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ORIGINAL ARTICLE

LAND USE AND LAND DEGRADATION IN BHILAWADI VILLAGE, SANGLI DISTRICT, MAHARASHTRA : A STUDY IN ENVIRONMENTAL GEOGAPHY

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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 analyse general land use, agricultural land use and agricultural land degradation at micro level by selecting Bhilawadi village 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.

1 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 Bhilawadi 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

Bhilawadi lies in Palus tehsil of Sangli district in Marharsshtra. It is located at 160 59' north latitude and 740 27' east longitude having an altitude of 573 metres above the mean sea level. It is 14 km from the Palus town and is connected by road and Railways. The village is surrounded by Ankalkhop to the north, Malewadi to the east, Chopadewadi to the south, and Mardwadi to the west. It is situated on the confluence of the Krishna rivers. The total geographical area of the village is 1030 hectares having 9622 population according to 2001Census.

The general slope of the village is from the west to the east. About 95 per cent part of the village is plain. The village experiences typical hot and dry climate. The highest temperature (400C) is observed in May. The annual average rainfall is 750 mm. The village receives the rainfall from the South - West monsoon. It starts in the month of June and ends in the month of October. Soil in the village is black cotton soil. The soil is good and fertile

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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.1990-91 to 2009-10
2) To find out the causes of agricultural land degradation.

Temporal Variation in General Land Use (1990-91 to 2009-10)

In general, the net sown area shows increasing trend. Area not available for cultivation, fallow land, and cultivable waste also shows increasing trend and small change are observed in other uncultivated land. The net sown area was 83.68 per cent in 1990-91 and 84.47 per cent in 2009-10, in these twenty years 0.79 per cent net sown area was increased. The land not available for cultivation was 10.71 per cent in 1990–91and 8.54 per cent in 2009-10. In these twenty years land not available for cultivation was decreased by -1.36 per cent. Other uncultivated land was 2.52 per cent in 1990–91 and 1.90 per cent in 2009-10. In these twenty years it was decreased by -0.62 per cent. The fallow land was increased by 2.00 per cent. No area under forest was found in both years (Table 1 and Fig. 1).

Table 1
General Land Use in Bhilawadi Village

Sr. No.	Land use type	Year			Changes in % 1990-91 To 2009-10
		1990-91	2000-01	2009-10	
1	Net Sown Area	83.68	81.93	84.47	+0.79
2	Land Not Available For Cultivation	10.71	10.30	8.54	-1.36
3	Other Uncultivated Land	2.52	2.60	1.90	-0.62
4	Fallow Land	3.09	5.17	5.09	+2.00
5	Forest	0.00	0.00	0.00	0.00

Source- Village revenue record. **Note**-Area in percentage

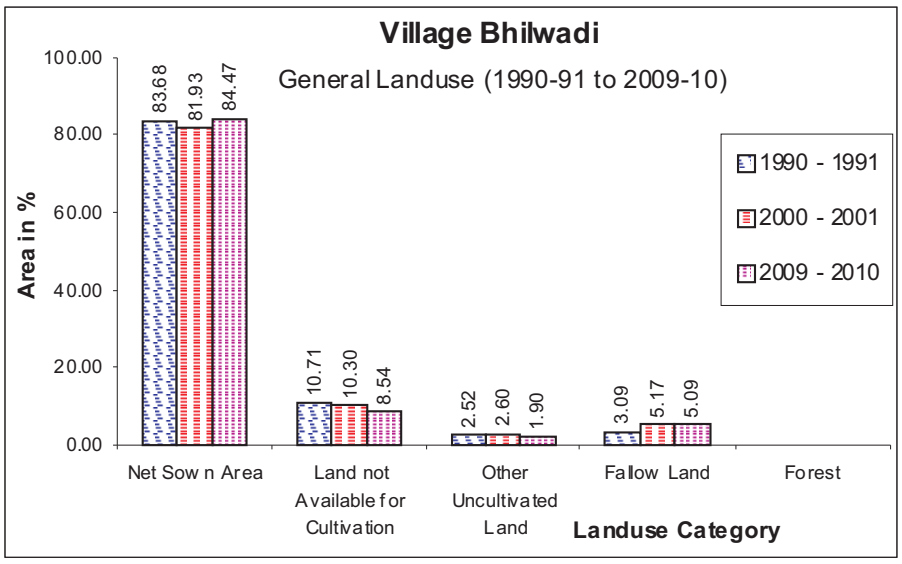

Fig. 1

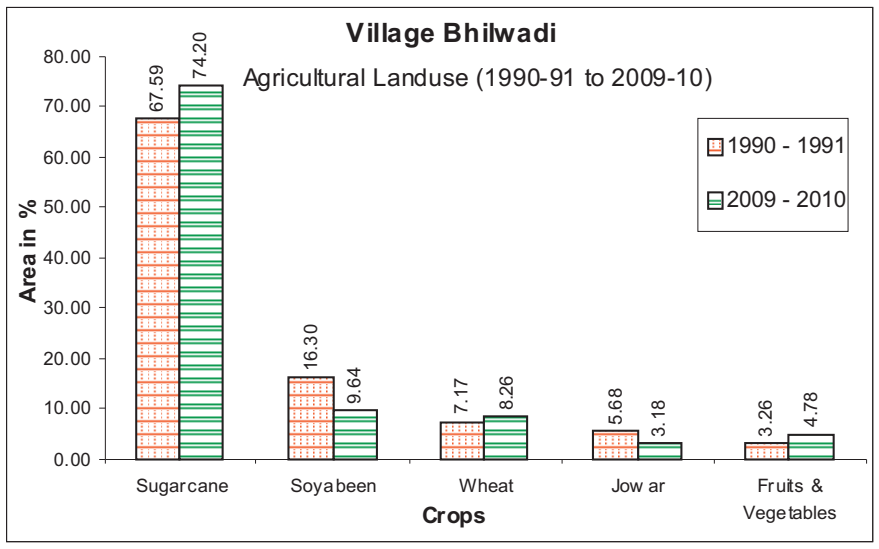

Fig. 2

Temporal Variation in Agricultural Land Use (1990-91 to 2009-10)

Temporal variation in agricultural land use is shown in Table 2 It reveals that during the span of twenty years area under Soyabean, jowar crops was decreased by -6.66 per cent, -2.5 per cent respectively. It means area under food crops was decreased. On the contrary area under sugarcane was increased by 6.61 per cent. The area under Fruits and vegetable shows upward trend in the twenty years. It was increased by 1.52 per cent. (Table 2 and Fig.2).

Table 2
Agricultural Land Use in Bhilawadi.

SR NO	Name of crops	Year		Changes in % 1990-91 To 2009-10
		1990-91	2009-10	
1	Sugarcane	67.59	74.20	+6.61
2	Soyabean	16.30	9.64	-6.66
3	Wheat	7.17	8.26	+1.09
4	Jowar	5.68	3.18	-2.5
5	Fruits & Vegetable	3.26	4.78	+1.52

Source- Village revenue record **Note-** Area in percentage.

LAND DEGRADATION

The village is located on plain region. Increasing salinity of soil is the major problem of the village. During field work by visiting in survey No. 38 to 86, 93 to 126, 158 to 169, 188 and 237 it came to know that the average salinity of the soil was 8.19 in 2006-2007 and 7.94 in 2008-09. In this village out of total net sown area about 384.53 hectares (32.81 per cent) land is saline. . After discussion with farmers it is noticed that farmers are using chemicals, fertilizers on the large scale in their own way. Due to irrigation intensity, chemicals and fertilizers the electrical conductivity of soil is increased by 2.38 mmhos/cm. it was 0.41 mmhos/cm in 2006-07 and 0.59 mmhos/cm in 2008-09. it is observed that no farmer of the village tests the land prior to the farming. The problem like soil erosion, brick kilns, and wrong cultivation method was also found in the village. These problems help to increase the erosion of soil.

CONCLUDING REMARKS

Study reveals that the cropping pattern in the Haripur village is a reflection of physiographic, soil type, slope, irrigation and other socio economics factors. Study also reveals that unsuitable agricultural practices, excess rainfall, flooding, erosion, salinisation, water logging, 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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