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## A STUDY OF CHANGES IN GENERAL LAND USE AND CROPPING PATTERN OF PHALTAN TAHSIL

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### **ABSTRACT:**

*The pattern of land utilization has acquired a special significance in developing countries like India. The pressure of constantly growing population has led to new scientific ways to study the land use pattern. To examine the land use and cropping pattern, Phaltan Tahsil of Satara District, Maharashtra has been selected. Jowar is the first ranking crop of the study area. To tone down the increasing demand for foods and fodder, there is a good scope for multi-cropping, provided water sources are tapped fully through integrated watershed development and management schemes. A significant shift has been observed lately in cropping pattern i.e. the traditional crops such as Jowar, Wheat, Bajaraetc are replaced mainly by Sugarcane. The data for the present study is obtained mainly from the socio-economic abstract of the district, Tahsil office, books and journals.*

**KEYWORDS:** Agriculture Land use, Cropping Pattern.

### **INTRODUCTION:**

Due to uneven rainfall distribution and land form diversities, there is a considerable regional variation in the general land use pattern of Phaltan Tahsil. It is essential to shift from generalities to particularities in the study region, where agriculture is the only mean of livelihood for majority of the people. Such studies are fundamental for future planning. A study on land use pattern of Phaltan Tahsil has been noticed by Indian Geographers in the past and it still continues to draw their attention. Presently, the patterns are being minutely investigated at the regional or micro regional rather than at the national level. Geography deals with the spatial relationship between these aspects and planning. This is because the land use changes as per the changing demands of the society. The demands for new uses of land may be inspired by technological change or by a change in the size composition

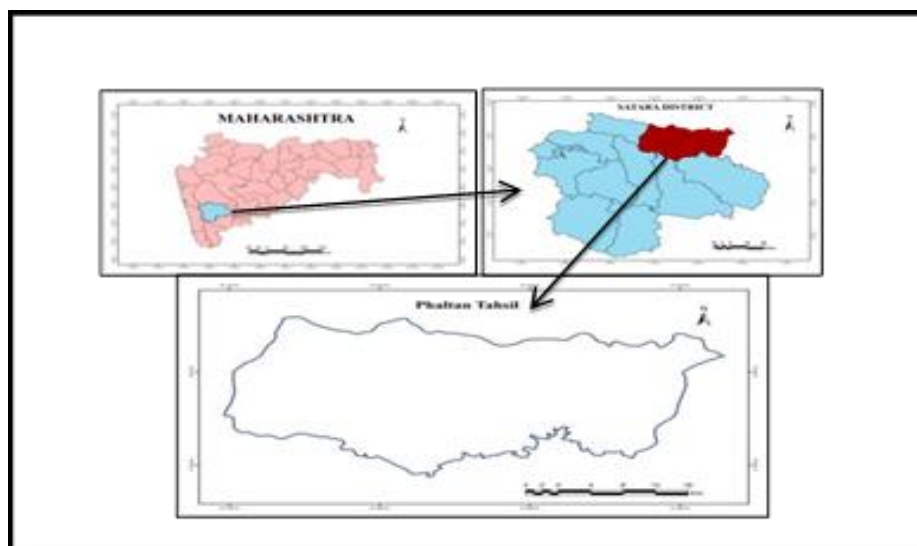
and requirements of a community. Some are short term changes where as others are meant for a long term. The main objective of this paper is to highlight the spatio-temporal pattern of land use in the study region. The present paper deals with the pattern of agricultural general land-use during the period 1991 to 2011.

### STUDY AREA:

Phaltan Tahsil is selected for the study. Phaltan Tahsil covering the part of the Nira river basin is one of the economically prosperous Tahsils of Satara district in southern Maharashtra. It lies between 17<sup>0</sup>58' North to 18<sup>0</sup>5'North latitude and 74<sup>0</sup>20' East to 74<sup>0</sup>40'East longitude. It has total geographical area of 1190.29 sq.km.with128 villages and one urban settlement. (2011 census) This area is bounded by the Nira River in the north side. The region attains 576 metres height (M.S.L.) with northward sloping land drained mainly by the Banganga River, a right bank tributary of the Nira River.

Phaltan Tahsil lies in the east of Satara district. It is surrounded by Baramati Tahsil in the north side, in the southeast side lies Man Tahsil, inthe southern side lies Khatav Tahsil, in the southwest side lies Koregaon Tahsil and in the western side lies Khandala Tahsil and Solapur district belongs to the east. The soil fertility encourages growth of various crops like sugarcane, jowar, bajara, maize, vegetables. According to 2011 Census the area has 342667 populations, out of these 176250 are males and 166417 are females and density of population is 287 per square kilometre. State highway, major district and other roads are major routs of transport besides broad-gauge railway route in Phaltan Tahsil. Phaltan is an administrative head quarter of this Tahsil (Fig.1).

**Figure-1: Location Map of Phaltan Tahsil**



**OBJECTIVES:**

The present study aims:

- 1) To analyse the existing land use pattern and cropping pattern.
- 2) To correlate the land use with cropping pattern.

**DATABASE AND METHODOLOGY:**

The Present study was based on primary and secondary data sources. The published sources namely Tahsil Revenue Record, Socio-economic abstract of Satara District, District Census Handbook, Department of Irrigation, Groundwater Survey and Development Agency, Land Record office to obtain village wise crop data in Tahsil. Simple techniques have been used to analysed secondary data and based on the results, maps and diagrams are shown.

**Changes in land use pattern:**

The temporal variation is a result of changes in different inputs. The general land use was studied for 30 years (1991 to 2011) in order to find out general land use change (Table-1). In 1991, total net sown area in Phaltan Tahsil was 32.93 percent but in 2011 it has increased to 58.24percent, showing an increase of 25.31percent. Land not available for cultivation was recorded at 33.38percent in 1991 and then it decreased to 21.97percent in 2001 and then further decreased to 10.19percent in 2011. This category includes barren and uncultivable land. The overall percent of land not available for cultivation varies from 10-34percent.

**Table 1. Phaltan Tahsil: General Land use Pattern (1991 to 2011).**

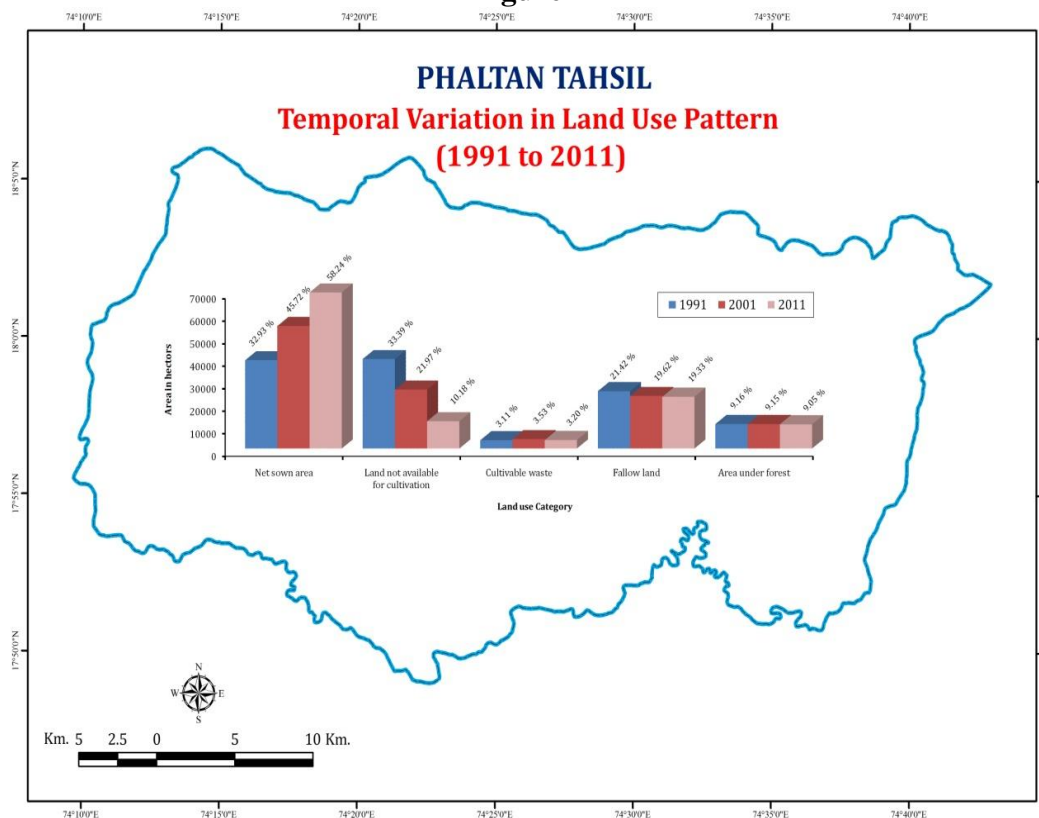
(Area in hectares)

Sr. No.	Land use Types	1991	2001	2011
1	Net sown area	39199 (32.93)	54425 (45.72)	69325 (58.24)
2	Land not available for cultivation	39740 (33.38)	26151 (21.97)	12115 (10.19)
3	Cultivable waste	3697 (3.10)	4205 (3.53)	3810 (3.20)
4	Fallow land	25493 (21.41)	23356 (19.62)	23009 (19.33)
5	Area under forest	10900 (9.15)	10892 (9.15)	10770 (9.04)
	Total	119029	119029	119029

Source: Socio-economic Abstract, Satara District (1991 to 2011).



Figure-2



### Changes in Cropping Pattern:

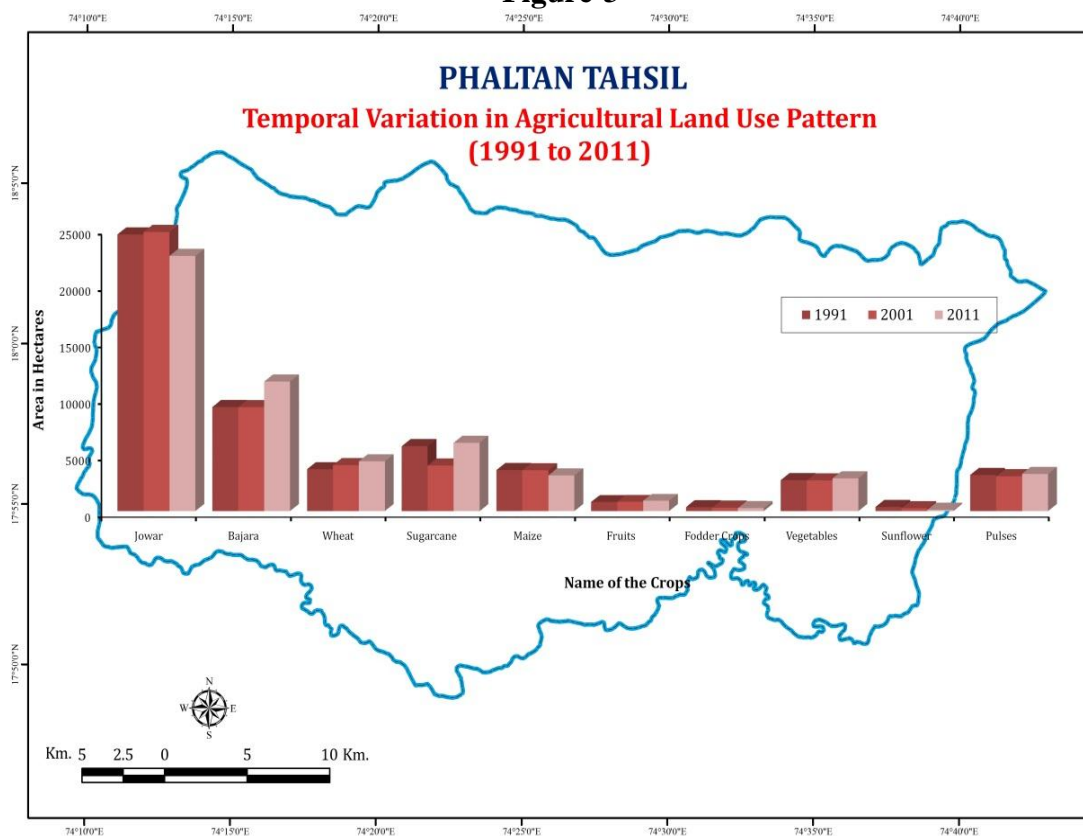
The total increase of Jowar from 1991 to 2001 is 1.64percent land and in 2011 it occupied 40.95percent of the total net sown area in the study region. In 1991, Bajara occupied 16.99percent of the total net sown area and it has slightly increased by 0.45percent by 2011. Maize cultivation is well-suited for the regions having medium rainfall and low labour costs. The area under Wheat in study region has increased by 1.15percent during the study period. In 1991, Sugarcane was cultivated on 10.65percent of the land while in 2001 it covered only 7.67percent and in 2011 it was 10.97percent .The irrigation facility has increased during 2001-11 and therefore Sugarcane production had increased in the second decade of study period. In 1991, Pulses were cultivated on 5.89percent area and it was more or less remained constant till 2011. Vegetables were cultivated on 5.06percent of land in 1991 and in 2011 it were found to cover 5.25percent of land and this increase can be attributed to the increasing demand of vegetables to mitigate the demand of increasing population in Phaltan Tahsil. Fodder crops occupied 0.62percent of area in 1991 and it has decreased to 0.46percent in 2011. From 1991 to 2011 Wheat, Bajara, Pulses, Sugarcane, Vegetables and Fruits have increased whereas Jowar, Maize, Sunflower and Fodder crops area have decreased during study period in study region.

Table- 2: Phaltan Tahsil, Cropping pattern (1991 to 2011)

Sr . No .	Name of The Crops	1991		2001		2011	
		Area in hect.	Percent To NSA	Area in hect.	Percent To NSA	Area in hect.	Percent To NSA
1	Jowar	24478	45.15	24691	46.79	22567	40.95
2	Bajara	9212	16.99	9202	17.44	11457	20.79
3	Wheat	3703	6.83	4060	7.69	4399	7.98
4	Sugarcane	5750	10.65	4025	7.67	6046	10.97
5	Maize	3625	6.68	3610	6.84	3158	5.78
6	Fruits	802	1.47	819	1.55	910	1.65
7	Foddercrops	339	0.62	299	0.56	258	0.46
8	Vegetables	2743	5.06	2720	5.15	2898	5.25
9	Sunflower	360	0.66	248	0.47	116	0.21
10	Pulses	3197	5.89	3085	5.84	3287	5.96
	Total	54209	100	52759	100	55096	100

Source: Socio-Economic Abstract, Satara District (1991, 2001&2011).

Figure-3



**CONCLUSION:**

The discussion in above mentioned parts reveals spatio-temporal distribution of general land-use in Phaltan Tahsil. It is observed that 32.93percent (39,199 hectares) area was under cultivation in 1991 and it has been increased to 45.72percent (54,425 hectares) in 2011, registering an increase by 12.52percent. This increase may be attributed to increasing awareness of improved agricultural techniques and introduction of new improved seeds by farmers. The decline in fallow land towards north is due to the existence of fertile soil suitable for cultivation. Forest cover is declining slowly (0.11percent). All the categories in the general land use have direct impact on the net sown area and hence this distribution is of prime importance. From 1991 to 2011, Jowar crop showed a dip in its cultivation. While the cultivation of Sugarcane increased in north and central parts. Apart from Sugarcane, other crops such as Bajara, Wheat, Fruits and Vegetable crops have shown increasing trend during the study period. The problem of agriculture land-use planning are envisaged by the extension of usage of agricultural land, raising the productivity of land, soil conservation, use of improved seeds and pesticides, change in the crop distribution, setting up agro based industries and modernization of agricultural activities of the study area.

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