-operative industrial estate Karmala
viii. Chandra mauli co-operative industrial estate Mohol
ix. Swami Samarth co-operative industrial estate Akkalkot
x. Pandharpur co-operative industrial estate Pandharpur
These industrial estates are distributed in different tahsils of Solapur district, along with four MIDC estates.

The industries have been divided into large and medium scales industries on the one hand, and number of small scale industries on the other. In the classification of industries, seventeen sugar factories distributed all over the district, spinning mills, and textile mills, dairy industries and engineering industries have been included in large and medium scale industries. Before, we expound, to small scale industries and their planning. It will be more appropriate to discuss about for the planning of large medium scale industries.

8.4.1. Planning to solve the problems of sugar factories:

The nature of the problems for individual sugar factory is different; therefore, the problems faced by each factory should be tackled along with the other sugar factories collectively. The most important problems, which are very crucial and genuine, for the planners are taken in to consideration as below:

There are number of problems related with the production of sugarcane. Production of sugar, problem of low prices of sugarcane, problem of bio-products, faulty government policy, environment pollution and skilled labor supply, as well as marketing problem to supply the products. It is better to take these problems one by one, in order to understand the magnitude of the problems at root cause level. Among the various problems, the following important steps should be taken in to consideration for the planning purposes, in order to improve and develop the sugar factories in Solapur district.
i. Problem of bumper sugarcane Production:

In fact, the problem of bumper sugarcane production is not a serious problem because the surplus sugarcane production is not crushed within the time due; hence, surplus sugarcane is sent to other factories away from the catchment area of Solapur district. This kind of problem was faced by the Shankarrao Mohite sugar factory, Sadashiv Nagar, Shreepur and Chandrabhaga in recent past. Most of these factories run for 240 days in the year, even than entire sugarcane coming to these factories used to sent to some other factories of Maharastra. As a matter of fact, these factories are now in position to crush all the sugarcane coming to these factories, because of some additional new units has been started recently in this area. Now a day the bumper production of sugarcane is not a serious problem because of demand by other unit, in the area.

ii. Problem of sugar Production:

There is an imbalance between supply and demand of sugar in the state of Maharashatra. Sometimes, adverse climatic conditions affect the cane production which results in the low production of sugar. Some sugar factories located in Akkalkot, Sangola and Vairag in Barshi tahsil face the problems of low yield of sugarcane, short period of crushing and unsuitable location of industries. The inadequate supply of sugarcane is the root cause of low production of sugar in these industries. There is a need to encourage the farmers to produce enough sugar cane, instead of other corps.
iii. The Problem of low prices of sugarcane:

The problem of low sugarcane prices in certain factories is a very serious and acute because, the universal rate of sugarcane is not given to the farmers as a result of low quality of the sugarcane and off season of crushing the sugarcane. Generally, the factories are working more than half of the year but, sometimes farmers are not able to supply sufficient cane, particularly during the peak period. Therefore, after the peak period same factories like Vitthal co-operative, Shankarrao Mohite sugar factory, give the maximum benefit to farmers. But many other sugar factories give much lower cost of the cane. It is, therefore, necessary to increase the period of crushing for the cane and provide appropriate rate to the farmers.

iv. The Problems of Bi-Products:

The most important aspects of sugar industry is the full utilization of bi-products, special bagasses and molasses. Earlier, there was a very serious problem of bi-products because; bagasse was used as a fuel, while sugar factories did not know what to do with the accumulating molasses which created a very serious environmental problem. In vicinity of sugar factory the bad smell created by molasses was a health hazard for the people. Fortunately, molasses is being used for manufacturing of alcohol and fertilizers. While bagasses used for manufacturing power. Now a days, a number of sugar mills located in close proximity to each other are joining together to utilize bi-products fully and effectively. In this way, they are bringing down cost of sugar production which often helps to raise the economy of the factory.
v. Problems of Supply of skilled and chief Labor:

The role of chief and skilled labor is very important in the sugar factory. It the labor available in the area of the sugar factory is skilled and chief than the production of the sugar may be raised and the raw material is fully consumed on time. The mismanagement is in fact, caused by the unskilled labor who adversely affect sugar production.

vi. Marketing Problems:

The mismanagement of the marketing system also sometimes create a very serious problem because, abundant stores, of sugar is not supplied properly to needy people. As a result, it has been observed that certain elements, who are the greatest enemy of society for their self interest to gain trifling profit, play a very tricky role, and consequently, collapse the system of supply for sugarcane to the required area. It has been observed that millions of tons of sugar are turned into waste or naught. This should be checked and proper marketing system should be applied.

vii) Faulty Government Policies:

Government policies also play a very significant role in controlling the sugar prices. The central government and state government should take such collective decision, so that the sugar prices should be kept at reasonable rate. Most of the sugar factories are in fact, under the control of government. But some faulty government policies give a net loss to the masses of the farmers. They suffer some times, to purchase the same product at higher cost while selling the same cane at lower cost. This system is not in the interest of the industry as well. It is, therefore,
necessary to fix a reasonable price of sugarcane so that farmer should get maximum benefit. There is urgent need to improve the government's faulty policies, in order to eradicate manifolds problems from the country.

8.4.2. Development Planning for the Spinning Mills:

Spinning mills, locality known as Soot Girni. In the entire district of Solapur, there are ten co-operative spinning mills and eleven private Soot Girnis. Out of these, number of co-operative spinning mills not working properly, because of social, economic and physical problems faced by the spinning mills. From the detail study of spinning mills in the chapter four, it reveals that there are number of sick spinning mills in Solapur district, distributed in to different tahsils, therefore, urgent need to improve the various kinds of problems faced by these spinning mills. Government should also give attention to flourish and run efficiently these industries; following are the important problems of spinning mills, which should be taken into consideration by the Government and mill administrators.

i. Lack of cotton from the local areas as a raw material
ii. Lack of skilled workers and labors
iii. Irregular supply of electricity.
iv. High rate of electricity charges per unit.
v. Shortage of working capital.
vi. Lack of technical knowledge.
vii. Low market prices of products.
viii. Lack of markets demands of the products.
ix. Poor development of transport network.
x. Changing pattern of clothes, due to new innovation.
All these points' mentioned above should be taken in to consideration in such a way, that the spinning mills should be improved and in near future their production may be raised by proper planning.

8.4.3. Development Planning for Edible Oil and Fat Industries:

Refined, edible oil and fat industries are agro based industries, and there are three units, which are located in MIDC areas at Chincholi of Solapur district. From the study it has been reveals that there is need to plan this industry particularly on the points in which these units suffer particularly with the problems as stated below.

i. Lack of raw material locally produced.
ii. Mismanagement in marketing system.
iii. Irregular supply of electricity and heavy charges per unit.
iv. Low market price for final product.

8.4.4. Development Planning for dairy Industries:

Dairy industry also based on agro industries, and it plays an important role in the economy of a region. It is based on milk producing cattle. It has great potentiality for the development of dairy industry. There are seven important mill chilling plants in Solapur district. There is need to improve the following problems faced by these dairy plants. Among the various problems faced by these industries, following are the important:

i. Shortage of fodder during the summer season, due to shortage of water supply.
ii. Irregular supply of electricity in rainy and summer season, for chilling purpose.
iii. Problems of skilled workers and labor.
iv. Problems of low wages for the worker.
v. Lack of co-ordination between the various mill supply centres.
vi. Lack of co-ordination in the direction by the political parties.

Apart from this, there are, number of problems of milk centres found in different dairies catchment area, every year due to variations in climatic conditions, supply and demand of milk in the market and the product are sometimes are not consumed properly. Hence, following are the important problems and should be tackled intelligently.

i. Shortage milk supply in summer.
ii. Problems of perishable milk due to irregular supply of electricity.
iii. Problems of transportation network.
iv. Lack of refrigerators vehicles,
v. Lack of co-ordination among the director.

8.4.5. Development Planning for Engineering Industries:

At present, there are eighty engineering units in Solapur district. These are located in vicinity of Solapur city particularly located in Chincholi MIDC area and Akkalkot road MIDC area. There are number of problems faced by the engineering industries in the region under study. The important problems are:

i. Lack of skilled labor supply.
ii. Lack of raw material supply.
iii. Marketing problems.
iv. Irregular supply of electricity.
v. Low capital investments.
vi. Unfavorable Government policy.
vii. High transportation cost.
Hence, this industry has a bright scope in future, provided there should be given due attention by both Government and entrepreneurs.

8.4.6. Development Planning for Small Scale Industries:

The small scale industry is Solapur district has also been studied in detail temporally and spatially. The important industries are included, such as Dal, Oil mills, food production industries, textile mills, industries and electronic and electrical industries.

For the purpose of planning, to identify the industries numbers per hundred square kilometer area and per thousands population are two indices to diagnose the weak and unfavorable component to improve upon.

For regional planning the spatial and temporal variations, sometimes, do not give realistic picture of the number of units for small scale industries. The magnitude of the intensity for the demand and supply of goods cannot be found out correctly, because ratio between population and area which is known as density. Many times, it misleads the planner for socio-economic development, therefore a more realistic attempt has been made to understand the problems of the small scale industries per hundred square kilometer areas, as well as number of industries for ten thousand population in Solapur district, for the year 1981 and 2001.

In the year 1981, the number of small industrial units per hundred square kilometer area was computed to be 14.21 for the region under study as whole. The highest number of small scale units per hundred square kilometer area was found of 182 in North Solapur tahsil and below two was recorded for Madha and Karmala. In the year 2001, the number increased to almost 800 for North Solapur, while 12 for Karmala and
Madha tahsils. This clearly shows that the industrially poor region should be given much priority for development, though proper planning.

Number of small scale unit per 10000 populations, was highest for the North Solapur and lowest for Madha tahsil during the period under study. It means that where the numbers of industrial units per thousand populations are better developed than the area having less number of industrial units. It may be stated that higher the number of industrial unit per ten thousand population or per hundred square kilometer area are better industrially developed region on the one hand and lower number of industrial unit are relatively economically and industrially backward region. This shows that number of industrial unit in relation to area and population is an index of socio-economic development, which in turn is reflected in the overall development of that region.

The combinations of industrial regions have been calculated by Doi’s method and concentration and diversification of industries in Solapur district have been highly useful for the planners to established industries in the required area.

8.5. LEVELS OF DEVELOPMENT AND POPULATION CHARACTERISTICS:

In development planning, the population characteristics, such as growth, density and sex structure, literacy and occupational structure play a very important role in the socio-economic development of a region.

The areas of high growth rate should be check immediately, in order to check the high growth of population. The spatial patterns of growth rate of different tahsil have been grouped in areas of high population growth rate, areas of medium growth of population and third areas of low population growth. Birth rates and death rates both for urban
and rural areas should be brought under control by different family planning programs. At the same time infant mortality rate particularly for female should be controlled through equal preference for male and female children.

The density and distribution of population also play a very significant role in the socio-economic planning of a region. The areas of high density must be given due attention by the government in order to facilitated, necessary amenities to remove the scarcity and pressure of population. Physiological, density agricultural density, critical density and economic density are highly useful for the socio-economic planning for the district. Because the values computed for these densities areas relevant to understand, the man land ratio.

Percentage of area and population and its cumulative percentage have been represented by Lorenz curve to bring out the relationship between the percentage of area and percentage of population in the region under study. North Solapur tahsil have 25 percent population in only five percent area of district. Areas as per village, number of villages, per 100 square kilometer and population per village in tahsils of the district have been calculated to determine the indices for the socio-economic planning, according to their values calculated.

The age and sex compositions are the basic characteristics which play role in the growth of population and in occupational structure. Hence, age and sex ratio's are indices of socio-economic conditions, revealing in an area and useful tool for regional analysis for planning. Because age and sex also influence the volume and nature of social need and employment consumption pattern. The dependency burden has been calculated for the different areas of the district to understand the burden
on the society. Sex ratios some time also create a social problems likes social melodies like prostitution in the areas of extremely low sex ratio. Hence, effort should be make to make balanced sex ratio in the region under study.

The occupational structure and literacy pattern also influence the socio-economic planning of a region. The occupational structure is divided in to nine industrial categories and there are three major categories of these namely- primary, secondary and tertiary workers. The various workers for the last four decade have given an understanding that the proportion of secondary and tertiary sectors should be enhanced by creating appropriate means in region under study. At the same time, literacy rate should be enhanced by creating technical, professional and higher institutions within different parts of the district, which will enable the region for overall development of the society in Solapur district.

8.6. DISPARITIES IN SOCIO-ECONOMIC DEVELOPMENT AND FACILITIES:

The level of development of socio-economic facilities reflects the economic as well as socio-cultural setup and a spatial organization of society.

8.6.1. Development Planning For Health Facilities

The health services are the most important medical facilities and may be measures in terms of number of hospitals in each tahsils. Apart from hospitals the numbers of dispensaries in different tahsils have also been taken into consideration. Particularly, in rural areas the number primary health centre running to provide the services along with sub-primary health centres were considered in each tahsil of the district for
the last five decades. The number of doctors in each tahsil and number of nurses was the important criteria to judge the different facilities. Besides, the numbers of beds in hospitals available were also taken in the consideration in order to serve the populations demand.

Another criterion has also been adopted to understand the supply of medical facilities by taking the percentage of villages, served by medical facilities and percentage of population served by medical facilities. It was found, to 52.20 percent villages having medical facilities in the district, while percentage of rural population served by medical facilities was 71.41 percent. However, percentage of both varies enormously within the different tahsils of the district. The area having low percentage in terms of percentage of villages having medical facilities and percentage of rural population served by medical facilities should be given due attention by the planners and Government to fulfill the demand of the people as regard to medical facilities.

8.6.2 Development Planning For Educational Facilities:

The true education is to bring out, the physical, mental and the spiritual power of a person. Education is the most significant aspect for the overall development of the region. Nothing is as sublime as transcendental knowledge, which purifies the nature of a being. By devotional act, in light of knowledge, than one may obtained the true essence of knowledge. In the post independence period there has been tremendous improvement in India and the Solapur district is no exception to this rule. In Solapur district, there have been considerable progresses in the education. According to 2001, there were in all 3679 number of educational institution in the Solapur district as whole, out of these the
number of primary schools was 2837 in the district. 630 secondary schools were in the district 114 junior colleges, and around 60 senior colleges. While some professional colleges liked D.Ed., B.Ed., I.T.I., Polytechnic, Engineering College, Low College, Medical College, Ayurvedic Medical College are much lesser in number in Solapur district. The number of primary and secondary school per 10,000 populations was calculated and it was 8.78, for primary school per 10,000 populations in year 2001, while the number of secondary school per 10,000 populations was 1.95. This shows that the number of primary schools and secondary school are much lower in North Solapur tahsil, while higher for Sangola tahsil. In other words, the number of students per school was higher in the North Solapur and lower in the Sangola tahsil. The development for educational institution is still required even in the large urban place like Solapur city. The ratio between number of students and schools is quite low in urban areas and higher for rural areas. Therefore, the planners are the concentrating through different political agencies, who are generally establishing educational institutions in urban areas. Due to, monetary benefit, due to lack of transportation facilities, rural sectors are lagging behind in educational development and planning in the Solapur district.

8.6.3 Development Planning For Transport Facilities:

The accessibility is considered as lifeline of the economy in a particular region. This is an index to determine, the region how for it is developed. There are two criteria to judge, the transport facilities in the region under study, one by calculating the percentage of villages having approach by pucca road and the second, the percentage of rural population served by the pucca road. For the region as whole 47.21
percent villages were having approach by pucca road, where as 55.46 percent rural population was served by the pucca road in the district of the Solapur in the year 2001. However, the percentage of village having approach by pucca road shows a wide variation within the different tahsils of the district. North Solapur tahsil having the highest percentage, while Mangalwedha tahsil is having the lowest. Similarly, percentage of rural population served by pucca road also differs from tahsil to tahsil. While, highest for the North Solapur and lowest was for again Mangalwedha tahsil. This shows that the lower percentage of the villages having approach by the pucca road and percentage of rural population served by pucca road should be given priorities to link with most of the villages in the different tahsils of the district.

8.6.4. Development of Post Office Facilities:

Transportation and communication facilities are most important facilities, joining the different settlements and population to one another for different purposes. Now, the communication facilities in terms of percentage of settlement and population served by post facilities found in the different parts of the Solapur district have been calculated in terms of percentage for the district and its various tahsils. The percentage of settlement having post facilities was highest for North Solapur tahsil, while the lowest for Akkalkot. It is found that even today, more than 54 percent settlements are not having post facilities and there is urgent need to extend post facilities to these rural settlements by providing the post office centre.

Similarly, percentages of population served by post facilities were also calculated for different tahsil and district as whole. It was 68.57
percent for the region as whole, while highest for the Sangola tahsil and lowest for Mangalwedha was registered. It means that there are regional disparities in the distribution of post office facilities. There are still number of settlement away from the post office centres. Hence, more than 30 percent population is un-served by post facilities. Hence, there is acute need to make the post facilities available to the un-served population. Government should give due attention to development of communication facilities in rural areas of Solapur district.

8.6.5 Development of Market Facilities in Solapur District:

- **Weekly Market facility in Solapur district.**

  Market centers are the places, which supply goods and services to surrounding areas. At the same time, these market centres purchase surplus food grain from the surrounding villages. The most of things which are required in day to day life are easily made available in such centers. The larger urban places are the daily market centers, which supply necessary things to people daily. On the other hand the weekly market centers distributed in different part of the district, particularly, at tahsil head quarters. In the district, there are 172 weekly market centers which are widely distributed in different parts of the district. The table concerned, gives the information about the number of weekly market in each tahsil and the percentage of villages served by weekly market centers. Both, these criteria's in fact, do not gives a clear picture for the planner, because, the Mangalwedha tahsil which is socially and economically much backward, possesses the highest number of 38 weekly market centers on the one hand socially and economically much developed region like North Solapur, have the lowest market centers of 6
only. This is also the case with the percentage of villages served by the weekly markets, highest for Mangalwedha and lowest for North Solapur tahsil. The nature of the market centers and size also influence the degree of social and economic development.

- **Market Yards in Solapur District:**

  Market yards play a very prominent role in the distribution of goods and commodities within the region. In the year 2001, there were 10 market yards and 38 sub market yards. Due to close proximity to Solapur city, the South Solapur tahsil have no market yards, but it has two sub-market yards. It has been observed that each tahsil head quarters has one market yard. The surplus food product from the tahsils is sold at market yard. The important products which are sold from time to time to the market yards are food grains of various types vegetable, foods and live stocks. North Solapur and Mohol tahsils had each, six sub-market yards; it was followed by Malshiras having five sub-market yards. The larger settlements, have the higher number of sub-market yards. It has also been observed that at every tahsil in order to promote these business and trade of various products have both market yards as well as sub-market yards. This is the need of the people to sale their agricultural products to nearby market yard because of perishability of the various products. In remote areas where there are no market centers and yards, the agricultural products are not sold at reasonable rates. Therefore, market facilities, yards and sub-market yards are the keys for the social and economic development in the region, hence, some more should be brought into existence.
8.6.6. Development of Bank Facilities:

For overall development of a region, the capitals play a very significant role. The financial aid and help by the Government and people are made transfer through the checks, demand draft and transfer order etc. by the banks. Hence, the availability of banks in a region is of prime importance for the transaction of money. There are number of scheduled banks and co-operative banks within the various tahsils of the Solapur district. The number of scheduled bank is higher in areas which are economically prosperous like North Solapur tahsil and Barshi, Malshiras etc. Similarly, number of co-operative banks is also higher in such area where as the number of scheduled banks is higher. The total number of banks is highest in North Solapur and followed by Malshiras, Madha, Barshi and Pandharpur. The percentage of settlements having bank facilities was recorded highest for the Malshiras tahsil and followed by North Solapur tahsil. Pandharpur and South Solapur were having around 20 percent settlement bank facilities. It is of greater importance that for the mobility of capital, banking facilities are needed to the people to avoid robbery and theft. The numbers of settlement having these facilities are considered in the race of development and where such facilities are not available Government should take initiative to establish such banking facilities.
REFERENCES