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LAND USE PATTERN IN WESTERN MAHARASHTRA: A GEOGRAPHICAL ANALYSIS

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Abstract

Land is the most important natural resource of a country and the best base for agricultural production. The land surface is fixed and of this only a certain pro portion is available for cultivation. It is necessary to ascertain the extent to which land, now lying waste can become available for cultivation .Therefore land utilization is necessary for agricultural development and planning. Efficient use of land depends on the capacity of man to utilize the land and manage it in proper perspective. Thus utilization of land for different purposes indicates an intimate relationship between prevailing ecological conditions and man with Irrigation facilities farmer is able to grow cash crops for gaining more benefits which bring about the changes in cropping pattern of the region. Irrigation responds the shift from seasonal cultivation to permanent and promotes more intensive cultivation. It motivates the multiplicity in land use, cropping and secures high yields per unit area and thus attains optimum level of vertical expansion and output. The Solapur, Sangli, Kolhapur, Satara and Pune districts falls in Western part of the Maharashtra State .The land in the region has been divided into five major land use categories. Namely forest, land not available for cultivation, other uncultivated land, fallow land and net area sown, The Western Maharashtra region is located in Maharashtra State. . It covers an area of 57235 Sq .Km With comprise five district and 58 tehsils and population of about 23449049 as per 2011 census. The present Research paper is examined on land use Pattern in western Maharashtra: A Geographical analysis

Key Word: *Gross Cultivated area, Net sown area, Major Irrigation Project*

1. Introduction:

Land is the most important natural resource of a country and the best base for agricultural production. Land-use and land-cover change, a central component of global environmental change with direct implications for The Earth's climate, ecology and human societies, is of great concern to national and international policymakers in Indian context, agricultural is a basic activity, which accounts one fourth of the National income and provides employment to 65% of working population, and still Indian agriculture gambles with the monsoon as inadequate water resources irrigate about 40% area. The Solapur, Sangli, Kolhapur, Satara and Pune districts falls in Western part of the Maharashtra State.

2. Objectives:

The present research paper has examined land use pattern in western Maharashtra

3. Data Base & Methodology:

In the analysis secondary data have been used. The spatial analysis therefore has been attempted here at tehsil level for the year 2012. The secondary data were collected to the abstracted for the present analysis, from the published records of zilla Parishad of Solapur, Sangli, Kolhapur, Pune and Satara Districts. The Collected data and Information lanalysed analysis with help of maps and tables.

4. The Region:

The Western Maharashtra region is located in Maharashtra State. The Study region western Maharashtra extends between 150 45/ North to19024/ North latitudes and 730 19/ East to 760 15/East longitudes. It covers an area of 57235 Sq .Km With comprise five district and 58 tehsils and population of about 23449049 as per 2011 census. The density of population is 347 persons. The region is surrounded by Karnataka state in the south, Konkan region in the west, Nasik in the north and the eastern boundary is surrounded by Aurangabad administrative region of Maharashtra. Fig No 1.1

broadly, The Physiographic of the region is uneven in nature. Higher elevation is Sahyadris. The average height of the range is 1300 meters. The highest peak of the region is Kalsubai 1646 Meters. Harishchandra-Balaghat and Shambhu-Mahadev these are the sub ranges of sahyadri, which extends in North-West and South -east direction in the study region. The major river system is Bhima and Krishna. These rivers with their tributaries flow in Southeast direction throughout the region. Sina, Nira, Ghod, Kukdi, Indrayani, Mula, Mutha, are the major tributaries of Bhima and Koyana, Yerla, Warana, Panchganga, are major tributaries of river Krishna. As mentioned earlier the study region comprises of five districts i.e. Pune, Satara, Sangli, Kolhapur and Solapur .There are total 58 tehsils in the Study region.

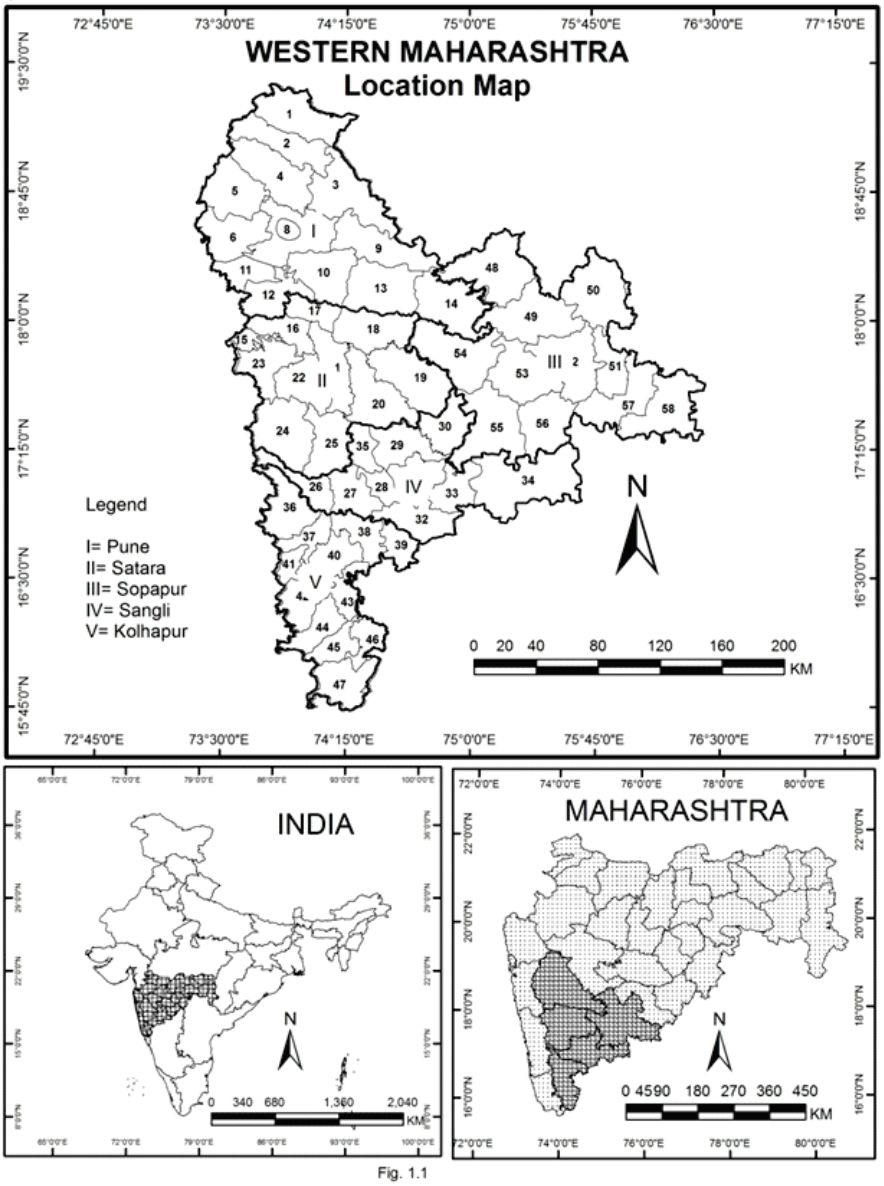


Fig. 1.1

5. Spatial Pattern of Land Use in Western Maharashtra:

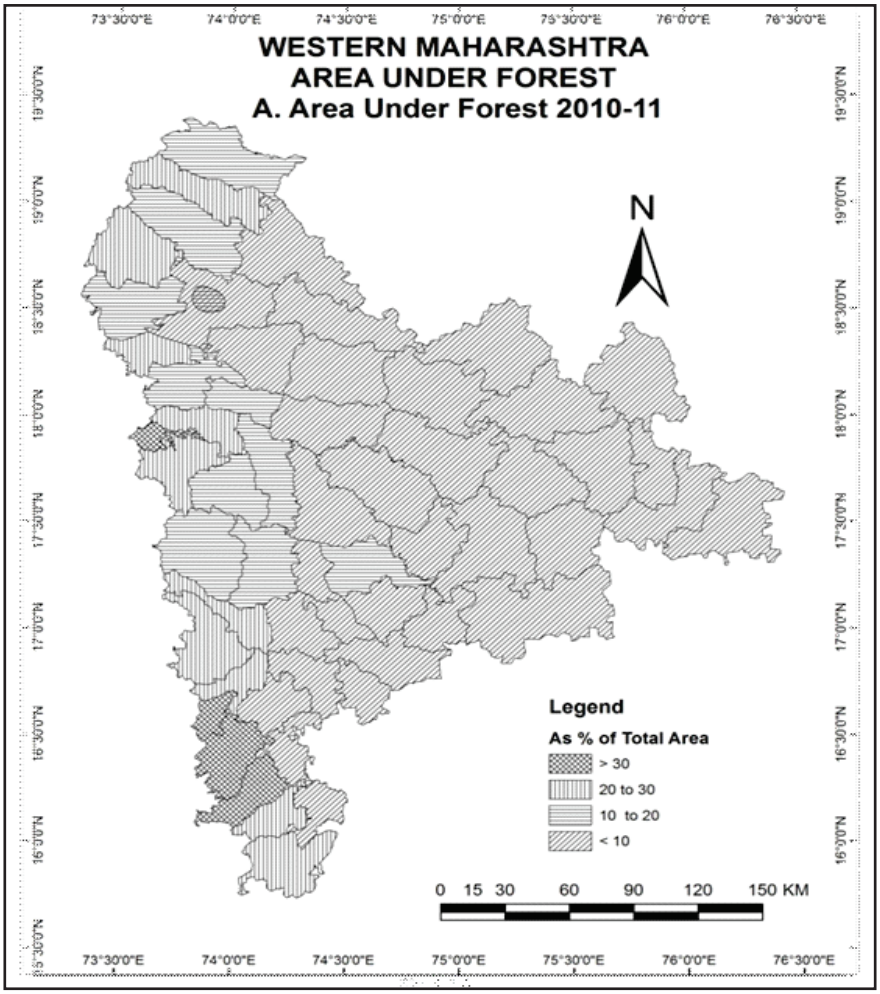
Land is the most important natural resource of a country and the best base for agricultural production. The land surface is fixed and of this only a certain pro portion is available for cultivation. It is necessary to ascertain the extent to which land, now lying waste can become available for cultivation (Gurjar 1987).Therefore land utilization is necessary for agricultural development and planning. Land use is a Geographical concept since it involves specific areas. The land use study in its spatial context is essential to understand the regionalization of the areas of optimum land use degraded areas etc. (Shinde, 1988). Efficient use of land depends on the capacity of man to utilize the land and manage it in proper perspective. Thus utilization of land for different purposes indicates an intimate relationship between prevailing ecological conditions and man. (Pawar, 1989)In many such schemes activity on the land has been the major criterion for the classifying land use which essentially a quantitative rather than quantitative variable. (Phule 2002).Land classification is based largely on the use of land (Ali Mahamad, 1978). Census of India has classified land utilization in nine different categories, but in the Present study they have been grouped into five major categories, as the percentage of area under individual categories is relatively insignificant. The land in the region has been divided into five major land use categories. Namely forest, land not available for cultivation, other uncultivated land, fallow land and net area sown

5.1 Area under Forest:

The area under forest is the first category of the general land use pattern. It is found that the average per cent of forest land is 10.43 this category includes all areas actually under forests whether state or private owned and classified or administrative as forests under any legal enactment dealing with the forests.

The study region has very insignificant area under forest mostly arid and scrub patches are recorded. The forest area is noted in ranges and upland areas old as well newly planted forests. Kolhapur (18.05 %), Satara (13%), and Pune (11.00%) are having a more land under forest than regional average. It is because of Western part of these districts is a part of highland of Western Ghats as well as high rainfall zone. The Semi evergreen monsoon forests are found in this part of the study area. Apart from, Sangli (5.53%) and Solapur (2.14%) districts are having a very low per cent of forests than regional average, because of central plain and plateau topography and eastern part of these districts fall under the rain shadow zone.

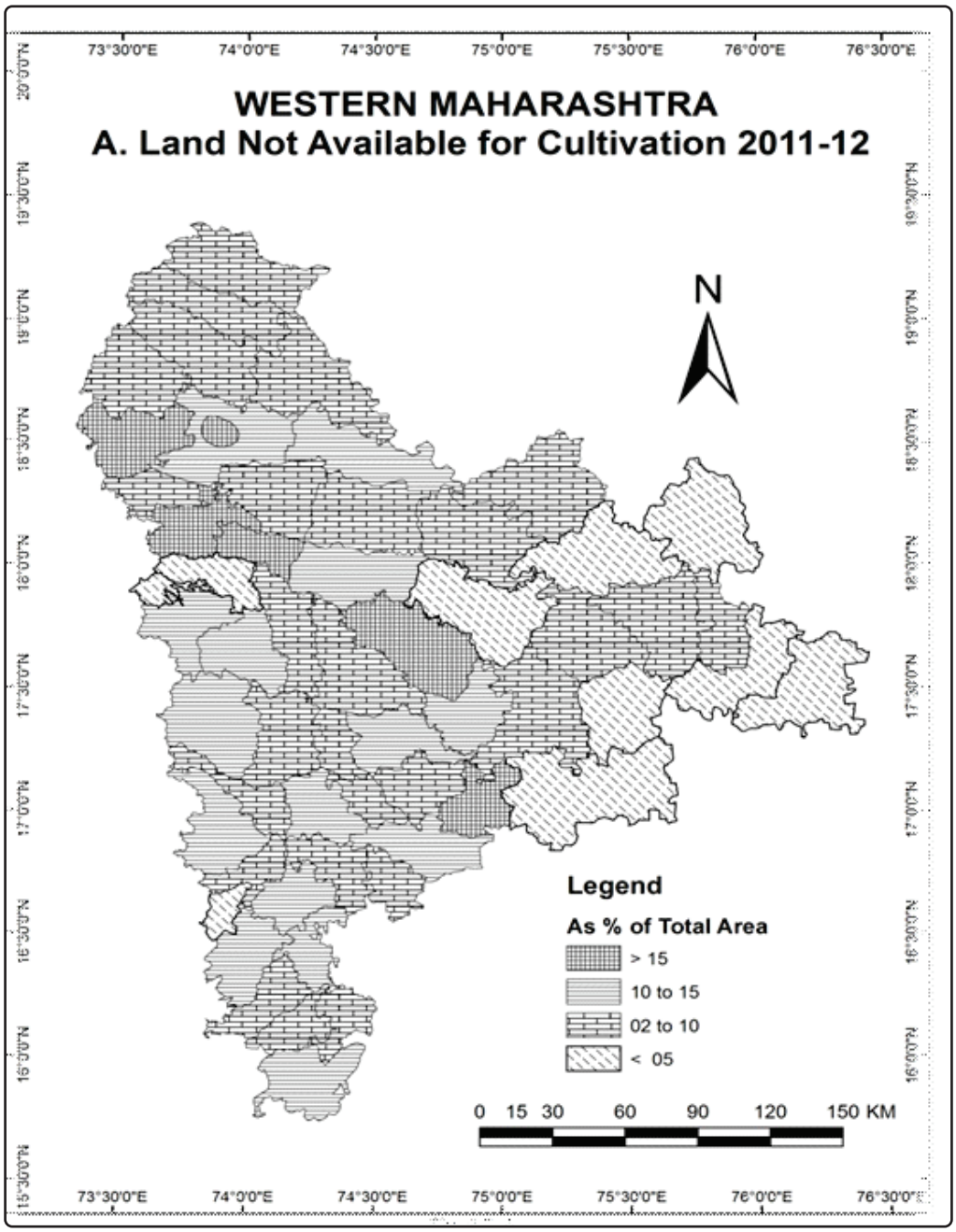
Forest occupies about 10.43 per cent of the total geographical area in this region. This is less than the state average of 17.46 per cent. There are remarkable Very highest levels tehsils ranging from above 30.00 per cent in Radhanagri, Bhudargad, Bawda, and Mahabaleshwar tehsils. The highest level tehsils of forest area 20 to 30 per cent in Panhala, Wai, Shirala, Shahuwadi, Velhe, Ajara, Jaoli, Ambagaon, Chandgad, and Maval, The moderate tehsils level forest area Between 10 to 20 per cent has under forest in Karad, Khanapur (vita), Koregaon, Khandala, Bhor, Khed, Juneer, Mulshi and Patan tehsils of western Maharashtra, and remaining tehsils were lowest of below 10 per cent areas under Forest.



5.2 Land Not Available for Cultivation:

This category includes the land put to non agricultural use, barren land uncultivable land. Area under non agricultural uses comprises the area under settlements, roads, railway, embankments, canals tanks and burial cremation play camping etc. whereas Barren and uncultivable lands are those covered by barren out crops of rocky hills, swamps, silted lands old quarry pits, sand deserts, river beds, torrents ravines etc. in another words this is the land which cannot be brought under cultivation 9.14 per cent area belongs to this category which is much less as compared to Maharashtra State average 9.47 per cent. The Second category is the land not available for cultivation includes lands such as barren, uncultivable and land occupied by non agricultural uses like settlements, roads railways, rivers, canals etc. The regional average area under this category is 9.14 per cent. As compare to this Satara (11.49%) Pune (10.80%) and Kolhapur (10.07%) districts recorded high percentage than regional average. Sangli district (9.03%) is just behind of then regional average and Solapur district

has recorded lowest percentage in this category i.e. only (5.32%) There are remarkable Very highest per cent lands not available for cultivation at tehsils levels ranging from above 15.00 per cent Kavthemahalkal, Man, and Mulshi, Khandala, Bhor and Pune city tehsils. The highest per cent Land Not Available for Cultivation in above 11 to 15 per cent in Patan, Miraj, Chandgad, Karvir, Atpadi, Shahuwadi,



Jaoli, Kanapur, Phaltan, Haveli, Walwa, Radhanagri, Satara (tehsil) and Daund tehsils. The Land Not Available For Cultivation is followed by Madha, Akkalkot, South Solapur, Mangalwadha,Malshiras,Mahabaleshwar,Jat,Bawda,Barshi and Wai tehsils have recorded less pro portion of land (below 5 per cent) under this category. Remaining tehsils of 5 to10 Moderate per cent of Land Not Available for Cultivation, Fig No 3

Table No 1
Western Maharashtra – General Land use Pattern 2011-12

Sr. No.	Land use Category	Area in Hect. 2011-12	Percentage
I	Non Cultivable land		
1)	Area under Forest	599021	10.43
2)	Land Not Available for cultivation	525408	9.14
A)	Land under non Agriculture use	184289	3.21
B)	Barren and uncultivable land	341119	5.94
II	Cultivable Land		
3)	Net Area sown	3667434	63.83
4)	Fallow land	605661	10.54
A	Current fallow	266176	4.63
B	Other fallow	339485	5.91
5)	Other uncultivated land	488237	8.50
A)	Cultivable waste land	417873	7.27
B)	Permeant pasture	70364	1.22
C)	Others	0	0

Source-Socio Economic Review and Statical abstract Solapur Satara, Sangli, Kolhapur, Pune Districts

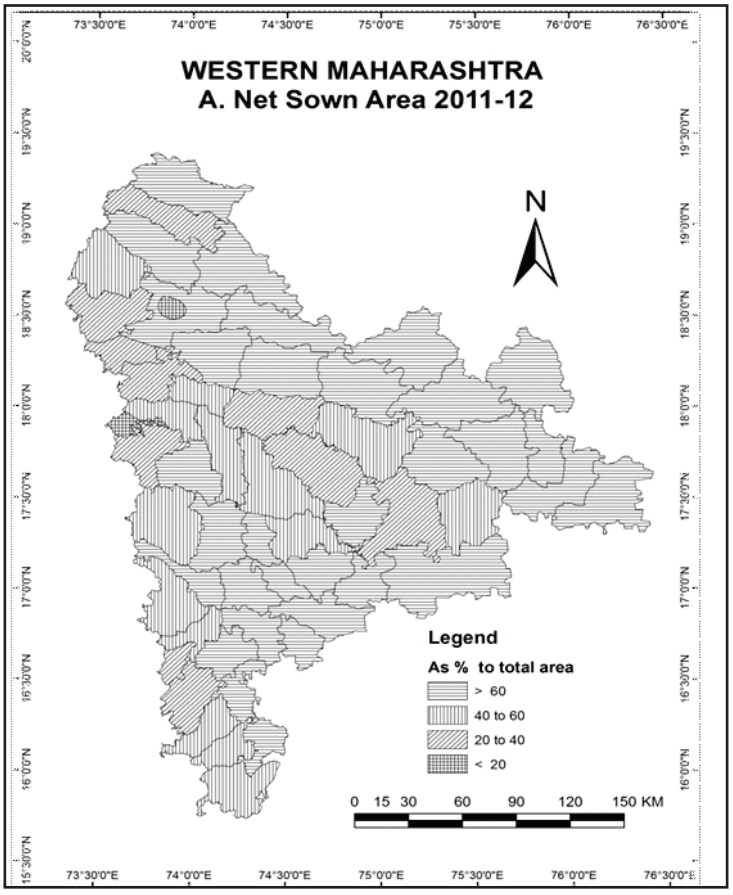
5.3 Net Sown Areas:

This category constitutes the extent of the cropped land in any region. This is of vital significance in studies relating to agricultural geography. The net area sown is the actual area under crops sown once in the same year. In Solapur, Sangli, Kolhapur, Pune, and Satara districts net sown area occupies the largest share i.e. 63.83 per cent of the regions. Geographical area which is more than

state average 57.69 per cent river valleys of the districts are well suited for agricultural practices. Sangali, (74.06%) Solapur (67.60%) are well high of the regional average. Pune district recorded just nearby the average, i.e. 63.49% and Kolhapur 58.63%, Satara 50.49% respectively under this category (Fig 4).The outstanding pro portion of this category is observed in the tehsils namely Haveli,Shirala,Khed,Akkalkot,Walwa,Daund,Indapur,Mohol,Karvir,Atpadi,Madha,Tasgaon,Junner ,Kavthemahankal,Karmala,Baramti,South,Solapur,North,Solapur,Shirur,Karad,Purandhar,Miraj,Ha tkanagale,Barshi,Kadegaon,Shirol,Pandharpur,Satara,Palus Jat, Kagal and Gadhinglaj,(over 60 per cent) in western Maharashtra .Other areas with Moderate per cent area in existence in between, 60 to 80 per cent, Bhudargad, Shahuwadi, Khatav, Wai, Panahala, Satara, Chandgad, Khanapur, Maval, Khandala, Ajara,Koregaon, Malshiras,Mangalwedha,Patan, and Ambegaon tehsils in the region. Low pro-portion of this category (Below 20 per cent) is found in Pune city and Mahabaleshwar tehsils. Remaining tehsils of 20 to 40 per cent of net sown area in the region this is again less than state average. As discussed earlier, this low pro portion of net sown area in this tehsils is the result of change in attitude of farmers pertaining to available water – land resource optimization. Therefore naturally the pro portion of net sown area has been restricted at lowest level in the region.

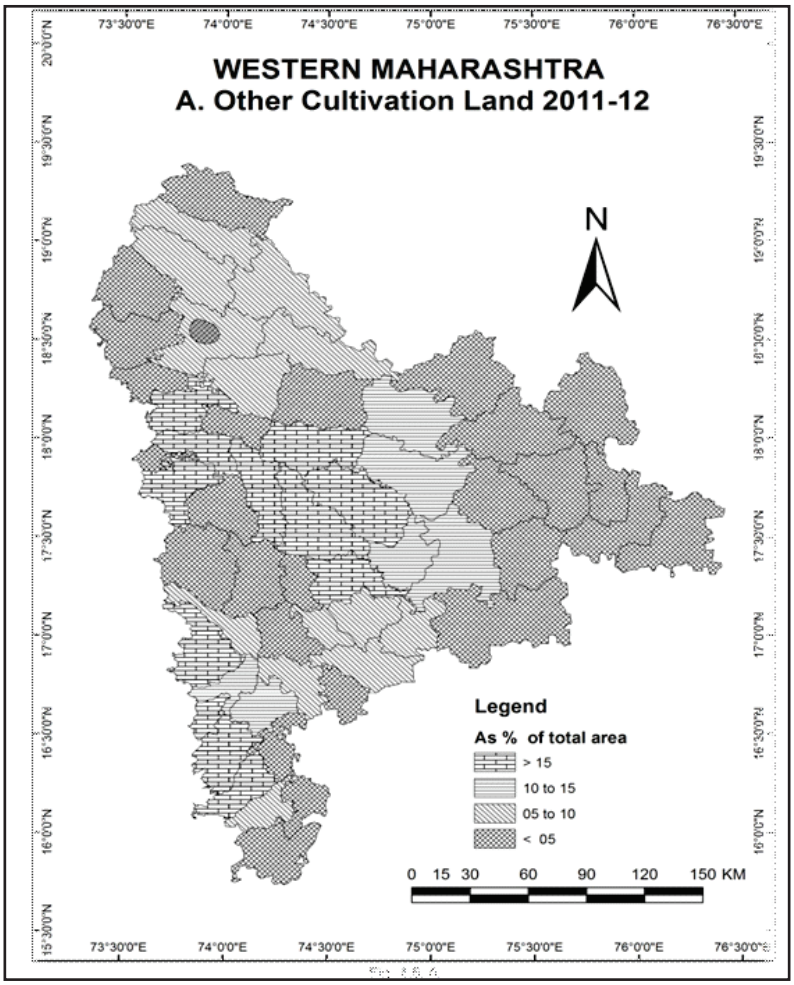
5.4 Fallow Land:

The term fallow is applied to land not under plough at the time of reporting but which has been sown in the past. The span of period for which a land remains fallow is different in various parts of the district.



Because of scarcity conditions in all aspects extent of fallow land various in respect to time and space. Two types of fallow lands viz. current fallow and other fallow are considered by the agricultural census in India. For the present study, these two categories of fallow land with on average of 10.54 per cent of the total geographical area which is more than the state average of 7.39 per cent (Fig 5).
Regional distribution under this category varies from Solapur (19.77 %) and Satara (13.41%) recorded high percentage of fallow land, followed by Sangli (4.27%), Kolhapur (3.37%) and Pune (6.76 %) have low per cent of fallow land.There is remarkable very highest fallow land at tehsils levels ranging from above 15.00 per cent, South Solapur, Madha, Karad, Phaltan, Mahabaleshwar, Mohol, Khatav, Malshiras. Mulshi, Khandala, Akkalkot, Velhe, Mangalwedha and Sangola.The Highest per cent above 10 to 15 in tehsils of Man and North Solapur. The Moderate per cent 5 to 10 Fallow land Daund Panhala,Patan,Baramati,Koregaon,Tasgaon,Jaoli,Pune(city),Palus,Barshi,Bhudargad,Haveli,Walwa ,Karmaa and Wai, tehsils have recorded under this category. Remaining tehsils of the lowest per cent Fallow land Below 5 per cent of (Table No 1)

5.5 Other Uncultivated Land (Excluding Fallow Land):



This category of land consists of 1) culturable waste 2) Permanent pasture and 3) Land under miscellaneous tree crops and groves. Culturable waste land includes the land which can be brought under cultivation for some times but which has been not cultivated successively for more than 5 years. The category of land under miscellaneous tree crops includes land under casuarinas trees grass, bamboo bushes or other trees used for fuel. Actually this land is put to some agricultural use but the areal extent of it is not included in the category for net sown area. Total area under this land use category accounts to 8.49 per cent, in the districts, which is higher than State overage of 7.99 per cent. Regional distribution under this category varies from Solapur (5.08 %) Pune (7.95 %) and Sangli (7.11%) districts are having very low percentage of area under this category, Because of the eastern part of the districts is mainly a drought prone Zone .and record high per cent of other uncultivated land, followed by Satara(14.29%),Kolhapur (9.79 %) .Fig .6

There are remarkable very high other uncultivated land at tehsils levels ranging from above 15.00 per cent Wai, Radhanagri, Khatav, Koregaon, Shahuwadi, Bavda, Khanapur, Jaoli, Phaltan, Bhor and Man tehsils of western Maharashtra. The low per cent between 10 to 15 in tehsils of Sangola, Panhala, Malshiras, Atpadi, Karveer and Indapur tehsils of the region, The Moderate pro portion of land 5 to 10 per cent under this category have recorded Daund, Hatkanagale, Shirur, Mraj, Palus, Kavthemahankal, Tasgaon, Purandhar, Shirala, Khed, Ambagaon, Haveli and Ajara tehsils of western Maharashtra. Remaining tehsils of below 5 per cent of other uncultivated land (Table No 1)Fig-.6

6. Conclusions:

The land use pattern of the region is the reflection of the effects of varied physical and Socio-economic factor. The oracle land occupies about 85 per cent of Geographical area indicating that there is hardly any scope for increasing land resources to any appreciable extent. Therefore intensity of agriculture has to be stepped up by adopting technological changes.

Forest occupies about 10.43 per cent of the total geographical area in this region. There are remarkable Very highest levels tehsils ranging from above 30.00 per cent in Radhanagri, Bhudargad, Bawda, and Mahabaleshwar tehsils. The highest level tehsils of forest area 20 to 30 per cent in Panhala, Wai, Shirala, Shahuwadi, Velhe, Ajara, Jaoli, Ambagaoen, Chandgad, and Maval, The moderate between 10 to 20 per cent forest tehsils in Karad,Khanapur (vita),Koregaon, Khandala, Bhor, Khed, Junnar, Mulsi and Patan has under forest. And remaining tehsils were lowest per cent of below 10 areas under Forest.

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The outstanding pro portion of this net sown area category is observed in the tehsils,Haveli,Shirala,Khed,Akkalkot,Walwa,Daund,Indapur,Mohol,Karvir,Atpadi,Madha,Tasgaon, Junner,Kavthemahankal,Karmala,Baramti,South,Solapur ,NorthSolapur,Shirur,Karad,Purandhar,Miraj,Hatkanagale,Barshi,Kadegaon,Shirol,Pandharpur,Satara,Palus,Jat and Gadhinglaj,(over 60 per cent) in western Maharashtra. Low propitiation of this category (Below 20 per cent) is found in Pune city and Mahabaleshwar tehsils Current fallow and other fallow are considered by the agricultural census in India. For the present study, these two categories of fallow land with on average of 10.54per cent of the total geographical area which is more than the state average of 7.99 per cent, There are remarkable very highest fallow land at tehsils levels ranging from above 15.00 per cent South Solapur, Madha, Karad, Phaltan, Mahabaleshwar, Mohol, Khatav, Malshiras, Mulshi, Khandala, Akkalkot, Velhe, Mangalwedha and Sangola.The Highest per cent above 10 to 15 in tehsils of Man and North Solapur.The Moderate per cent 5 to 10 Fallow land Daund Panhala, Patan, Baramati, Koregaon, Tasgaon, Jaoli, Pune city, Palus,Barshi,Bhudargad,Haveli,Walwa and Karmala and Wai, tehsils have recorded under this category .Remaining tehsils of the lowest Fallow land Below 5 percentage of. This category of land consists of 1) culturable waste 2) Permant pasture and 3) Land under miscellaneous tree crops and groves. Culturable waste land includes the land which can be brought under cultivation for some times but which has been not cultivated successively for more than 5 years. The category of land under miscellaneous tree crops includes land under casuarinas trees grass, bamboo bushes or other trees used for fuel. Actually this land is put to some agricultural use but the areal extent of it is not included in the category for net sown area. Total area under this land use category accounts to 8.49 per cent. There are remarkable highest other uncultivated land at tehsil levels ranging from above 15.00 per cent Wai, Radhanagri, Khatav, Koregaon, Shahuwadi, Bavda, Khanapur, Jaoli Phaltan, Bhor,Man and between 10 to 15 per cent in tehsils of Sangola, Panhala, Malshiras.Atpadi, Karvieer and Indapur tehsils of the region

Referances:

Ali, Mohammad. (1978): 'Studies in Agricultural Geography', Rajesh Publication, New Delhi Gurjar, R.K. (1987): 'Irrigation for Agricultural Modernization', Scientific Publishers, Jodhapur. Pawar, C.T. (1989): 'Impact of Irrigation: A Regional Perspective', Himalaya Publishing House, Bombay Phule, B.R. (2002): 'Pomegranate Cultivation in Solapur District', – A Geo-Economical Analysis, unpublished Ph. D. Thesis Shivaji University, Kolhapur.
Shinde, S. B. (1988): 'Changing Land Use Pattern in Amanapur Village (Sangli District)', Readings in Irrigated Farming, Vishwanil Publishing, Pune p 204.

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