International Journal of Advance and Applied Research (IJAAR)
Peer Reviewed Bi-Monthly

ISSN – 2347-7075
Impact Factor – 7.065
Vol.8 No.1 Sept – Oct 2020

LAND USE AND LAND DEGRADATION IN TISANGI VILLAGE, SANGLI DISTRICT: MAHARASHTRA: A GEOGRAPHICAL STUDY

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ABSTRACT:

Soil degradation is one of the universal environmental problems. The degradation of soil resources is a significant part of environmental geography as well as agricultural geography. From this view point in the present research paper an attempt has been made to analyses general land use, agricultural land use and agricultural land degradation at micro level by selecting Tisangi village in Kavathe Mahankal tehsil of Sangli district of Maharashtra state as a case study. The period selected for study is 20 years. The entire study is based on primary as well as secondary data. The primary data is collected by conducting field work through questionnaire method. Personel interviews of farmers, talathi and gramsevak are taken. The data for general land use and agricultural land use is collected from village and tehsil revenue departments. The data of agricultural land degradation is obtained from Sangli district soil testing laboratory and agricultural department. Collected data is tabulated and shown by appropriate cartographic techniques. Such type of research in applied agricultural geography can be useful to solve the problems of the farmers and helpful in better planning for agricultural development of rural areas.

INTRODUCTION:

The degradation of soil resources is a significant part of environmental degradation. The present investigation has an attempt to make deep study of micro level study of Tisangi as sample village in Sangli district of Maharashtra with views to solve the problems of the farmers and to help for better planning and agricultural development of rural area.

STUDY AREA:

Tisangi lies in Kavathe Mahankal tehsil. It is located at 17^0 09' north latitude and 74^0 51' east longitude, with an altitude of 680 meters from the mean sea level. It is 19 km from the Kavathe Mahankal town connected by road. This village is situated in the northern part of tehsil. It is surrounded by village Ghatnandre to the north, Dongarsoni to the west, Kundlapur to the south, and Raiwadi to the east. The total geographical area of the village is 1675 hectares having 1874 population in 2001.

Tisangi is situated on the Khanapur plateau region 680 meters above the mean sea level. The general slope of the village is from the west to the east. Local topography affects agricultural development of the village. The western part of the village is plain as compared to other area of the village, having slope towards the east side. The village experiences typical hot and dry climate. The highest temperature is observed in May is 40^0c. The annual average rainfall in this village is 378mm. Village receives the rainfall from the South-West monsoon. It starts in the month of June and ends in the month of October. The coarse shallow soil covers the surrounding parts of the village. The soil is less fertile as compared to the other soil in tehsil.

RESEARCH METHODOLOGY:

The entire study is based on primary as well as secondary data. The primary data is collected by conducting field work through questionnaire method. Personel interviews of farmers, talathi and gramsevak are taken. The period selected for study is 20 years. The data for general land use and agricultural land use is collected from village and tehsil revenue departments. The data of agricultural land degradation is obtained from Sangli district soil testing laboratory and agricultural department. Few secondary data are taken from socio-economic review and district statistical abstract of Sangli district. Collected data is tabulated and shown by bar graphs. The period selected for study is 20 years.

OBJECTIVES:

Main objectives of present research paper are as under:

1. To analyse change in general and agricultural land use for the period of twenty years i.e.1995-96 to 2015-16
2. To find out the causes of agricultural land degradation.

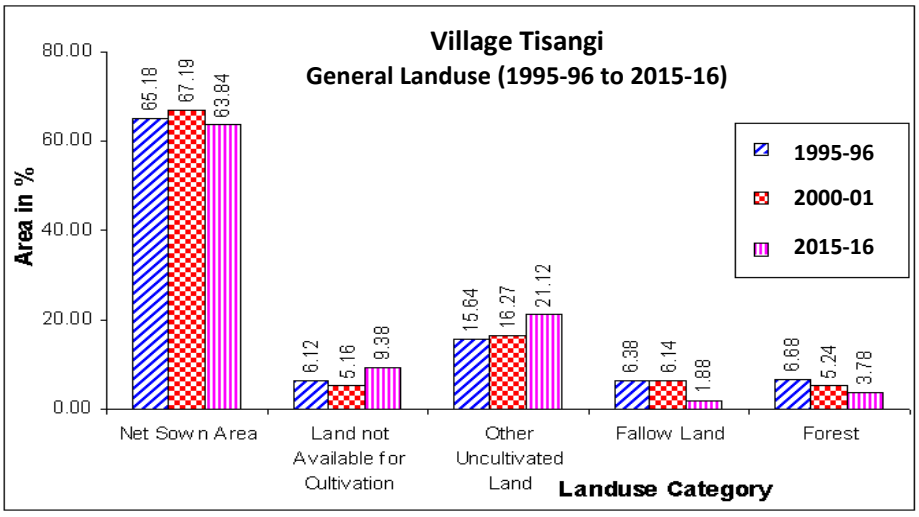
TEMPORAL VARIATION IN GENERAL LAND USE (1995-96 TO 2015-16):

General land use of the village is classified in plateau region, as land not available for cultivation, cultivable waste fallow land, Forest land and net sown area. The rough topography and types of the soil largely affected the present land use of the village. The net sown area of the village is 49.21 per sent to the total of geographical area in 1995-96. It was 51.35 per cent.

Table .1: The Village Tisangi: General Land Use

Sr. No.	Land use type	Year			Changes in % 1995-96 To 2015-16
		1995-96	2000-01	2015-16	
1	Net Sown Area	49.21	51.35	54.78	+5.57
2	Land Not Available For Cultivation	12.48	13.26	12.29	-0.19
3	Other Uncultivated Land	34.20	33.10	28.14	-6.06
4	Fallow Land	4.11	2.29	4.79	+0.68
5	Forest	0.00	0.00	0.00	0.00

Source: Village revenue record. (**Note**: Area in percentage.)



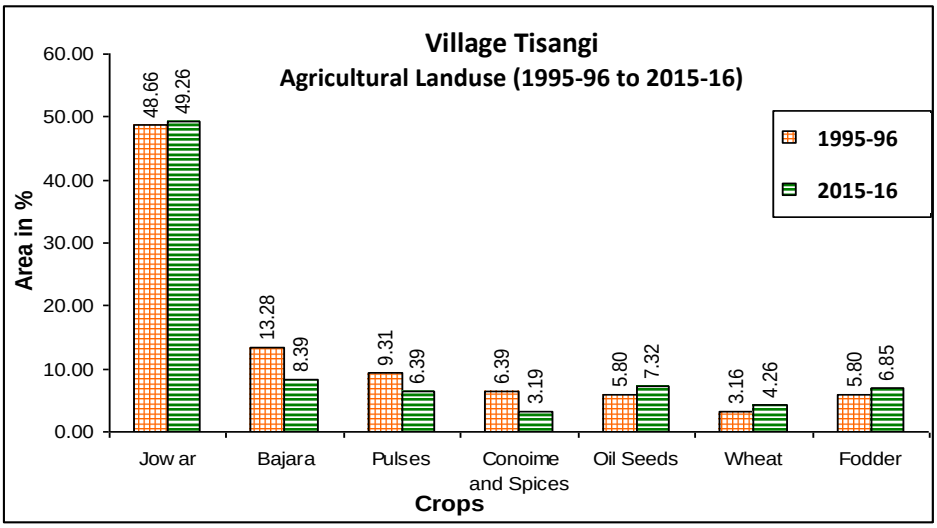
The land not available for cultivation was 12.48 per cent in 1995-96 and 12.29 per cent in 2015-2016. It was decreased by -0.19 per cent in the study period. The other uncultivable land was 34.20 per cent in 2095-96 and 28.14 per cent in 2015-16. It was decreased up to -6.06 per cent. The forest land in the village was not available in the study period. The temporal variation of general land use is shown in Table 1. and Fig. 1.

1995-96 and 1.90 per cent in 2015-16. In these twenty years land not available for cultivation was decreased by-0.6 per cent. Other uncultivated land was 3.56 per cent in 1990–91 and 2.50 per cent in 2009-10. In these twenty years it was decreased by -1.06 per cent. The fallow land was increased by 0.15 per cent. No area under forest was found in both years (Table 1 and Fig. 1).

Table 2: The Village Tisangi: Agricultural Land Use

Sr. No.	Name of Crops	Year		Changes in % 1995-96 to 2015-16
		1995-96	2015-16	
1	Jowar	48.66	49.26	+0.6
2	Bajara	13.28	8.39	-4.89
3	Maize	2.23	5.27	+3.04
4	Wheat	3.16	4.26	+1.10
5	Pulses	9.31	6.39	-2.92
6	Cond & Spices	6.39	3.19	-3.20
7	Sugarcane	2.08	5.28	+3.20
8	Oil seeds	5.80	7.32	+1.52
9	Fru&Vege	3.29	3.79	+ 0.50
10	Fodders	5.80	6.85	+ 1.05

Source: Village revenue record. (**Note:** Area in percentage.)



Agricultural Land Use (1995-96 to 2015-16):

Cropping pattern in Tisangi village has been influenced by terrain, Slope, Soil and low rainfall. Jowar is the major crop grown in this village. 650 hectares jowar occupied 49.26 per cent area in the village. It was more than the tehsil average 23.89 per cent and district average 16.31 per cent. Jowar is consumed as a major food grain in the village Tisangi. Other minor crops like Bajara 8.39 per cent, Maize 5.57 per cent, Wheat 4.26 per cent, Pulses 6.39 per cent, Condiment and spices 3.19 per cent, Sugarcane 5.28 per cent, Fruits and Vegetable 3.79 per cent and Fodder crops 6.85 per cent have the cultivated area observed in 2015-16. The crop is mainly concentrated in the western and southern parts of the village. (Table 2 and Fig. 2).

Land Degradation:

Village Tisangi is located on the Khanapur plateau reason and of 680 meters (MSL). The main cause of land degradation is due to slope gully erosion. The electrical conductivity of soil is remaining same in the study period. The cultivation methods are mostly unfavorable for soil conservation. It is observed that the farmers are ploughing the land parallel to the slope that causes soil transportation. Animal grazing is also the cause observed on the eastern and southern part of the village. It helps to increase the intensity of soil erosion.

The farmers are unknown to the conservative techniques of the farming (Plate 6.7). It clearly shows the gully erosion, running water channels, and the damaged soil of the farm land. Survey No. 483, 484, 499 to 508, 527 are affected. The cutting of the forest surrounding to the village also leads to the soil erosion in the village.

TEMPORAL VARIATION IN AGRICULTURAL LAND USE (1995-96 TO 2015-16):

Temporal variation in agricultural land use is shown in Table 2 It reveals that during the span of twenty years area under maize, wheat, jowar crops was decreased by 2.67 per cent , .0.57 per cent and 0.91 per cent respectively . It means area under food crops was decreased. On the contrary area under sugarcane was increased by 4.74 per cent. The area under condiment and spices

shows upward trend in the twenty years. It was increased by 1.0 per cent. Area under the fodder crops was decreased by -0.9 per cent. (Table 2 and Fig.2).

Land Degradation:

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CONCLUDING REMARKS:

Study reveals that the cropping pattern in the Tisangi village is a reflection of physiographic, soil type, slope, irrigation and other socio economics factors. Study also reveals that unsuitable agricultural practices, erosion, deforestation, over cutting of vegetation, shifting cultivation, over grazing, improper crop rotation, imbalanced fertilizer use, mismanaged irrigation, over pumping of ground water, poverty, population increase, economic pressure, attitude of farmer and artificial soil loss are the major forms of problem of soil degradation.

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REFERENCES:

1. Arunachalam, B. (1967): Maharashtra- A Study Physical and Regional Setting and Resource Development, A R. Seth, Bombay.
2. Arunachalam, B (1979): The problems of droughts, what can the Geographer do? Proceeding of the All India symposium on the drought prone area of India. Edited by N. B. K. Reddy, Rayalseema Geographical Society, Tirupati, Pp.66-69.
3. Census of India (2001): District Census Handbook, Sangli. Bombay, Director, Government Printing and Stationary, Maharashtra State.
4. Govt. of Maharashtra, (1960 and 1980): Gazetteer of Sangli District.
5. Govt. of Maharashtra (1969): Maharashtra State Gazetteers, Sangli District, pp.321.
6. Govt. of Maharashtra, Socio-economic Review and District Statistical Abstracts of Sangli (1980-81 to 2009- 2010).
7. http//www.sangli.nic.in
8. http//www.wikipedia.com
9. www.sefriends.org.nz/enviro/soil/erosion.htm.
10. http:// dolr.nic.in/wasteland.htm
11. Talathi Office Record, Village Haripur
12. Pol, N.S. (2008): "Agricultural Problems and Prospects of Drought Prone Area: A Case Study of Kavathe Mahankal tehsil, Sangli District, Maharashtra," unpublished M.Phil. Thesis, submitted to the Bharathidasan University, Tiruchirappalli (Tamilnadu).Pp.69, 73.