CHAPTER – IV
GENERAL LANDUSE PATTERN IN BEED DISTRICT

4.1 INTRODUCTION

4.2 MEANING AND IMPORTANCE OF LAND USE.

4.3 LAND USE CLASSIFICATION

4.4 TAHSILWISE TRENDS IN GENERAL LAND USE PATTERN

4.5 LAND USE EFFICIENCY
CHAPTER - IV
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4.1 INTRODUCTION:

Land use pattern gives an idea of the actual land under different category in a particular region. It also indicates the economic importance of land which in turn reflects the per capita income a region land use is the surface utilization area. The concept of land use planning has been recently introduced in land utilization studies, which mean the formulation and administration of land policies. It aimed at the employment of land resources and the uses for which they are socially, politically and economically best suited with the help of land utilization survey probable change in the use of land can be estimated in close connection with the institutional social and public expenditure in an area. The regional and national treatments of land use studies receive economic, geographic and demographic dimensions. The demographic aspect considers the studies of population distribution composition characteristics and trends not only in the area being surveyed; but in the whole country. The geography and soil conditions which influence the utilization of land for crops pastures or forest.

Land use is the latest ramification of the fast growing tree of economic geography. Geographers can present a clear picture of the potentials of land use conductive to fruitful planning for a massive agricultural turn over. Land use is the surface utilization of all developed and vacant land on a specific point of a given time and space. This leads one buck to the village from and the farmer to the fields to the garden. Pastures follow land forests and to the isolated farmstead as geography deals with the spatial relationship between these aspects and planning. This is because land use changes to meet the variable demands of the land by the society in its new ways and conditions of the life. The demand for new uses of land may
be inspired by technological change or by a change in the size composition and requirement of a community. Some changes are short-lived whereas others represent a more constant demand. In this way land utilization is the use made of the land by man as surveyed and mapped in a series of recognized categories. The primary uses of land are for crops forest pasture, mining transportation gardening residential recreational industrial commercial and uncultivable waste barren and fallow land etc. It is not possible to use land for two or more purposes simultaneously though proportion of waste land is quite large.

4.2 MEANING AND IMPORTANCE OF LAND USE:

Land is the basic resource of human society. Its utilization shows a reciprocal relationship between the prevailing ecological conditions of a particular region and man. The term land utilization is also used for varied utilization of land and soil surveys e.g. land under cultivation pasture barren orchard follows waste cultivable waste settlements forests water bodies etc. According to J.L. Bock Land utilization is the satisfaction which the farm population devices from the type of Agricultural developed the provision for future production and the contribution to national needs while definition given by Salter is as follows land utilization research can be described as dealing with problem situations in which people in a given locality are in the process of transformation from activities with certain land requirements to the activities with different land requirements. In this sense land utilization involves an examination of the natural factors affecting both the harnessed and the potential productivity of the land in a changed situation of the land in a locality and its requirements. These factors are the land temperature rainfall and soil, which in a configuration together constitute the physical
background of agricultural and determine the limits of both the cultivability and productivity of the land.

Land utilization mainly deals with the problems related to the society and the region as a whole rather than a private farmer land use is mainly related to the optimum use of the limited land between the alternative major types of land use. In rural areas the major types of land use follows:

1. Agriculture land  
   (a) Non-irrigated lands  
   (b) irrigated lands  
   (c) Dry farming areas  
   (d) grazing areas.

2. Village or chards or forest land.

3. Forest land  
   (a) Forest covered.  
   (b) Forest reclaimed land use.  
   (c) Cultivable or recreational land use.

Land utilization is also related to conversion of land from one major use to general use. After reclamation of forest land a question arises as to how the land should be utilized. The rotation of crops and their combination are after all minor problems of land use study. This is because these aspects depend upon personal experience and intuition of the farmer who decides which crop should be grown in rotation.

For human existence within certain biotic ecological and economic conditions the utilization of land is of prime importance. It involves a relationship that exist between the societies on the one hand and cultural advancement resource planning and carrying capacity of the land on the other. The intensive use of land depends upon population concentration economic prosperity through better agricultural production. If, there is no utilization of land, one cannot think of any progress. Thus, the study of land utilization is of immense value in tracing out the past use of land and its future trend. Only through the study of the past land utilization one can be able to predict its future use and evolve land use planning of a particular region.
4.3 LAND USE CLASSIFICATION:

It is useful to understand various types of land put under different category of use. Land use classification is the systematic arrangement of various classes of land on the basis of certain similar characteristics mainly to identify and understand their fundamental utilities intelligently and effectively in satisfying the need of human society. Thus land must be carefully utilized so that it may fulfill our varied needs after its proper allocation. The best use of each parcel of land requires a scientific and methodically appreciable classification of the present land use. This may help us in investigating the land use problem and be the basis of planning for the best use of our land after considering the major land use categories.

The comparability of major land use categories shows that there is good relationship between forestry and grazing lands with recreation but there is a very poor correlation between wild life sanctuaries with the agricultural and water reservoirs. The land use types and its classification according to productivity index and the yield and quality of crops grown under physically defined system of management or according to store index based upon soil profile, soil texture and other physical factors combined to control the use capabilities of particular soil and its productivity under favorable environmental conditions. The use capabilities provide farmers a basis for producing over a longer period of time under stated conditions of use on specific parcels on units of land.

The increase in population needs additional land for shelter and food produce and requires utilization of our resources. In view of this surging problem world land use inventory survey had been proposed in the International Geographical congress of Lisbon in April 1949 on this basis land use. Survey has been carried out in several countries including Poland, Cyprus Italy Jamaica and other: At the second time the commission meet at
the International Geographical congress in 1953 and it was proposed to carry out plot survey is as many parts of the world as possible L.D. stamp was made the in charge of the Eastern Hemisphere and van valkenburg of the “Americas”. Impressive records of pilot survey under different scales of various parts of the world were presented. These commissions proposed a simple classification of world land use along with colour scheme which is mainly suited to local condition. The landuse classification is as follows.

World land use survey was drawn up under the auspices of Unesco

1. Settlements and associated non – Agricultural land (dark and lighted).
2. Horticulture (deep purple).
3. Tree and perennial crops (light purple).
5. Improved permanent pasture (light green).
6. Unimproved grazing use (Orange) not used (Yellow).
7. Woodlands : dense (dark green) open medium (green) scrub (Olive green) Swamp forest (blue green) cut forest green (Stipple) Forest with subsidiary cultivation (green)
8. Swamps and marshes (blue).
9. Un productive land (gray.)

L.D. stamp had suggested the classification of the land of ‘Britain into categories for broad national policy of land use planning and conservation of land resources. He had proposed three major categories and 10 types based on-

a. the nature of the site (elevation ad slope)
b. the nature of the soil (its depth), texture and water conditions.
The major categories are as follows
The ten subs – types are:

Good quality land: 1. Good class land.
   2. Good general purpose farmland.
   3. First class land with grass.
   4. Good but heavy land.
   5. Medium quality light land.
   6. Medium quality general land
   7. Poor quality heavy land.
   8. Poor quality Mountain and Moorland

J.L. Buck, in his monumental study of land utilization in China. Conclude from a survey of 16,786 farms in 168 localities of eight agricultural regions that for agriculture in China there can be no great increase in amount of farm land. He has given five types of land utilization of China. They are as follow:

1. Arable land.
2. Cultivated land.
4. Forest area.
5. Land suitable for agriculture

In India land use categories recognized by different scholars belongs to two different types, e.g. town planners and urban geographers. Town planners out of ten categories, urban land use as residential, commercial, industrial, transport, communication, public utilities, open space, agricultural, vacant land, and water bodies. On the other hand, there are
minor differences amongst the urban geographers and most of them classified the urban land use in to the following categories. Residential, agricultural, open spaces, military lands, parks, and burial grounds.

In the light of physio-socio-economic environment determines the use of land. These are taken in to consideration while classifying the land, under different categories and sub – categories. The census of India has classified the land into nine different categories as forest barren cultivable waste, cultivated area etc. But for the present study they are grouped into five land use categories. Viz. (1) area under forest. (2) Area not available for cultivation. (3) Other uncultivated land excluding fallow land (4) Fallow land and (5) Net sown area because area under other categories are insignificant out of these categories the first land, the second comprises the total Non – agricultural land. Third is the potential agriculture land and fourth and fifth constitute the agricultural land.

4.4 TAHSILWISE TRENDS IN GENERAL LAND USE PATTERN IN BEED DISTRICT:

Due to the location and physical setting the general land use pattern of the reign under study depressed to tahs il the existing pattern of land use as shown in (Fig. 4.1) appears to have been resulted from a process of land use exploitation within the farm of physical socio economic complex and modified by the expansion of irrigation and the growth of population there is a change in geographical factors in the entire study reason. (Table 4.1)
<table>
<thead>
<tr>
<th>Taluka</th>
<th>Area under forest</th>
<th>Area not available for cultivation</th>
<th>Other uncultivated land including follow land</th>
<th>Fallow Land</th>
<th>Net Sown Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashit</td>
<td>2.52</td>
<td>1.84</td>
<td>-0.68</td>
<td>4.15</td>
<td>5.23</td>
</tr>
<tr>
<td>Patoda</td>
<td>3.98</td>
<td>3.40</td>
<td>-0.08</td>
<td>5.73</td>
<td>6.65</td>
</tr>
<tr>
<td>Shirur</td>
<td>1.60</td>
<td>2.97</td>
<td>+1.37</td>
<td>7.25</td>
<td>7.01</td>
</tr>
<tr>
<td>Georai</td>
<td>0.90</td>
<td>0.78</td>
<td>-0.12</td>
<td>4.77</td>
<td>2.96</td>
</tr>
<tr>
<td>Majalgaon</td>
<td>0.50</td>
<td>0.43</td>
<td>-0.07</td>
<td>3.73</td>
<td>4.85</td>
</tr>
<tr>
<td>Wadwani</td>
<td>3.05</td>
<td>5.15</td>
<td>+2.1</td>
<td>6.90</td>
<td>7.26</td>
</tr>
<tr>
<td>Beed</td>
<td>3.23</td>
<td>2.90</td>
<td>-0.33</td>
<td>4.88</td>
<td>1.65</td>
</tr>
<tr>
<td>Kajj</td>
<td>2.31</td>
<td>2.09</td>
<td>-0.22</td>
<td>1.93</td>
<td>3.48</td>
</tr>
<tr>
<td>Dharur</td>
<td>4.90</td>
<td>5.13</td>
<td>+0.23</td>
<td>6.10</td>
<td>7.25</td>
</tr>
<tr>
<td>Parli</td>
<td>0.60</td>
<td>0.59</td>
<td>-0.01</td>
<td>3.40</td>
<td>3.01</td>
</tr>
<tr>
<td>Ambajogai</td>
<td>2.38</td>
<td>3.15</td>
<td>+0.77</td>
<td>4.92</td>
<td>3.30</td>
</tr>
<tr>
<td>Beed Dist.</td>
<td>2.21</td>
<td>2.09</td>
<td>-0.12</td>
<td>4.22</td>
<td>3.96</td>
</tr>
</tbody>
</table>

Physiography, soil types, rainfall and geology all of these factors have played an important role in determining the agricultural practices. Total geographical area of Ambejogai tahsil decreased from 184900 hectare to 136500 hectares due to including 43 villages and 11 hamlets in Latur district on August 1982. About 58.83 percent to 90.17 percent of the total geographical area was under cultivation because of varied physical factors.

Tahsilwise trends in general land use pattern in Beed district is shown in table 4.1, with this generalized picture of general land use pattern of the study region a detailed analysis of the same is given below for this analysis quinquennial averages for 2000-01 are used to find out the spatio-temporal changes in the Beed district.

1. Area under Forest:-

About 2.21 percent of the geographical area of the Beed district was under forest during 1970-71. It decreased from 2.21 percent to 2.09 percent during the period of investigation. The table concerned reveals that there was variation in forest area from one tahsil to another.

In 2000-01, below one percent geographical area was experienced under forest in Georai, Parli, and Manjalgaon tahsil during 2000-01 particularly more forest area is found in Wadwani, Dharur, Beed, Ambejogai and Patoda tahsils due to hilly area and high distribution of Monsoon rainfall.

Below one percent positive change in forest area was found in Ambejogai, Dharur tahsils and below 0.5 percent negative change in forest area was recorded in Beed, Georai, Manjalgaon, Kaij, parli and Patoda tahsils during 1970-2001. Above 0.5 percent negative change in forest area was observed in Ashti tahsil during the period of investigation (Fig. 4.1)
BEED DISTRICT
Area Under Forest

1970-71

2000-01

Area in Percentage

Above - 3
1 - 3
Below -1

N

kms 14 7 0 14 28 kms

Fig. 4.1
2. Area Not Available For Cultivation:-

This category includes (a) the land put to non-agricultural uses and (b) barren and uncultivable land. These uses show that these areas are no more available for cultivation, these areas which are not available for crop cultivation show a close association with other cultivated land and the net sown area in Beed Dist. It means, if there is a change at all more net sown area are transferred to this category and this may happen particularly due to increasing urbanization predominantly the spread of cities of Beed, Ambejogai, Parli, Kaj, and Georai. The land under this category can not be brought under cultivation but for a very high price it can be brought under cultivation.

Out of the total geographical area below three percent area was found under area not available for cultivation in Beed and Georai tahsils while three percent to six percent geographical area was recorded under area not available for cultivation in Ambejogai, Kaj and Manjalgoan, Ashti and Parli tahsils during 2000-01. Above six percent geographical area was observed in Patoda, Shirur, Wadwani, and Dharur tahsils during 2000-01. (Figure 4.2)

Below two percent positive change in area not available for cultivation was experienced in Wadwani, Dharur, Ashti, Manjalgaon and Kaj Tahsils, where as below two percent negative change in area not available for cultivation was recorded in Georai, Shirur, Parli and Ambejogai tahsils during 1970-2001. Above two percent negative change in these categories was noticed in Patoda and Beed (3.23 percent) tahsils during the period of investigation. (Figure 4.2)
BEED DISTRICT
Area Not Available for Cultivation

1970-71

2000-01

Area in Percentage
- Above - 5
- 2 - 5
- Below -2

Fig. 4.2
3. Other uncultivable Land excluding fallow Land:-

Other uncultivable land excluding fallow land consist three types of land Viz. (a) Cultivable waste (b) Permanent pasture and grazing land and (c) Land under miscellaneous trees crops etc. In the ensuring discussion they are considered together. This is potential agricultural Land which will be available for extension of agriculture but not been cultivated owing to different reasons figure 4.3. This map shows that area under uncultivable land varies from tahsils to tahsil in the study region.

Out of the total geographical area below two percent area was observed under these categories in Beed tahsil and two percent to four percent geographical area was this noticed under uncultivated Land in Kaij tahsil. About four percent to six percent geographical area was uncultivable in Shirur, Georai, Ambejogai and Ashti tahsils and above six percent geographical area was uncultivated in Wadwani, Dharur, Parli, Manjalgaon and Patoda tahsil during 2000-01.

Both positive and negative changes were experienced in these categories in the study region during the period under study. Below one percent negative change in area under uncultivated land was observed in Georai while one percent to two percent negative change in uncultivated area was found in Ashti, Ambejogai tahsil during 1970 - 2001. Above two percent negative change in categories was recorded in Patoda (2.37 percent), Shirur (2.56 percent) and Beed (6.27 percent) tahsils between 1970-71 and 2000-01. Below one percent positive change in uncultivated land took place in Kaij and Parli tahsil during the period of investigation, while one percent positive changes are found in Manjalgaon, Wadwani and Dharur tahsil in the region understudy.
BEED DISTRICT
Other Uncultivated Land Excluding Fallow Land

Area in Percentage

- Above - 8
- 5 - 8
- Below -8

Fig. 4.3
4. Fallow Land:-

The fallow land includes current fallow land and old fallow land and largely found due to inadequate water supply or excess of moisture supply extensive holdings and heavy clayey soils difficult for tilling at proper time sometime. They are kept fallow for preserving fertility and to prevent soil exhaustion. Thus efficiency of fallow Land system is preserving fertility and maintaining crop yields to be acknowledged.

Taking in to consideration the period of fallow, census of India, has divided this categories into two types viz. land kept fallow during one year is called ‘current’ fallow land. However, in the present study both the sub-categories are grouped together. The sum total of fallow land and net sown area gives the extent of usable land in contrast to land that is not cultivated at all.

The Beed district has significant land under fallow land which is 14.82 percent of the total geographical area. Fallow land decreased from 24.34 percent to 14.82 percent in the study region between 1970-71 and 2000-01. The regional disparities in fallow Land is shown in Fig. 4.4. The proportion of Fallow land was very high in Ambejogai (36.07 percent) while it was very low in Parli (11.20 percent) tahsil during 1970-71. The proportion of fallow Land was below 10 percent in Beed tahsil (3.30 percent) and Georai (5.35 percent) tahsils, where as it was 10 percent to 15 percent in Patoda, Shirur, Wadwani, Dharur and Parli during 1970-71. Above 15 percent fallow land observed in Ambejogai, Manjalgaon, Kaj and Ashti tahsils during 2000-01 (Figure 4.4)

About 9.52 percent Negative change in fallow land was observed in study region from 1970-71 to 2000-01. Below 2 percent positive change in fallow land was noticed in Manjalgaon and Dharur while below 5 percent negative change in fallow land was experienced in Kaj, Shirur, Wadwani
BEED DISTRICT
Fallow Land

Area in Percentage
- Above - 20
- 15 - 20
- Below -15

Fig. 4.4
and Parli tahsils between 1970-71 and 2000-01. About 5 percent to 15 percent negative change in fallow land was recorded in Beed (10.16 percent) and Patoda (11.77 percent) tahsils from 1970-71 to 2000-01. Above 15 percent negative change in fallow land took place in Georai, Ambajogai and Ashti tahsils during the period of investigation.

The negative changes in fallow land took place in Kaij, Ashti, Ambejogai, Beed, Patoda and Geroai tahsils due to increase in irrigated area and increase in population. Well distribution of monsoon rainfall was also responsible for the negative change in fallow land during the period of investigation.

5. Net Sown Areas:

This category and fallow lands together constitute extent of cropped lands in any region, therefore, it is of vital significance in studies relating to agricultural geography. The net sown area is the actual area under crops counting areas sown more than one in the same year only once.

The net sown area increased from 63.40 to 74.30 between 1970-71 and 2000-01. Out of the total geographical area, below 70 percent to 80 percent geographical area was observed under cultivation in Ambejogai, Ashti, Kaij, Patoda, Shirur and Parli tahsil during 2000-01. Above 85 percent of Geographical area was noticed under net sown area in Georai (86.33 percent) and Beed (90.17 percent) tahsils during 2000-01. (Figure 4.5)

About 10.9 percent positive change in net sown area took place in the study region from 1970-71 to 2000-01. Below 6 percent negative change in net sown area was noticed in Parli, Dharur, Wadwani and Manjalgaoon tahsils whereas below 10 percent positive change in net sown area was found in Shirur and Kaij tahsils during the period of investigation. About 10 percent to 15 percent positive change in net sown area was recorded in Patoda tahsil between 1970-71 and 2000-01. Above 15 percent positive change in net
sown area was took place in Ashti (17.94 percent) Georai (18.82 percent), Ambajogai (22.95 percent) and Beed (19.99 percent) tahsil during the period of investigation.

Positive change in net sown area took place in Beed, Georai, Ambejogai, Kaj, Patoda, Shirur and Ashti tahsils due to the increase in population and irrigation facilities in the study region.

4.5 Land use Efficiency:

The proportion of potential geographical land (uncultivated land) from 5.83 percent to 4.83 percent transferred to net sown area during the period of investigation in the study region. There is vast scope for extension of cultivated land by bringing fallow and potential agricultural land under net sown area. Therefore, immediate need is to give more emphasis on intensity of cropping and increasing yield from existing cultivated area, problem of under use of net sown area. Low productivity and risk of crop failure are taxing. The rural population, therefore, it is fruitful to investigate the degree of intensity with which the net sown area is utilized. Land use efficiency may be defined as the extent to which the net sown area is cropped or net sown. The gross cropped area as a percentage of the net sown area gives a measure of land use efficiency which means the intensity of cropping. The index of land use efficiency is obtained by using the following formula

\[
\text{Index of land use efficiency} = \frac{\text{Gross cropped area}}{\text{Net sown area}} \times 100
\]
Table 4.2 Statement showing Tahsilwise Land use Efficiency in Beed District.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>Gross Cropped area in ‘00’ hectares.</td>
<td>Net Sown area in ‘00’ hectares.</td>
<td>Index of land use efficiency in percent</td>
<td>Gross Cropped area in ‘00’ hectares.</td>
<td>Net Sown area in ‘00’ hectares.</td>
<td>Index of land use efficiency in percent</td>
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<td></td>
</tr>
<tr>
<td>Ashti</td>
<td>805</td>
<td>7082</td>
<td>11.37</td>
<td>1420</td>
<td>1367</td>
<td>103.88</td>
<td></td>
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</tr>
<tr>
<td>Patoda</td>
<td>590</td>
<td>459</td>
<td>198.65</td>
<td>720</td>
<td>700</td>
<td>102.85</td>
<td></td>
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<tr>
<td>Shirur</td>
<td>203</td>
<td>297</td>
<td>68.35</td>
<td>440</td>
<td>230</td>
<td>191.30</td>
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<tr>
<td>Georai</td>
<td>1147</td>
<td>1047</td>
<td>109.55</td>
<td>1562</td>
<td>1339</td>
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<td>Manjalgaon</td>
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<td>1016</td>
<td>672</td>
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<td>340</td>
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<td>925</td>
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<td>470</td>
<td>520</td>
<td>90.38</td>
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<tr>
<td>Parli</td>
<td>290</td>
<td>190</td>
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<td>520</td>
<td>610</td>
<td>85.25</td>
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<tr>
<td>Ambejogai</td>
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<td>744</td>
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<td>719</td>
<td>493</td>
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<td>Beed Dist.</td>
<td>7544</td>
<td>7082</td>
<td>106.52</td>
<td>9495</td>
<td>7939</td>
<td>119.60</td>
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</tbody>
</table>

Source: - Socio-economic review of Beed district.

Table 4.2 indicates that regions average gross cropped area and net sown area was 9.49 lakh hectares and 7.9 lakh hectares respectively during 2000-01. The index of land use efficiency was 106.52 percent in 1970-71 and it increased up to 119.6 percent during 2000-01. It means that land use efficiency index increased by 13.08 percent Below 105 percent land use efficiency index was found in Ashti, Patoda, Wadwani, Dharur, Parli and Beed tahsils and 105 percent to 120 percent land use efficiency recorded in Georai tahsil during 2000-01. Above 120 percent land use efficiency index was recorded in Majalgaon, Ambajogai, Shirur tahsils during 2000-01.
Below 5 percent negative change in land use efficiency was recorded in Kaij and Beed tahsils, where as 7.1 percent, 20.16 percent positive change in land use efficiency was recorded in remaining tahsils of the study region. Variation in land use efficiency are mainly confined to the regions where irrigational facilities are more pattern of agricultural practices physical and non physical determinants of Agriculture are also responsible for the variation in land use efficiency. The regional average figure seems to be big: It is higher than state average figure of 117.10 percent on the strength of percentage the region is divided into three categories viz. low intensity, medium intensity and high intensity. (Figure 4.6)

i) **Areas of low intensity (below 110 percent):**

Area of low intensity is distributed in Kaij, Ashti, Patoda, Wadwani, Dharur, Parli and Beed tahsils. Most of the area is barren in these tahsils soils are poor : Wells are providing water for irrigation but most of the wells became dry in summer season hence these tahsils have low intensity of land use efficiency. (Fig. 4.6)

ii) **Areas of medium intensity (110 percent to 120 percent):**

Area of medium intensity is confined in Georai tahsil. This tahsil is having less irrigated Area. Some parts of this tahsil is having high intensity of land use efficiency. Physical and non- physical determinants of agriculture are responsible for the medium land use efficiency.

iii) **Areas of high intensity (Above 120 percent) :-**

Area of high intensity of land use efficiency is found in Shirur, Ambejogai and Manjalgaon tahsils. Fertility of soil, use chemical fertilizers, use of high yielding, variety seeds and modern agricultural implements are responsible for the high intensity of land use efficiency.
REFERENCES


