CHAPTER - V

# THE VILLAGE CASE STUDY

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1. Adur
2. Gokulshiragaon
3. Jatharwadi
4. Mharul
5. Wadawadi

Summary

References

The case study is a way of exploring and analysing the study unit. It is useful for intensive study at micro level. According to Mac Master (1962) this acts as an important supplement to and check upon the broad picture and general conclusion outlined in the preceding discussion.

The villages viz. Adur, Gokulshiragaon, Jatharwadi, Mharul and Wadawadi from different capability classes are selected for the study (Fig.1.1). The information about the soil properties and landuse is collected by the field observation. And the large scale cadestrial maps are used for reporting the information and thus the land capability and landuse maps are prepared.

1. ADUR :

The Adur village is located at 16°42'10" N latitude and 74°6'10" E longitude in Karveer taluka. It is bound by village Satarde in the north, by river Kumbhi in south, by Koparde in the east and by Kalambe in the west. Topographically it is plain region. The total geographical area is 749 hectares. The total population according to 1981 census is 1,072. The average temperature is 28°C and the average rainfall is 1,000 mm.

The soil properties and land capability classes of the village seems very significant. The clay-loam soil covers 50% area of village. The extent of sandy loam soil is 45% and only 5% area is covered by the silty loam soil. Major portion of the

village area is gently sloping. The very steep slope is found only in northwestern part of the village which is about 15% of the total area. The moderately drained soil is observed in the southern part of the village and its proportion is 50% of the total area. In northern part of the village there is high and well drained soil which covers 15% and 35% area respectively. Generally the soil colour is red-brown (Fig.5.1).

As per the soil properties the land of the village is classified into three land capability classes. The land capability class II is observed in southern part of the village which registers about 50% area and 35% area is covered by land capability class III in northern part of the village (Fig.5.1-H). These two land capability classes are suitable for cultivation. The land capability class VI records 15% area in the northern and northwestern part of the village and it is not suitable for cultivation but suitable for grazing and forestry.

The 15% area of the village is not used as per the land capability. It is suitable for grazing and forestry but is used for crop cultivation. The area under land capability class II and III is used for foodgrains and sugarcane cultivation. In this village the sugarcane is the main crop cultivated in 80% area (Fig.5.1-I). Sugarcane needs clay loam, gentle slope,deep and moderatly drained soil. The alluvial soils are suitable for the cultivation of foodgrains and sugarcane (Sing & Dhillon, 1984). These soil requirements for sugarcane are available in this village.

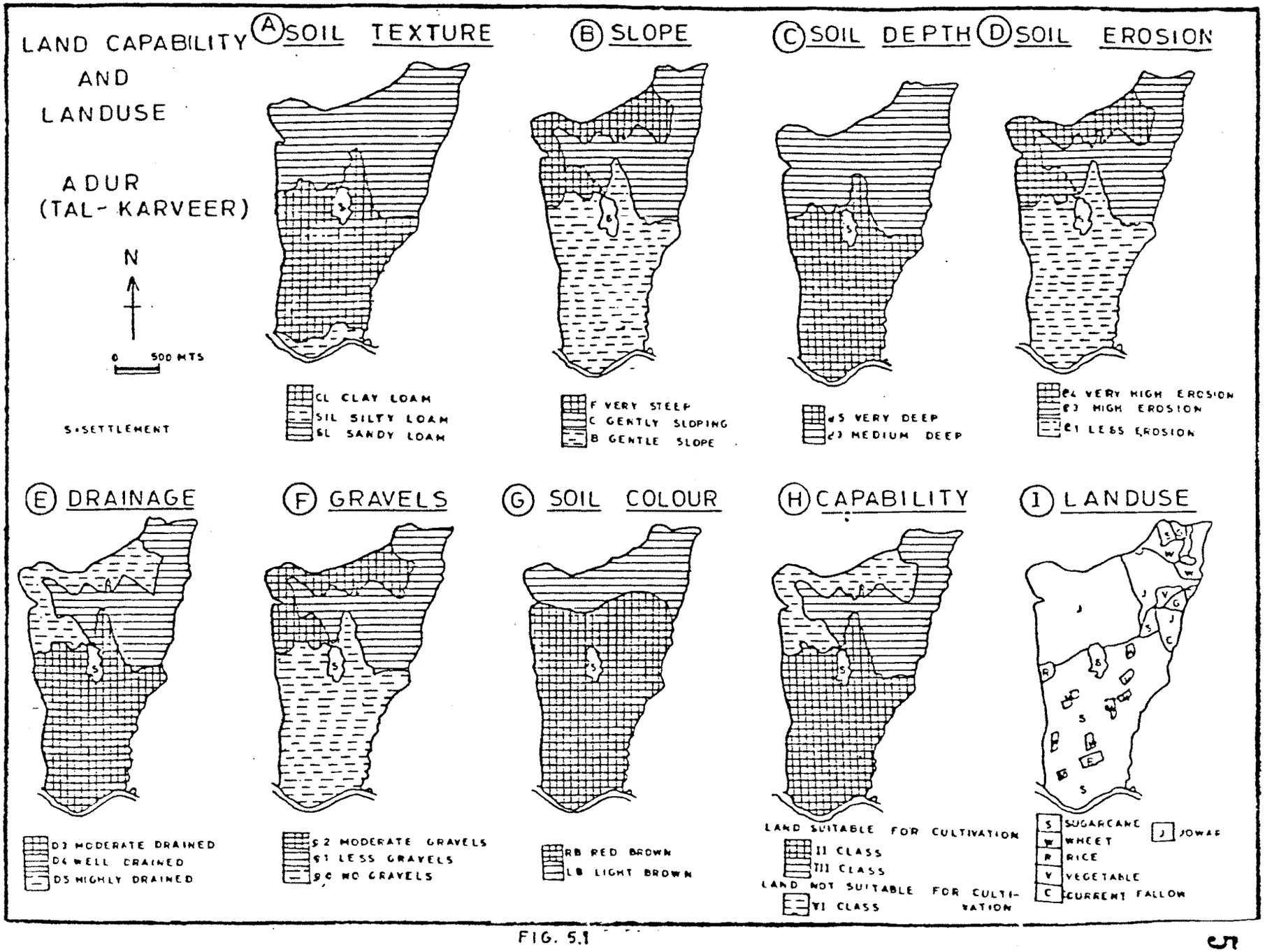

LAND CAPABILITY AND LANDUSE
ADUR (TAL-KARVEER)
N
0 500 MTS
S-SETTLEMENT
A SOIL TEXTURE
CL CLAY LOAM
SIL SILTY LOAM
SL SANDY LOAM
B SLOPE
F VERY STEEP
C GENTLY SLOPING
B GENTLE SLOPE
C SOIL DEPTH
d3 MEDIUM DEEP
D SOIL EROSION
e4 VERY HIGH EROSION
e3 HIGH EROSION
e1 LESS EROSION
E DRAINAGE
D3 MODERATE DRAINED
D4 WELL DRAINED
D5 HIGHLY DRAINED
F GRAVELS
g2 MODERATE GRAVELS
g1 LESS GRAVELS
g0 NO GRAVELS
G SOIL COLOUR
RB RED BROWN
LB LIGHT BROWN
H CAPABILITY
LAND SUITABLE FOR CULTIVATION
II CLASS
III CLASS
LAND NOT SUITABLE FOR CULTIVATION
VI CLASS
I LANDUSE
S SUGARCANE
W WHEET
R RICE
V VEGETABLE
C CURRENT FALLOW
J JOWAR

FIG. 5.1

2. GOKULSHIRAGAON :

The Gokulshiragaon is located at 16°38'35" N latitude and 17°16'30" E longitude in Karveer taluka. It is bound by village Ujalaiwadi and Panchgaon in the north, by village Kaneri in the south, by Tamgaon in the east and by Kandalgaon in the west. The total geographical area of village is 1,931 hectares and the total population according to 1981 census is 1,044. Topographically it is rugged. The average temperature is 28°C and the average rainfall is 1,200 mm.

The soil slope characteristics of the village are identified by the field survey and observation. The clay loam soil is found in the western part of the village. The moderate slope covers 35% area whereas only 25% area is covered by gently sloping in southeastern and northeastern part (Fig.5.2-B). The very deep soil covers 35% area and about 50% area is covered by the shallow soil. The very high erosion seems dominant in the major portion of the village. The well drain soil covers 65% area of the total and is noted in good portion of the village. The soil with high gravel content is found in southern and eastern part and the moderate gravel content is observed in northern part of the village. In the eastern part the soil colour is red and it covers 30% of area. The light brown soil is found in southwestern part and its areal extent is 35% of the total area. The brown colour soil is observed in northern part and its proportion of area is 35% of the village area (Fig.5.2-G).

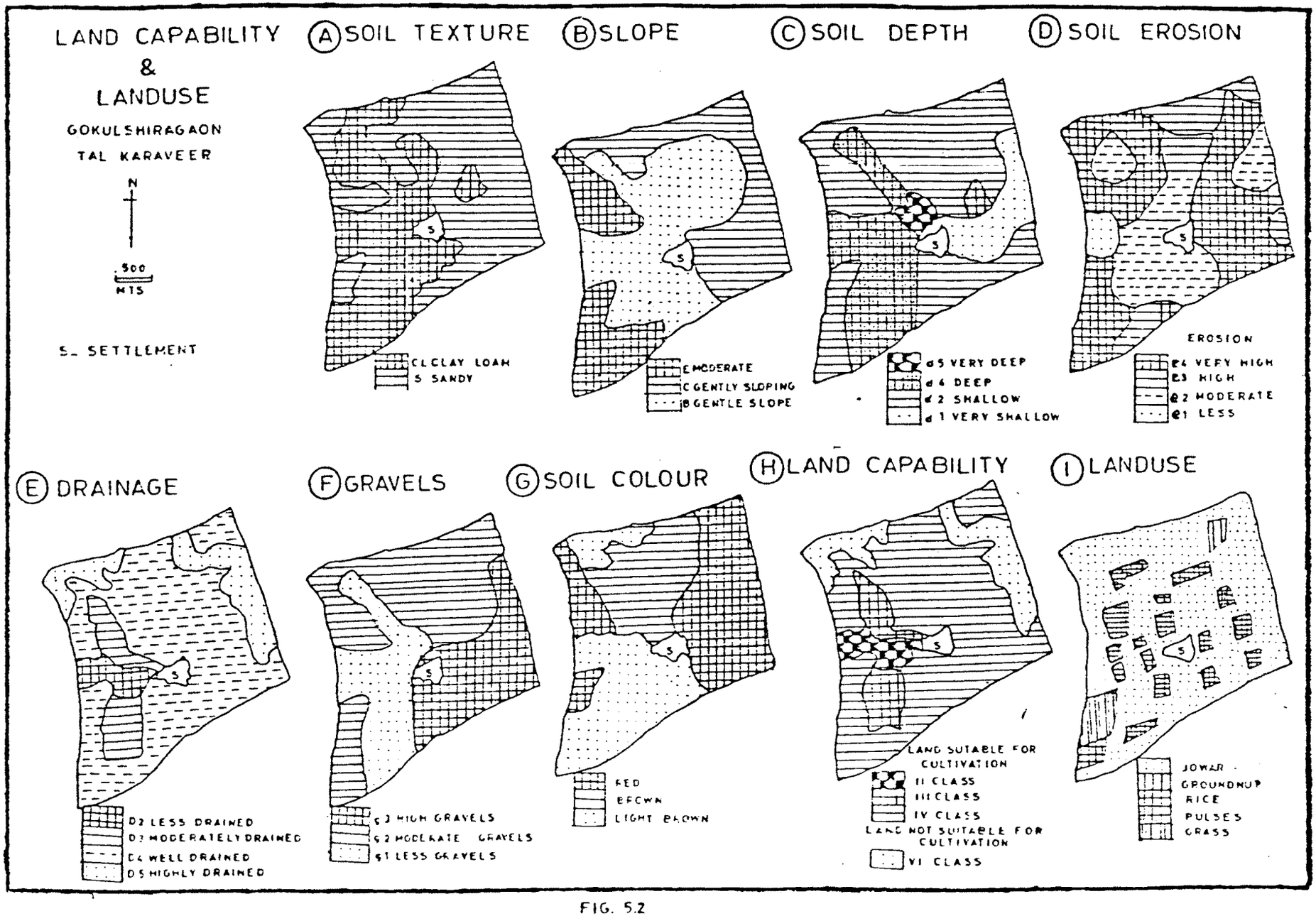

LAND CAPABILITY & LANDUSE
GOKULSHIRAGAON
TAL KARAVEER
N
500 MTS
S- SETTLEMENT
A SOIL TEXTURE
CL CLAY LOAM
S SANDY
B SLOPE
E MODERATE
C GENTLY SLOPING
B GENTLE SLOPE
C SOIL DEPTH
d 5 VERY DEEP
d 4 DEEP
d 2 SHALLOW
d 1 VERY SHALLOW
D SOIL EROSION
EROSION
e4 VERY HIGH
e3 HIGH
e2 MODERATE
e1 LESS
E DRAINAGE
D2 LESS DRAINED
D3 MODERATELY DRAINED
D4 WELL DRAINED
D5 HIGHLY DRAINED
F GRAVELS
G3 HIGH GRAVELS
G2 MODERATE GRAVELS
G1 LESS GRAVELS
G SOIL COLOUR
RED
BROWN
LIGHT BROWN
H LAND CAPABILITY
LAND SUITABLE FOR CULTIVATION
II CLASS
III CLASS
IV CLASS
LAND NOT SUITABLE FOR CULTIVATION
VI CLASS
I LANDUSE
JOWAR
GROUNDNUP
RICE
PULSES
GRASS

FIG. 5.2

The land of the village is classified into four land capability classes (Fig.5.2-H). The land capability class II record only 10% area of the total in western part of the village. The class III land is observed in some southwestern and north-eastern part of the village which covers 20% area of the total. The class IV land occupy the largest area of the village and its proportion is about 50% of the village total area. These three land capability classes occupy about 80% area which is suitable for cultivation. But the class VI land which covers 20% area in eastern and north western part of the village is not suitable for cultivation but suitable for grazing and forestry.

About 20% land of the village is not used as per land capability. It is suitable for grazing but actually very less area of it is used for grazing as most of the area is brought under jowar cultivation (Fig.5.2-I). The soil of the village is used for the cultivation of different foodgrains viz. rice, jowar and pulses. They need clay loam and sandy soil and well drained soil with moderate gravel content. These properties of soil are available in this village.

3. JATHARWADI :

The Jatharwadi is located at 16°46'45" N latitude and 74°14'15" E longitude in Karveer taluka. It is bound by village Bhuye in south, by Shiye in east and west, and by

Madale in north. The total geographical area of village is 690 hectares and the total population according to 1981 census is 1,201. Topographically it is hilly area. The average temperature is 28°C and the average rainfall is 1,200 mm.

Generally the soil texture is clay loam in southern part of the village and covers 35% area. Sandy soil texture is found in northern part which register 35% area of the total (Fig.5.3-A). About 65% area is with gentle slope in the southern part and very steep slope is observed in northern part which records 25% area of the village. The very deep and medium deep soil occurs in southern and western part of the village. The shallow and very shallow soil occurs in northern and eastern part of the village which covers 30% and 10% area respectively (Fig.5.3-C). The high erosion is observed in northern and less erosion in southern part of the village. The moderate drained soil covers 55% area and high drained soil covers 30% area of the total land. The soil with less gravel content is recorded in the southern part of the village. Generally the soil colour is red-brown and dark red-brown (Fig.3.3-G).

The land of this village is classified into four land capability classes (Fig.5.3-H). The class II land occurs in southern part of the village and covers 35% area. The surrounding area of the village is occupied by the class III land which record only 15% area. The class IV land occurs in the eastern and north

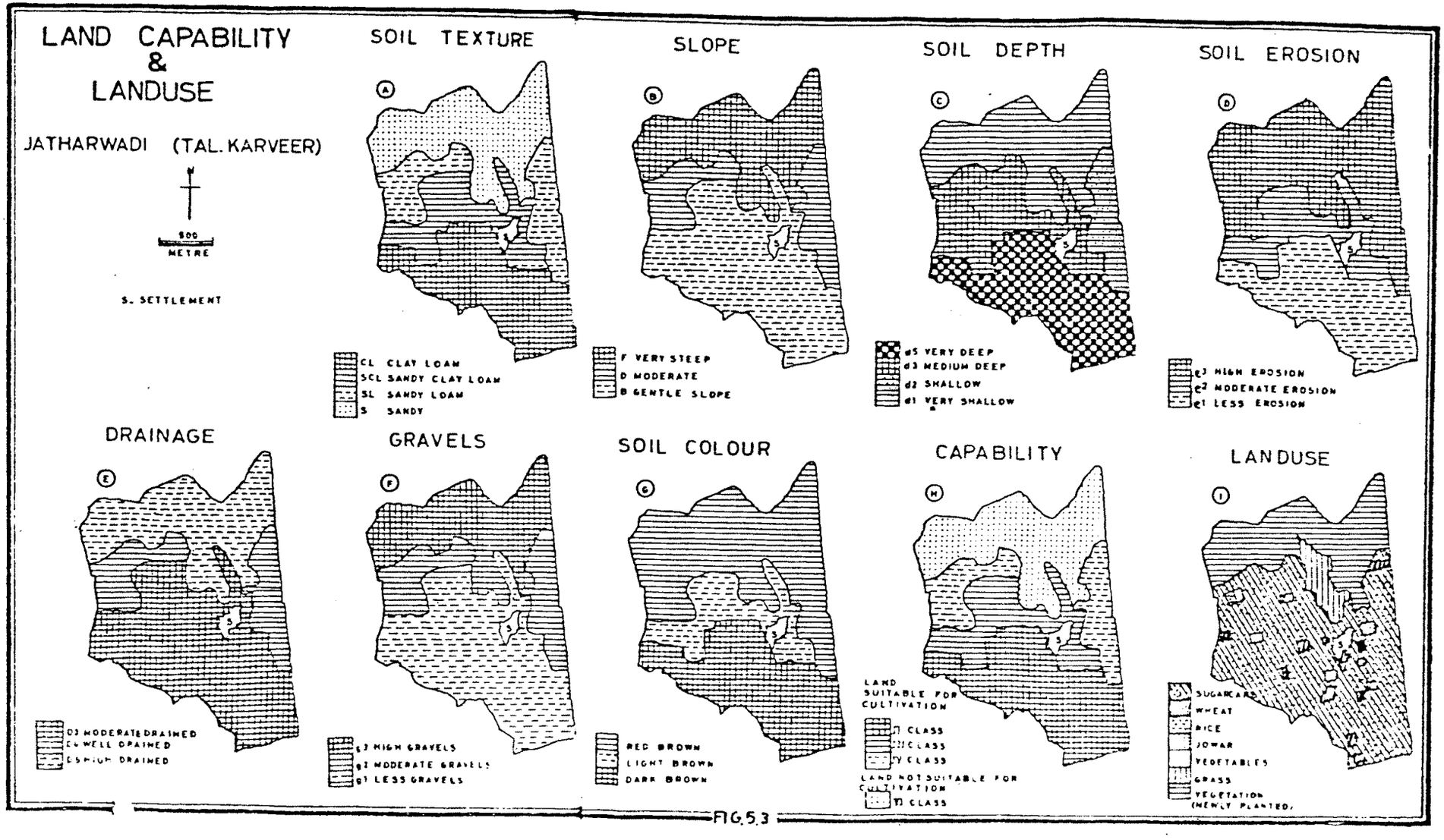

LAND CAPABILITY & LANDUSE
JATHARWADI (TAL. KARVEER)
500 METRE
S. SETTLEMENT
SOIL TEXTURE
A
CL CLAY LOAM
SCL SANDY CLAY LOAM
SL SANDY LOAM
S SANDY
SLOPE
B
F VERY STEEP
D MODERATE
B GENTLE SLOPE
SOIL DEPTH
C
d3 VERY DEEP
d3 MEDIUM DEEP
d2 SHALLOW
d1 VERY SHALLOW
SOIL EROSION
D
e3 HIGH EROSION
e2 MODERATE EROSION
e1 LESS EROSION
DRAINAGE
E
D3 MODERATE DRAINED
D2 WELL DRAINED
D1 HIGH DRAINED
GRAVELS
F
g3 HIGH GRAVELS
g2 MODERATE GRAVELS
g1 LESS GRAVELS
SOIL COLOUR
G
RED BROWN
LIGHT BROWN
DARK BROWN
CAPABILITY
H
LAND SUITABLE FOR CULTIVATION
I CLASS
II CLASS
IV CLASS
LAND NOT SUITABLE FOR CULTIVATION
VI CLASS
LANDUSE
I
SUGARCANE
WHEAT
RICE
JOWAR
VEGETABLES
GRASS
VEGETATION (NEWLY PLANTED)

FIG. 5.3

western part of the village and occupies only 15% area. The total area of class II, III, IV land is 65% and is suitable for cultivation. The class VI land is found in northern part of the village and it covers 35% area which is not suitable for cultivation but suitable for grazing and forestry.

The map (Fig.5.3-I) shows that the land of the village is put to different crop uses, such as sugarcane and other food crops. The soil of the village is suitable for these crops. But the class VI land which is suitable for grazing and forestry is newly planted. Generally the landuse of the village is as per the land capability.

4. MHARUL :

The Mharul village is located at 16°40'10" N latitude and 74°6'10" E longitude in Karveer taluka. It is bound by the village Amshi and Khatangle in the west, by village Bhahirewadi in the east and south, and the river Kumbhi in the north. The total geographical area of the village is 765 hectares and the total population according to 1981 census is 1,815. The average temperature is 28°C and average rainfall is 1,000 mm.

The soil texture is clay loam, sandy loam and silty loam. The sandy loam textural soil covers 75% area of the total land (Fig.5.4-A). About 55% area is gently sloping and 25% area occupying the south-western part of region has steep slope. The shallow soil occupy a major portion of the region; whereas very

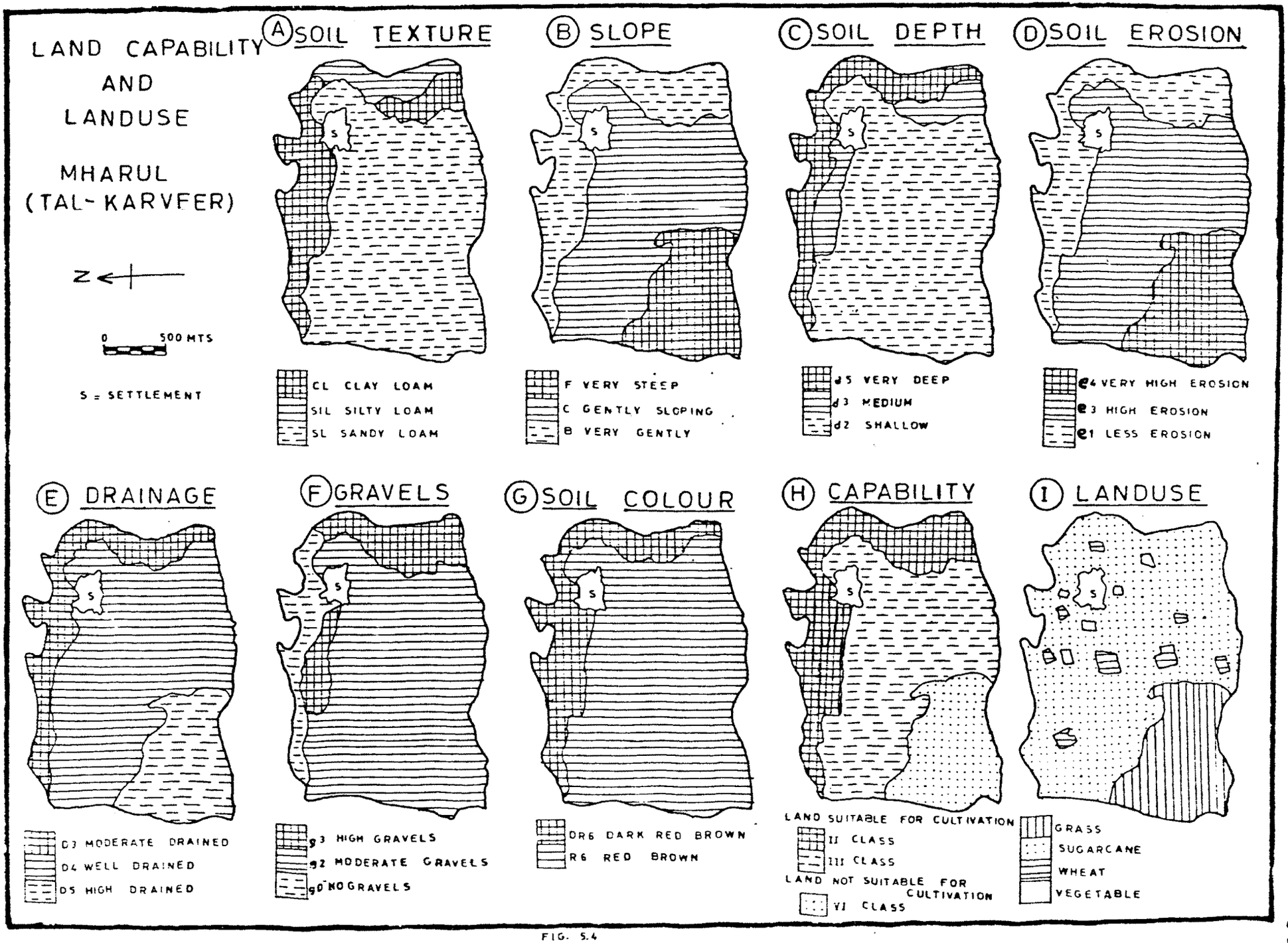

LAND CAPABILITY AND LANDUSE
MHARUL (TAL- KARVFER)
N
0 500 MTS
S = SETTLEMENT
A SOIL TEXTURE
CL CLAY LOAM
SIL SILTY LOAM
SL SANDY LOAM
B SLOPE
F VERY STEEP
C GENTLY SLOPING
B VERY GENTLY
C SOIL DEPTH
d3 MEDIUM
d2 SHALLOW
D SOIL EROSION
e4 VERY HIGH EROSION
e3 HIGH EROSION
e1 LESS EROSION
E DRAINAGE
D3 MODERATE DRAINED
D4 WELL DRAINED
D5 HIGH DRAINED
F GRAVELS
g3 HIGH GRAVELS
g2 MODERATE GRAVELS
g0 NO GRAVELS
G SOIL COLOUR
DR6 DARK RED BROWN
R6 RED BROWN
H CAPABILITY
LAND SUITABLE FOR CULTIVATION
II CLASS
III CLASS
LAND NOT SUITABLE FOR CULTIVATION
VI CLASS
I LANDUSE
GRASS
SUGARCANE
WHEAT
VEGETABLE

FIG. 5.4

deep soil is found on the river bank and covers only 15% area of the village (Fig.5.4-C). The high soil erosion and very high soil erosion records 60 and 20% area respectively. The well drained soil covers 60% area of the total land (Fig.5.4-E). Moderate gravel soil cover is about 75% of the total village area. Generally the soil colour is red-brown and dark red-brown (Fig.5.4-G).

The land of the village is classified into three land capability classes (Fig.5.4-H). The class II land register 25% area and occurs along the river bank. The class III land covers 50% area in the central part of the village. The land capability classes II and III covers 75% area and it is suitable for cultivation. Whereas the class VI land covers 25% area in southwestern part of the village. It is not suitable for cultivation but suitable for grazing and forestry.

The agricultural land of the village is used for the cultivation of different crops, but the good portion is occupied by sugarcane. The soil of the village is suitable for sugarcane cultivation.

5. WADAWADI :

The Wadawadi village is located at 16°34'44" N latitude and 74°13'15" E longitude in Karveer taluka. It is bound by village Giragaon to north, by village Wadagaon in the east and south & by village Dindnerli in west (Fig.1.1). The total geographical area is 503 hectares. The total population according to

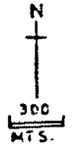
1981 census is 294. Topographically it is hilly area. The average temperature is 27°C and the average rainfall is 1,350 mm.

The soil properties and land capability classes of the village are investigated. The soil texture of the village is sandy loam and covers 70% area. The slope is gentle to very steep. The shallow soil records 75% area and very deep soil which occurs in the southeastern part of the village records only 30% area of the village. The moderate soil erosion is observed around the settlement and register only 30% area. The very high soil erosion is also observed in the village and it's area is 30% of the total soil cover (Fig.5.5-D). The high drained soil cover is observed all over the village except the southeastern part. In the southeastern part there is no gravel content in the soil. And in the remaining part of the village there is less and moderate gravel content which covers 40 and 30% area respectively. The soil colour is dark-brown and red-brown (Fig.5.5-G).

The land of this village is classified into three land capability classes (Fig.5.5-H). The class III land occurs in the southeastern part of the village which covers only 30% area of the village. The class IV land has occupied the major portion of the village. The total area of class III & IV is 75% and it is suitable for cultivation. The class VI land is observed in the hilly area and covers only 25% area. This proportion of

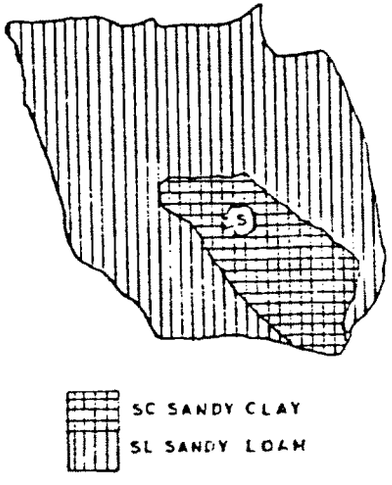
# LAND CAPABILITY & LANDUSE

WADAWADI TAL. KARAVEER

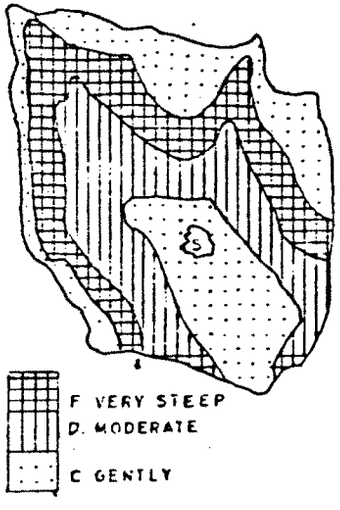



S- SETTLEMENT

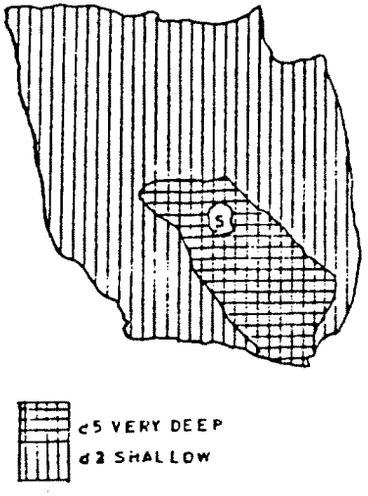
## (A) SOIL TEXTURE



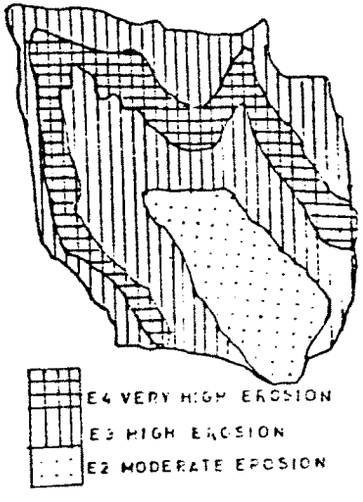

## (B) SLOPE



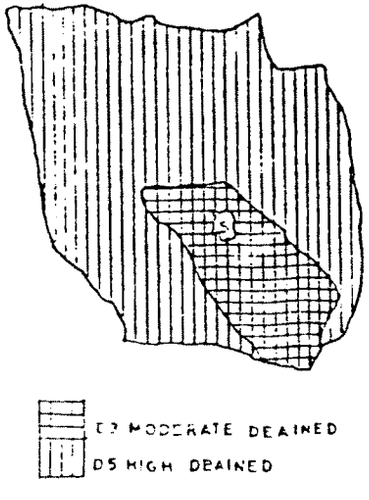

## (C) SOIL DEPTH



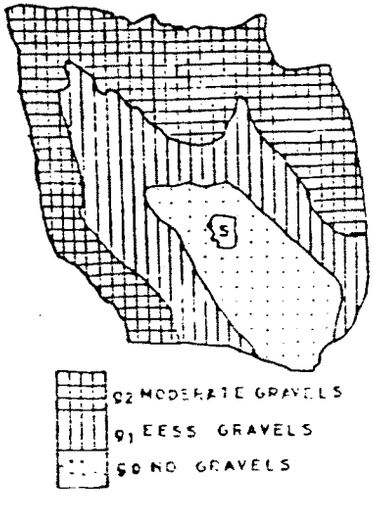

## (D) SOIL EROSION



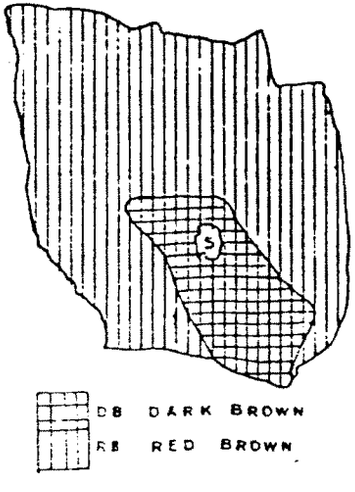

## (E) DRAINAGE



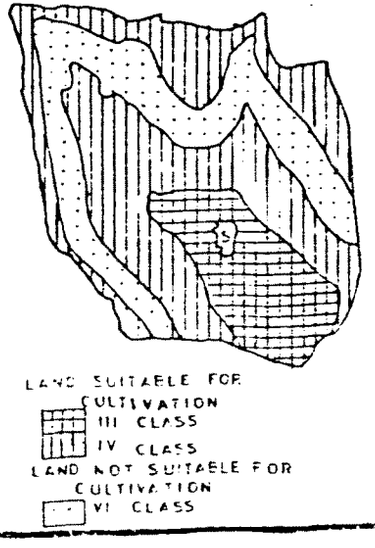

## (F) GRAVELS




## (G) SOIL COLOUR




## (H) LAND CAPABILITY




## (I) LANDUSE

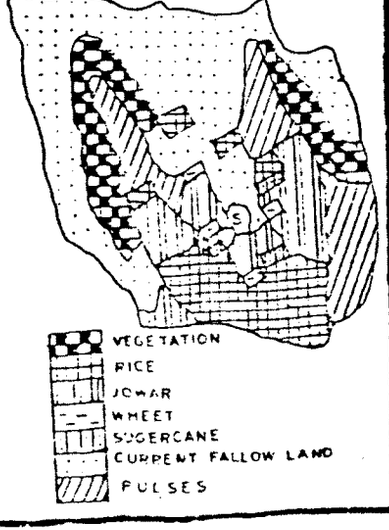



FIG 5.5

area is not suitable for cultivation but suitable for grazing and forestry.

According to land capability, the class VI land is suitable for grazing and forestry but actually there is less vegetation cover. The foodgrain crops which need sandy clay and sandy loam soil are mainly cultivated in this village. But the proportion of area under each crop is low.

SUMMARY :

The five villages anmely Adur, Gokulshiragaon, Jatharwadi, Mharul and Wadawadi are chosen for the study of land capability and landuse. They represent the various land capability classes. In Adur village the clay and sandy loam textured soil proportion is above 45%. The slope is gentle. The soil is deep and moderately drained. The class II and III covers about 85% area of the village. The Adur village is representative of the land capability class II. The sugarcane crop mostly dominated the agricultural landscape. The Gokulshiragaon village is representative of the land capability class IV. The class IV land is found in vast area of Gokulshiragaon. Here the foodgrain crops like rice, jowar, pulses are grown. The soil properties of Jatharwadi are clay and sandy, gentle slope, shallow depth and moderate drained. The class II, III and IV covers about 70% area and the use of land is as per the land capability. It is representative of the land capability class III. The Mharul village is representative

of the land capability class VI. Here the soil properties are sandy loam, gentle slope, shallow soil, high erosion, well drained and moderate gravel content. The sugarcane and rice are the major crops of this village. The soil texture of village is sandy loam and sandy clay. The shallow soil depth, high erosion and highly drained soil are the other characteristics. In this village class III and IV covers 30% and 45% area respectively.

The 15% land of Adur village is not used as per the land capability. In Gokulshiragaon some area of class VI land is not used as per the land capability. The land capability classification of Wadawadi village indicates that the class VI land is suitable for grazing and forestry but actually there is less vegetation cover. However, the land of Jatharwadi and Mharul village is used as per the land capability.

## R E F E R E N C E S

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