CHAPTER - IV

LANDUSE PATTERN

1. General landuse pattern
2. Relevance of land capability to general landuse
3. Cropping pattern
4. Soil suitability for specific crops

Summary

References

Landuse is an important economic activity of man. It is the function of four variables viz. land, water, air and man (Singh,1981). Landuse means the use of a piece of land for a specified purpose at a given time. But unfortunately this important resource is not used properly which has led to its deterioration.

The land capability is an important tool for landuse planning. The fundamental purpose of the capability classification is to utilize the land resource according to their capability (Sharma,1981). In this chapter an analysis of land use and land capability is made.

1. GENERAL LANDUSE PATTERN :

There are regional variations in the landuse pattern of the study area. The total geographical area of the taluka is divided into two major landuse classes viz. (i) Arable land and (ii) Non-arable land. Table 4, shows the land utilization in Karveer taluka in 1981-82.

(i) Arable land

The arable land includes the net area sown, fallow land, culturable waste land and permanent pastures. The net area sown covers 70.20% (47,153 hectares) of the total geographical area of the taluka. The high proportion of net area sown is found in eastern and western part of the taluka (Fig. 4.1-A). Generally the high proportion of net area sown is due

to level land. The total fallow land accounts 5.30% (3,577 hectares), out of this 2.66% (1,811 hectares) is current fallow and 2.64% (1,766 hectares) is other fallow land (Table 4). The other uncultivated land excluding fallow is 13.40% (9,012 hectares). Out of this 5.80% (3,900 hectares) is culturable waste land and 7.60% (5,112 hectares) is permanent pasture. The spatial pattern represented in Fig.4.1-B varies from under 15 to over 45 percent.

(ii) Non-arable land

The non-arable land comprises the forest land and area not available for cultivation. The forest land record only 1.10% (743 hectares) of the total geographical area of the taluka, which is mainly noted in the northern part of the region (Fig.4.1 -C). Area not available for cultivation is about 10% (6,628 hect.) of the total area. The land put to non-agricultural uses is 6.60% (4,430 hectares) and barren and uncultivable land is 3.40% (2,298 hectares) of the total area of the taluka. Fig.4.1-D, shows the regional distribution of area not available for cultivation. It's proportion is high in the south-western and south-eastern part of the taluka.

2. RELEVANCE OF LAND CAPABILITY TO GENERAL LANDUSE :

Land capability classification helps for rational utilization and conservation of land. It enables us as to how different soil can be utilized with safety according to the qualifications of class and sub-class into which they are placed (Mohammad Noor,1981).

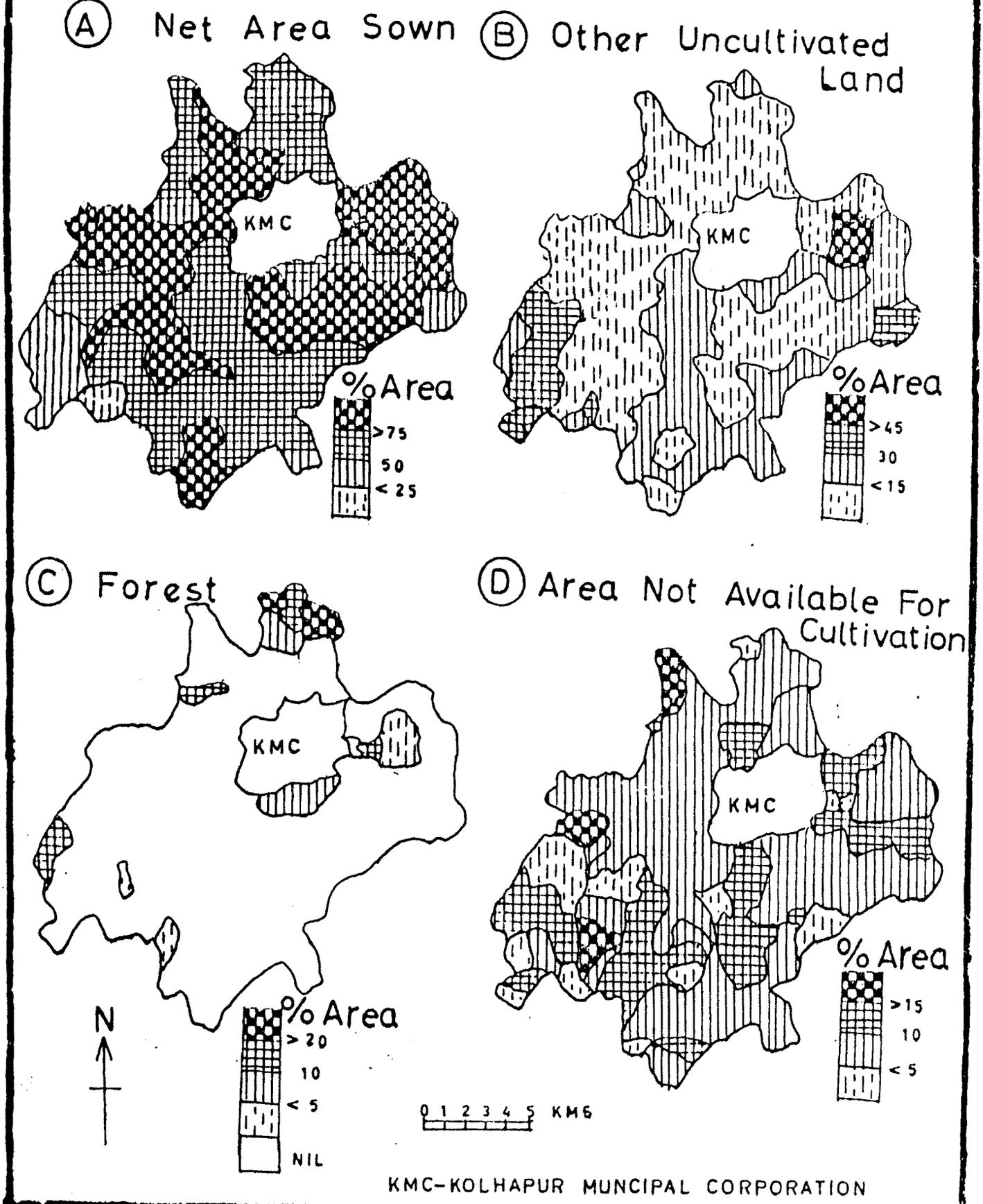
Table 4 : Landuse pattern, 1981-82.

Sr.No.	Category	Area in hect.	Percentage
	Arable land		
1.	Net area sown	47,153	70.20
2.	Fallow land	3,577	5.30
a)	Current fallow	1,811	2.66
b)	Other fallow	1,766	2.64
3.	Other uncultivated land	9,012	13.40
a)	Culturable waste land	3,900	5.80
b)	Permanent pasture	5,112	7.60
	Non-arable land		
1.	Forest	743	1.10
2.	Area not available for cultivation	6,628	10.00
a)	Land put to non-agricultural uses	4,430	6.60
b)	Barren and uncultivable land	2,298	3.40
	Total Geographical Area	67,113	100.00

SOURCE : i) The Socio-Economic Review and District Statastical Abstract of Kolhapur District, 1981-82.

ii) Compiled by Author.

GENERAL LANDUSE PATTERN 1981-82



KMC-KOLHAPUR MUNCIPAL CORPORATION

FIG. 4.1

The land capability classification study of Karveer taluka revels the area suitable and not suitable for cultivation. The total area suitable for cultivation (class II, III, and IV) is about 71%, but presently in Karveer taluka, the cultivated area is 75.50%. It indicates that some 4.50% additional area is used for cultivation, and this is a misuse of land, so it should be used either for grazing or forestry. Whereas, the total area of class VI and VII is about 23% excluding the area under settlements and roads. It is not suitable for cultivation but is suitable for forestry and grazing. But actually the area under forest and permanent pastures is 1.1 and 7.7% respectively. It shows that there is potential for further extention of area under forest grazing. As some 14% area can be used for this purpose which is presently uhder cultivation, cultivable waste and barren land.

3. CROPPING PATTERN :

Cropping pattern is the use of land for the cultivation of crops. According to some agricultural economists a cropping pattern means the proportion of area under various crops at a point of time (Kanwar,1972). The study of cropping pattern and the soil of the region is made here.

In the area under study, various crops are grown in kharif and rabi season. The rice, ragi, maize, jowar, pulses, are kharif crops, whereas wheat, gram, sugarcane and oilseeds are rabi crops. Table 5, shows the area under different crops in the region in 1981-82.

In Karveer taluka the total gross cropped is 49,331 hectares. Out of this 70.32% area (34,694 hectares) is used for food crops. In the food crops foodgrains register 45.96% (22,725 hectares) of the gross cropped area. In the foodgrains cereals cover 40.86% (20,208 hectares) and pulses cover only 5.10% (2,517 hectares) of cropped land. Among cereals rice crop is more important and record 24.97% area (12,318 hectares) and is cultivated all over the taluka. High proportion (more than 40%) is observed in the southern, and some western part of the taluka (Fig.4.2-A). The kharif and rabi jowar is cultivated in 6.9% area (3,407 hectares). The proportion of area under ragi is 4.59% (2,268 hectares). The total pulses area in the region is 5.10% (2,517 hectares). In the pulses the gram covers 2.0% (984 hectares) and other pulses record 3.10% area (1,533 hectares) of the total cropped area. Mostly pulses are highly cultivated in the eastern and south-eastern part of the taluka (Fig.4.2-B). The sugarcane a cash crop of the region is cultivated in 22.95% area (11,323 hectares). The western and northwestern part of the taluka records the high percentage of sugarcane area, whereas very low proportion is observed in the eastern and southeastern part of the taluka (Fig.4.2-C). The groundnut is the major oil-seed of the taluka, and registers 10% area (5,204 hectares) of the total cropped land (Table 5). It is mostly cultivated in the eastern and southeastern part of the taluka (Fig.4.2-D).

Table 5 : Area under different crops in Karveer taluka, 1981-82.

Crop	Area in hect.	Percentage
Rice	12,318	24.97
Wheat	1,927	3.90
Jowar (kharif & rabi)	3,407	6.90
Ragi	2,268	4.59
Total Cereals	20,208	40.86
Gram	984	2.00
Tur	386	0.78
Other pulses	1,147	2.32
Total Pulses	2,517	5.10
Sugarcane	11,323	22.95
Chillies	415	0.84
Fruits and Vegetables	226	0.45
Groundnut	5,402	10.00
Total food crop area	34,694	70.32
Total non-food crop area	14,638	29.69
Total gross cropped area	49,331	100.00

SOURCE : i) The Socio-Economic Review & Dist.Statistical Abstract of Kolhapur District - 1981-82.
ii) Compiled by Author.

CROPPING PATTERN 1981-82

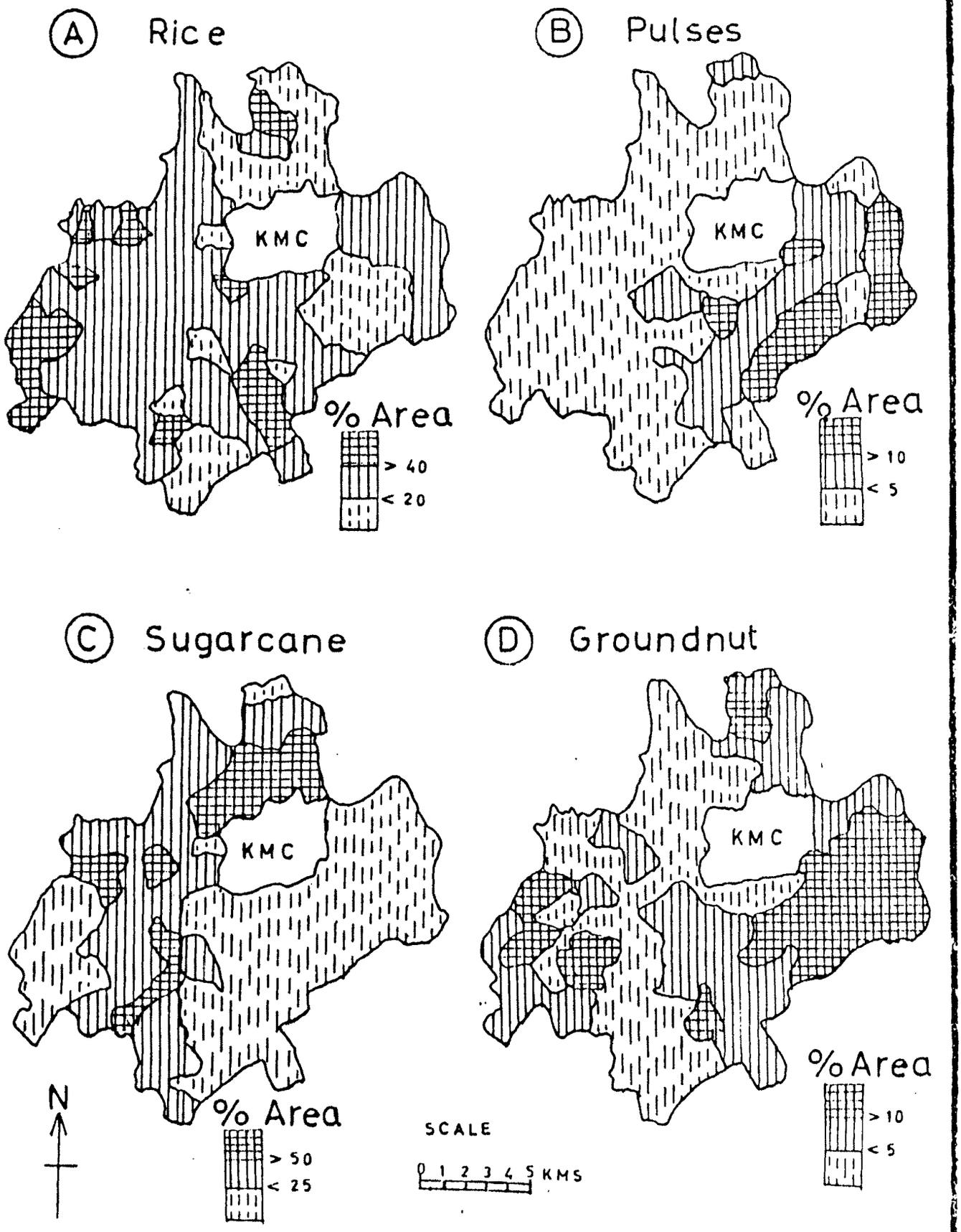


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FIG.42

Miscellaneous crops :

In the taluka tur, other cereals, sava, chillies, tobacco, fruits and vegetables are the miscellaneous crops. They record low proportion of area and serve local needs only. Tur accounts only 0.78% of the total cropped area and minor cereals occupy 0.57% area. Fruits and vegetables register 0.45% of gross cropped area. The mapping of these individual crops is difficult so they are simply ignored.

4. SOIL SUITABILITY FOR SPECIFIC CROPS :

The variation in cropping pattern is the result of physio-socio-economic factors. But the cultivation of crop is mainly based upon the quality of soils. The soil texture, depth, drainage and fertility determine the growth of plant. These properties of soil are of great importance since they explain the regional variations in cropping pattern (Singh and Dhillon,1984). However some crops need specific type of soil. This requirement of soil for particular crop is important aspect of the crop landuse planning.

By considering the physical properties of soil of the region and soil requirements of crop and also the available irrigation facilities, the general soil suitability map is attempted. The pattern of crop and soil suitability in the study area is as below.

(1) Rice :

The rice is a rainfed crop of the study region. It is important food crop of the major portion of the population. Rice is grown mainly in riverine alluvium, red loamy, laterite, red sandy, sub-mountain and deep black soil (ICAR,1980). As per the soil requirements the rice can be cultivated in some good portion of the taluka (Fig.4.3). About 26% area of the taluka is suitable for its cultivation. However its actual proportion of area in the region is 24.95%, which resembles more or less to the suitability.

(2) Sugarcane :

Sugarcane is a cash crop of the taluka and is cultivated on extensive area. Sugarcane can be grown best on medium heavy soil but can also be raised on light soils and heavy clays. As per the soil suitability about 40% area can be devoted to sugarcane which presently acquires only 22.95% of the cultivated area. Mainly the soil in Panchaganga Valley is highly suitable for the sugarcane cultivation, because of the developed irrigation facilities. Soil under rice will also became suitable for sugarcane with the provision of irrigation facilities.

(3) Groundnut & Pulses :

Groundnut and pulses both are the rainfed crops. The gram, tur and kulathi are the main pulses grown in taluka. Groundnut

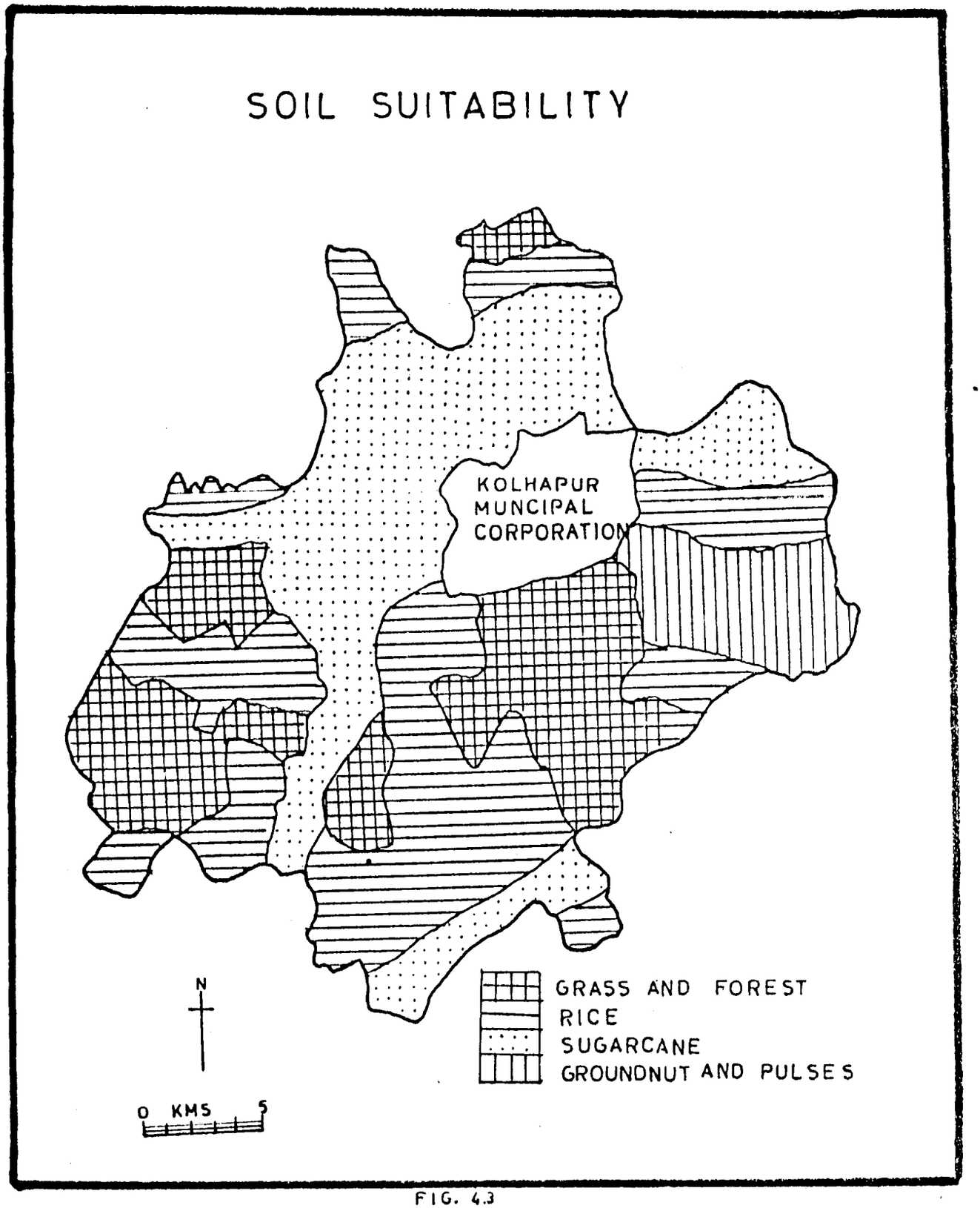

FIG. 4.3

is grown on a wide variety of soils, mainly sandy loam and loamy soil and also black soil with good drainage. The pulses prefers water retentive loamy soils and also does well on black and brown soil. As per the soil suitability the groundnut and pulses area is only 5%. But the actual proportion of area in the region is 15%. It shows that the groundnut and pulses pattern is not as per suitability.

(4) Grass & Forest :

The suitability of grass and forest land is discussed under the title relevance of land capability to general landuse in the same chapter on page 40 .

SUMMARY :

There are regional variations in landuse pattern of the study area. The areal extent of net area sown is 70.20% and its high proportion is observed in eastern and western part of the taluka. The forest area is only 1.1% which is registered in the northern part of taluka. The comparison of land capability and landuse show some misuse of land. 71% area is suitable for cultivation but actually 75.50% area is brought under cultivation, as some 4.50% additional area is used for cultivation. The 23% area excluding area under settlement and roads is suitable for non-arable use but only 1.1% and 7.7% area is under forest and permanent pastures respectively. It shows that there

is a greater slope for further extention of area under forest and grazing land.

The rice, pulses, groundnut and sugarcane are the main crops of the taluka. In cereal crops, rice is significant occupying about 24.95% area of the total cropped land. Pulses are grown every where but they are not dominant in the cropping pattern. Sugarcane is also a important cash crop occupying the significant position in the cropping pattern of the region.

Soil is important factor and determine the growth of crops. Some crops need the specific types of soil. The major portion of the taluka is suitable for rice and sugarcane cultivation. As per the soil suitability for sugarcane and rice the proportion of area is 40 and 26 percent respectively. Groundnut and pulses needs light sandy loam and loamy soil and only 5% area is suitable for their cultivation.

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