

## CHAPTER - V

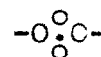
## LANDUSE AND LANDUSE PLANNING

### 5.1 General landuse pattern

## 5.2 Changes in general landuse pattern

### 5.3 Landuse planning

## References



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An attempt has been made in this chapter to map and analyse the present landuse pattern of the region. Landuse means the use of a piece of land for a specified purpose at a given time. 'Landuse is a use of partial land for the general purposes and crops' (Singh and Dhillon,1984). It is the function of four variables viz. land, water, air and man (Singh,1981). But,unfortunately this important resource is not used properly.

The land capability is an important tool for landuse planning. The fundamental purpose of the capability classification is to utilise the land resources according to their capability (Sharma,1981). Keeping this in view, the present chapter proposes to map and analyse spatial aspects of landuse pattern which will be followed by the analysis on landuse planning.

#### 1. GENERAL LANDUSE PATTERN :

Two broad landuse categories have been considered viz.

i) Arable land and ii) Non-arable land. There are regional variations in the landuse pattern of the study area. Table 5.1 shows the land utilization in Khatav taluka in 1985.

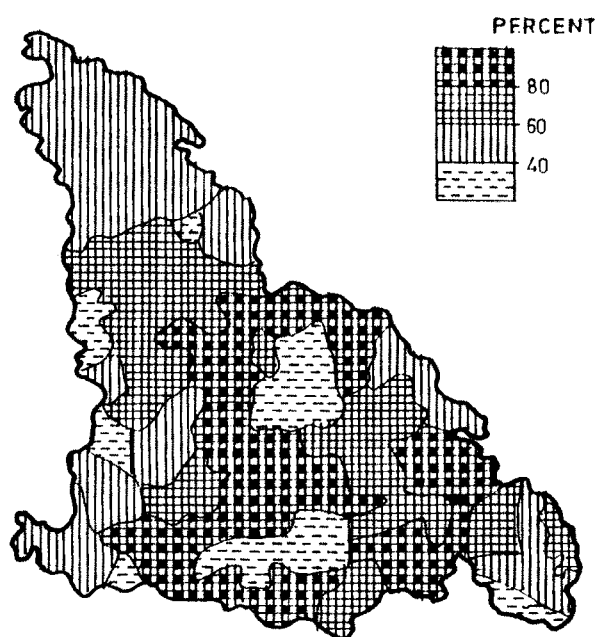
##### i) Arable land :

The arable land consists of irrigated and non-irrigated lands. Net area sown covers 63.7 percent (86,808.5 hect.) of the total geographical area of the taluka. The high proportion

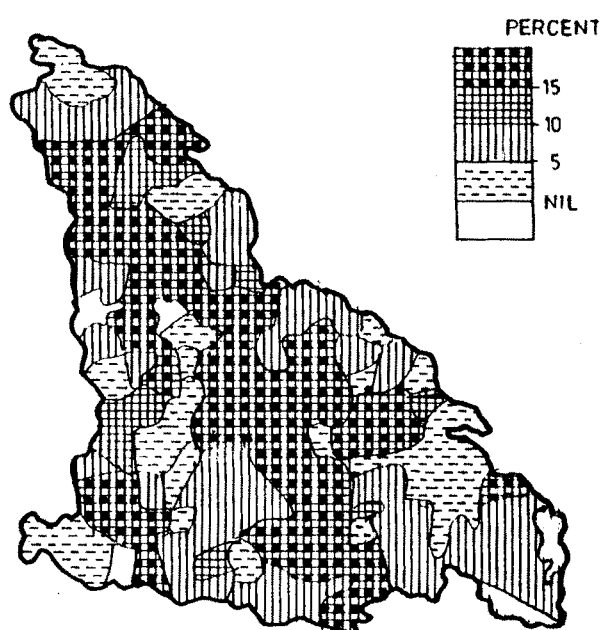
# ◎KHATAV TALUKA ◎

## GENERAL LANDUSE PATTERN 1985

### ⑤ Arable Land



### ⑥ Irrigated Land



### ⑦ Un-Irrigated Land

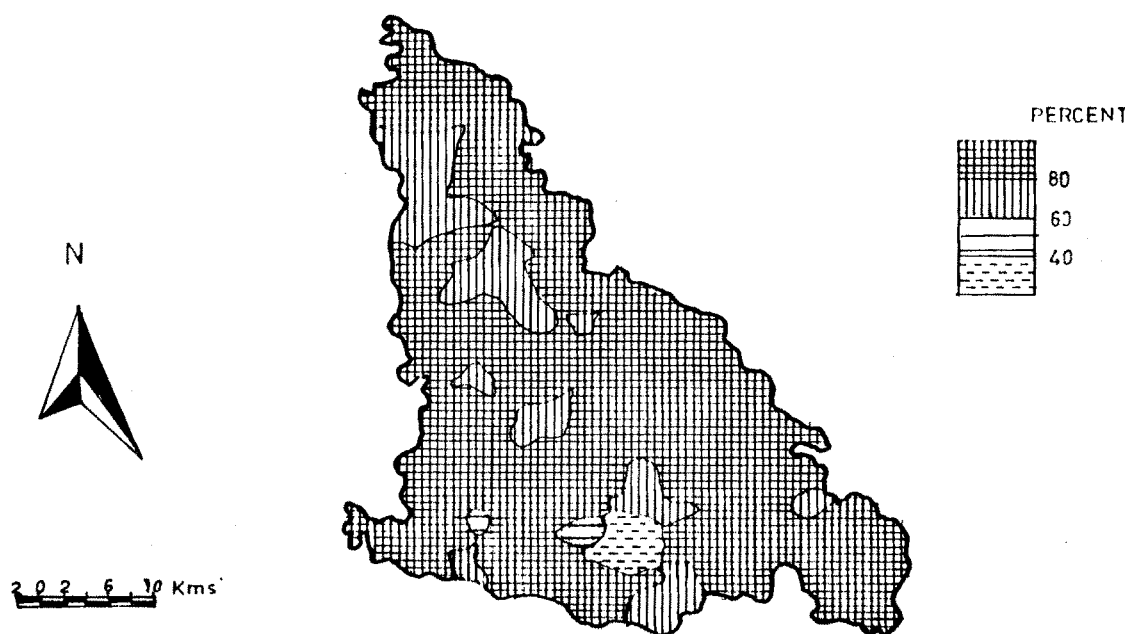


FIG. 5.2

(more than 60%) arable land is found in the central parts of the taluka (Fig.5.2-E). Generally, this may be due to the level land in the region. Western and eastern border regions have low proportion of land due to the high altitude and rugged topography.

a) Irrigated land

The irrigated land covers 7.9 percent (10,778.2 hect.) of the total geographical area. The significant proportion of irrigated land is confined to the central parts of the taluka viz. along the banks of Yerala river (Fig.5.2-P). Canals and wells are main sources of irrigation. Canals from Ner and Yerala dams have played important role in the supply of seasonal water to crop land. The rugged topography of hilly region, the erratic nature of monsoon have led to depletion of watertable. Therefore, the region has unassured irrigation facilities causing damage to growing crops.

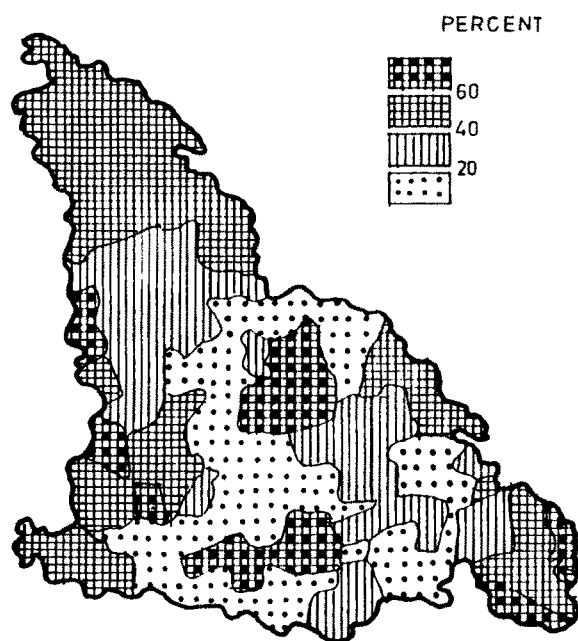
b) Un-irrigated land

This category has occupied 55.8 percent (76,030.3 hect.) of the total land of the taluka. The higher proportion of such land is located in the eastern and western parts of the region. Agriculture mainly depends upon monsoon rainfall which is insignificant and irregular. This has resulted in lowering down the watertable (Fig.5.2-G).

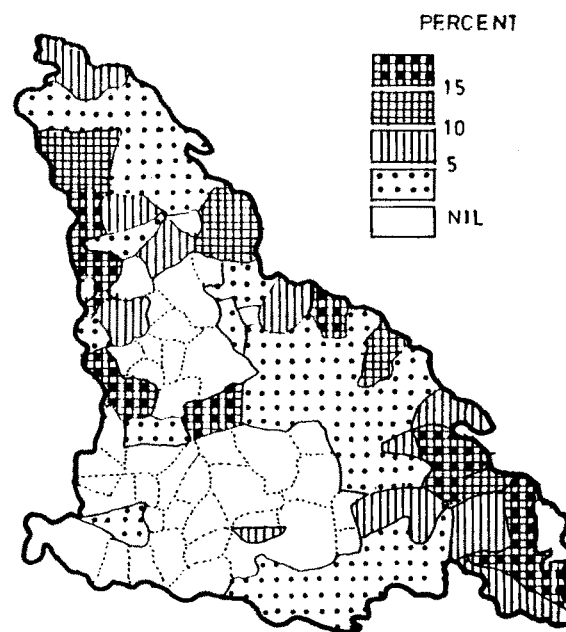
# ◎ KHATAV TALUKA ◎

## ◎ GENERAL LANDUSE PATTERN, 1985 ◎

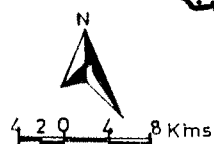
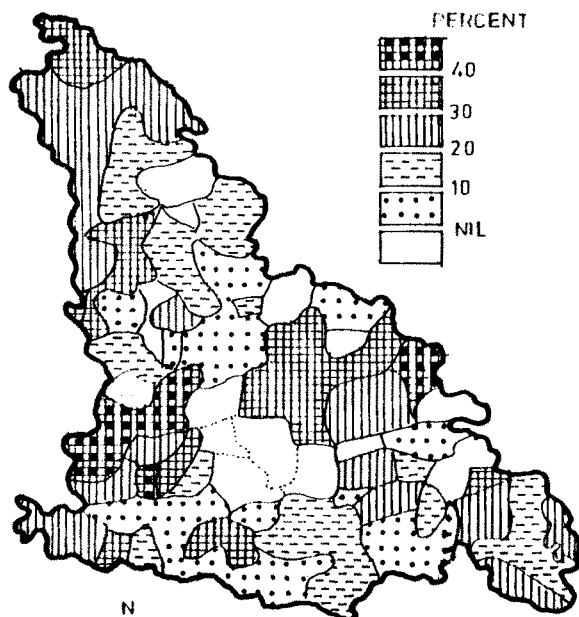
### (A) Non Arable Land.



### (B) Forest.



### (C) Cultivable Waste.



### (D) Area not available for Cultivation.

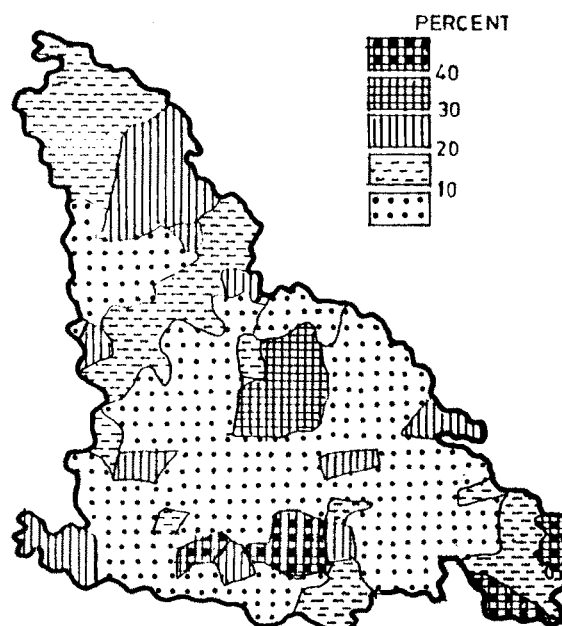


FIG. 5.1

ii) Non-arable land :

Nearly 36.3 percent area is occupied by this category consisting of forest, cultivable wasteland and land not available for cultivation.

a) Forest

The forested area occupies 55 percent (7,439.0 hect.) of the total geographical area. In the western parts Rameshwar (51.5%), Amberi (25.3%), Visapur (37.7%) and at eastern borders of Kaledhon (20.00%), Pachavad (22.5%) villages have recorded typical bushlands of monsoon region (Fig.5.1-B). Vegetation growth is stunted due to scarcity conditions.

b) Cultivable waste

The category cultivable waste covers 17.5 percent (23,899.7 hect.) area. However, the villages like Yelio (54.5%), Trimali (44.9%), Vadi (48.5%), Aundh (42.4%), Nandoshi (50.1%), Dambewadi (43.6%), Yelamarwadi (46.4%) etc. (Fig.5.1-C) possess the area under this category.

c) Area not available for cultivation

The area under dams, roads, river and settlement comes under this category. It covers 13.3 percent (18,189.84 hect.) land. Fig.5.1-D shows regional distribution of area not available for cultivation.

## 5.2 CHANGES IN GENERAL LANDUSE PATTERN :

The changing nature of landuse pattern is observed for the period of 1971 to 1985 in Table 5.1. These fifteen years are characterised by some notable changes. The area under forest has been decreased by 0.1 percent. The cultivable waste land is also decreased from 11.5% (15,211.6 hect.) to 9.7 percent (13,200 hect.). The proportion of area not available for cultivation is increased 2.2 percent from 10.2 percent (13,493.6 hect.) to 12.4 percent (16,900 hect.) due to the construction of roads and Yeralala dam and other percolation tanks. The region has experienced an increase of 0.3 percent in non-arable lands.

The proportion of non-arable land also shows upward trend from 27.0 percent (35,672.0 hect.) to 27.3% (37,200 hect.) i.e. 0.3 percent increase (Table 5.1). Non-arable land consists of irrigated and non-irrigated lands. During the period under investigation irrigated land increased by 0.6 percent i.e. 9.3 percent in 1971 to 9.9 percent in 1985. Contrasting to this unirrigated land is decreased from 63.7 percent (83,918.0 hect.) in 1971 to 62.8 percent (85,712.0 hect.) in 1985. Thus, decrease of 0.9 percent is observed. This may be attributed to the increasing irrigated land. This has also led for overall decrease in arable land of 0.3 percent from 1971 to 1985.

The changing nature of different categories of landuse indicates that there is more scope for bringing non-arable land under cultivation. The area not available for cultivation (2.2 percent) may be transferred to cultivation by adopting modern technology.

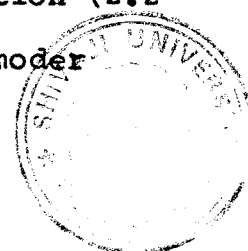


TABLE 5.1 : General landuse of Khatav taluka 1971 and 1985.

Year	Area	Forest	Cultivable waste	Not available for cultivation	Non arable land	Irrigated land	Unirrigated land	Arable land	Total
1971	Hectare	6966.8	15211.6	13493.6	35672.0	12226.8	83918.8	96145.6	131817.6
	Percentage	5.3	11.5	10.2	27.0	9.3	63.7	73.0	100.0
1985	Hectare	7100.0	13200.0	16900.0	37200.0	13588.0	85712.0	99300.0	136500.0
	Percentage	5.2	9.7	12.4	27.3	9.9	62.8	72.7	100.0
	Vol. of change in %	- 0.1	- 1.8	+ 2.2	+ 0.3	+ 0.6	- 0.9	- ) .3	-

SOURCE : 1) District census handbook, Satara, 1971.

2) The socio-economic review and district statistical abstract of Satara district, 1985.



### 5.3 LANDUSE PLANNING :

Land capability analysis gives clue for proper utilization of land. However, in view of present landuse, the soils are not used as per the land capability classes in the region. This may be due to lack of awareness among the farmers and overall traditional impact. Hence, the optimum use of every type of land can be recommended according to it's capability. The landuse planning may be adopted as follows :-

#### A) Land capability class II :

(Good land with moderate limitations)

This class of land is confined to the banks of Yerala river acquiring about 12.1 percent of total area in north - south direction at the centre of the study area.

#### Soil characteristics and problems :

Soil depth is more than 45 cms, the slope is below 5.00 percent. The erosion is less and gravel content is also less. Soil texture is clay with black and dark brown colour and less drained soils. The soils are generally wet and moisture capacity is substantial. Some parts of such soils have shown high concentration of soil moisture leading to the problem of salinity associated with fertilizer application. Parts of Maradwak and Morale villages have been facing some problem which invite reclamation measures.

### Landuse planning :

This class of land seems to be suitable for intensive cultivation but some part about 0.7 percent land is under dams (Ner and Yerala dams). Somewhere such lands are also used for settlement purposes. This has led for improper use of land. The land may be brought under intensive cultivation by adopting the measures like channel drainage, application of gypsum etc. About 0.4 percent lands are put as waste which can be used for cultivation after making pit channelling drainage in problematic areas. The main emphasis should be given for making awareness among the farmers to realise the importance of proper landuse.

### B) Land capability class III :

(Moderate good land with severe limitations)

This class of land is found in the central parts of the region in Yerala Valley (19.80%).

### Soil characteristics and problems :

Soil depth is more than 22.5 cms and slope is below 5%. The erosion is less and gravel content is also less with clay loam soil texture. The soils are mostly brown but they are moderately drained soil. The moisture holding capacity is high. All these have led for slow permeability resulting into low fertility in many parts of this zone.

### Landuse planning :

The lands of this class are also suitable for intensive cultivation. However, many patches are used for grasslands and settlement purposes. Infact, this is unsuitable use of land which could be used for cultivation of crops. Such deterioration should be checked and may be used for cultivation by allocating poor parts for settlements. The fertility of soils can be balanced by using the fertilizers and manures.

### C) Land capability class IV :

(Fairly good land with very severe limitations)

These lands are distributed in the foot hill region. There are two zones of which first is located in west and another one is confined to the east. This class of land has occupied about 32.9 percent land area in the region.

### soil characteristics and problems :

The texture is sandy loam with depth between 7.5 cms to 22.5 cms. The slope is moderate (5 to 15%) and erosion is also moderate. The colour varies from light brown to brown with moderate content of gravels. The soils are moderately wet and available moisture capacity is also moderate. However, the soils are well drained.

The soils face the problem like erosion, lack of wetness, thin soil cover and less moisture holding capacity in the study area.

### Landuse planning :

Owing to the severe limitations this class of land is suitable for occasional cultivation. Such lands require very careful management practices in the cultivation process. However, in some parts this class has been devoted for grass, forest and settlement too. Such misuse of land or deterioration can be checked. The patches of such lands should be brought under cultivation by employing modern technology. The proportion of waste lands in the region is about 17.5 percent (23,540 hect.) in the region. The wastelands should be used for cultivation after making of bunding, levelling and ploughing according to contours. This could be done on either at co-operative level or government as individuals cannot afford to invest more.

### D) Land capability class VI :

(Not good land but several limitations)

Class VI lands are observed in the western and eastern border areas of the region. It has occupied about 13.2 percent land area of the total.

### Soil characteristics and problems :

This zone has been covered by shallow soils with 7.5 cms depth. They are found on the land having steep slope, consequently the erosion is high. The soils have high gravel content with sandy soil texture. Soils are red brown are

characterised by high drainage. They are slightly wet and available moisture capacity is low. Since these soils are confined to hilly region they are highly prone to erosion. Thus, the problem of erosion hazard is dominant particularly in the western and eastern hilly parts of the region. So some part is kept as stony wastelands and no attempt of cultivation has been made for many centuries.

#### Landuse planning :

Owing to the severe limitations, these tracks have been used mainly for grazing or wood lands and some where for settlement purpose. Recently some parts of such lands are being used for cultivation which is improper as per the land capability of this zone. Proper landuse planning may be feasible in this zone. The deterioration can be checked by the construction of terraces and bunds along the contours. In view of the above limitations, such lands may be used for grazing forest and settlement. Wherever possible plantation of trees are to be done by making provision of bunding and ploughing according to contours to control the problem of erosion hazards. The social forestry on village common lands would be possible solution to the problems of erosion and scarcity of fuelwoods.

#### E) Land capability class VII :

(Land suitable for grazing or forestry  
with very sever limitations)

This class of land is located in the core areas of hilly region in the west and east, covering 22.3% of the total area.

Soil characteristics and problems :

The thin layer of shallow soils (below 7.5 cms), with steep slope (above 15%) and sandy textured soils are observed. The soils have high drainage and rate of erosion is considerable. The gravel content is more and moisture holding capacity is also very less.

Landuse planning :

The planting of trees, suitable to environmental conditions, would be the solution to the above problems. The construction of bunds and terraces may be introduced in the areas wherever possible.

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