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Review Article

Review on cultivable land use in 1965 to 2015 of Ambad tehsil of Jalna, Maharashtra, India

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ABSTRACT

The present research paper studies and analyzes the agricultural cultivable land use at the macro level in Ambad tehsil. This study is based on secondary data collected from revenue records and district gazetteer offices. Agricultural land use was depending on physical, climate, socio-cultural, economic, technological and organizational factors. Endeavour is made to study landuse patterns in Ambad tehsil of Jalna district for the year 1965-2015, this is normal year for an agricultural phenomenon. The study region covers 135780 hectares of land and has population of 487939 in 194 villages as per the 2015 Census. Ambad tehsil is located in the western part of Jalna district. Physiography, rainfall, soil, temperature, and drainage influence on agricultural land use pattern in this tehsil. Rainfall varies between 200 to 225 mms. The present study represents a real situation of cropping pattern in Ambad tehsil and helps planners and agricultural scientist for agricultural planning at the village level.

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1. Introduction

Cultivable agriculture is a primary activity in India and about 75% population is engaged in this occupation. Dairy farming and poultry farming has been considered subsidiary occupation. Agricultural land use is dependent on natural resources. The History of Agriculture in the South part of Ambad reveals that famine is of common occurrence for ages due to inadequate and ill distributed rains. Partial failure and completion of both Kharif& Rabi crops result in famine. Ambad tahsil was identified as one of the 14 tahsils in the Aurangabad District plain area. It forms the basis for all biological, human economical activities. The types of Land, soil and irrigation are an important input in the agricultural sector but the yield of crops mainly depend upon fertile land for raising different crops, cropping pattern is the central element of agricultural land use. The study region covers 135780 hectares of land and has population of 487939 in 194 villages as per the 2015 Census. Ambad tehsil is located in the western part of Jalna district. Physiography, rainfall, soil, temperature, and drainage influence on agricultural land use pattern in this tehsil. Rainfall varies between 200 to 225 mms.

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Study area

Ambad tehsil is located in the western part of Jalna district in the state of Maharashtra. The highest peak, as well as temple of this tehsil, is Baleshwar. Baleshwar is located in Harichandra Range 15 km from Ambad tehsil headquarters. Ambad is surrounded by Rahata, Rahuri and Kopargaon to the east. Sinner tehsil Nashik District to the North. Akole tehsil to the west. Khultabad tehsil to the south-east, Junner tehsil Pune district to the south. The Tehsil 'Ambad' is located middle part of the bank of Pravara river. This lays between 19°34′North 19.57°North to 74°13′East 74.22°East longitude. It has an average elevation of 549 metres (1,801 ft)from mean sea level Ambad tehsil is located in the western part of Jalna district. Physiography, rainfall, soil, temperature, and drainage influence on agricultural land use pattern in this tehsil. Rainfall varies between 200 to 225 mms. The underline basalt on disintegration and decomposition brought various agents had yielded three kinds of soils viz. Deep black, deep & shallow Alluvial soils in Pravara, Mhalungi and Adhula river basins. These rivers are the main irrigation source of middle tehsil areas. Including five centres of Revenue circle i.e. ambad, Ashwi, Talegaon, Ghargaon and Sakur. The rainfall is mainly due to rain shadow area in terms of the amount of rainfall average receives 416.6 millimeters in western and middle part of tehsil but southern part of tehsil 102 villages are drought-prone area. Therefore these areas are mostly hilly and unirrigated. The variation in amount of rainfall & type of soil exerts influence on the cropping pattern of the study region. The major crops namely cereals, cash crops, pulses, oil seeds, cash crops, fruit crops, vegetables, flower and fodder crops are cultivated in Ambad tehsil.

2. Method

Database and methodology

The study is based on secondary data and field observations. Circle wise crop data is obtained from village officers (Talathi) records and Panchayat Samities records in Ambad tehsil. Topographical maps and survey of India sheets are used for the physiographical study. Landuse data collected from socio-economical abstract and Jalna gazetteer and district census handbook in Jalna district referred to collect related information.

3. Results

Temporal variations in landuse

The Ambad tehsil and use pattern has been researched throughout fifty years (1960-61 to 2010-11), and various causes of shifting land use have been interpreted. Due to a lack of data for the years in question, the investigator was unable to find temporal differences in land use for consecutive years. However, to highlight temporal fluctuations in land use patterns in the area under study, an alternate year was used. The following five kinds of temporal variations in landuse for Ambad tehsil are investigated. The changes that occurred during the period of study are interpreted as follows:

Net Sown Area

The net sown area is steadily increased from 1960-61 to 2010-11 (Fig. 1). It is seen from Table 1 that 61.08 percent area was under cultivation in 1960-61 and it has been stepped to 66.35 percent area under cultivation in 2010-11, registered highest increased by 66.72percent. From1960-61 to 1970-71 net sown area increased by 5.64 percent in 1970-71 to 2000-01 it had decreased by 16.57 percent; from 2000-01 to 2010-11 there was increased by 16.20 percent. The total increase between the study periods was 5.27 percent. This increase may be attributed to increasing irrigation facilities, land development equipment and modern technique of agriculture subsequently under land put to agricultural use. Therefore, other types of land have continuously increased from 1960-61to 2010-11 (Fig. 1 and Table 1).

Land Not Available For Cultivation

This category includes the land put to non-agricultural uses, barren and uncultivated land. The area under this category has shown the cyclic change from 1960-61to 2010-11 in the study area. The total increase during

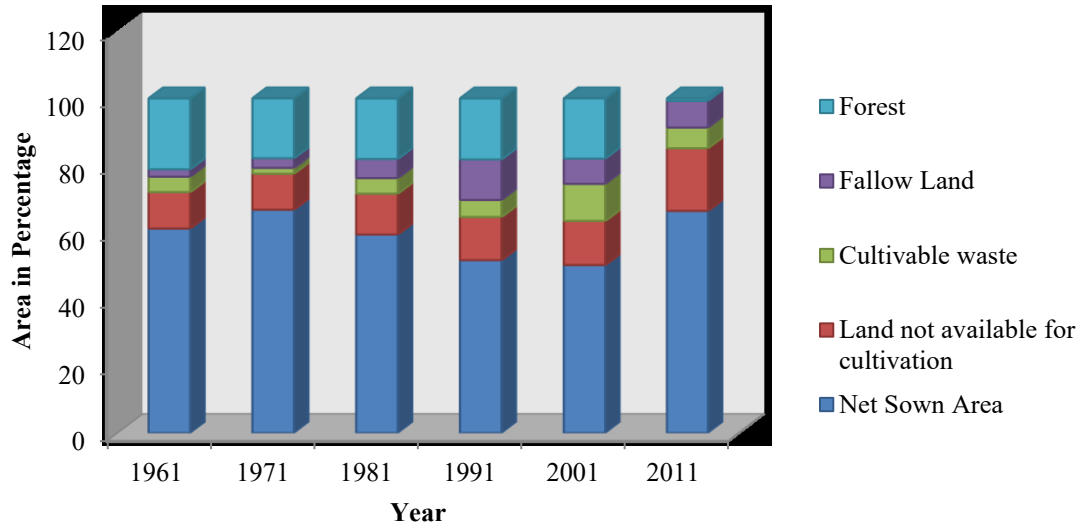
the study period is 7.86 percent (Table 1). There is a high increase during the study periods. The land not available for cultivation has been increasing due to the increase in the cultivable waste and fallow land. Figure 1 reveals the temporal variations in the land put to non-agricultural uses. Non-agricultural land has been substantially increased for the study period from 1960-61 to 2010-11 (6.95%). While barren and uncultivated land no more changes between the study periods. More land in the past has been put to cultivation use, brought under non-agricultural use due to residential purposes and transport routes.

Table 1: Ambad Tehsil - Temporal Variation in General Landuse Pattern from 1961 to 2011

Sr. No.	Landuse Types	Years					
		1961	1971	1981	1991	2001	2011
1	Net Sown Area(NSA)	61.08	66.72	59.30	51.63	50.15	66.35
2	Land Not Available for Cultivation (LNAC)	10.87	10.75	12.18	12.89	13.19	18.73
a)	Land put to non agricultural use	0.00	0.04	0.12	0.53	1.13	0.92
b)	Barren and uncultivated land	10.87	10.71	12.06	12.36	12.06	17.82
3	Cultivable Waste(CW)	4.63	1.75	4.69	5.11	11.11	6.21
a)	Permanent pastures and other grazing land	1.25	1.19	4.69	0.24	5.64	6.21
b)	Miscellaneous tree crops and groves not include to Net Sown Area	3.39	0.56	0.00	4.87	5.47	3.71
c)	Cultivable Waste	0.00	0.00	0.00	0.00	0.00	0.00
4	Fallow Land(FL)	2.20	2.89	5.70	12.12	7.55	7.98
a)	Current Fallow	0.48	1.26	4.69	9.21	0.71	3.71
b)	Fallow land other than current fallow	1.72	1.63	1.01	2.91	6.83	4.26
5	Forest (F)	21.21	17.90	18.12	18.24	18.00	0.73

(Area in Percentages) (Source: Socio-Economic Abstract- AurangabadDistrict)

Fig. 1: Sangamner Tahsil - Temporal Variation in General Landuse Pattern from 1961 to 2011



Cultivable Waste

In Ambad tehsil, cultivable waste indicates increased during the study period. In 1960-61, land under cultivable waste was 4.63 percent of the total geographical area while it is increased up to 6.21 percent in 2010-11 (Table 1). The cultivable waste includes such subtypes as permanent pasture and other grazing lands,

miscellaneous tree crops and groves not included in net sown area and cultivable waste.The trend of cultivable waste is shown in Figure 1. The total increase in cultivable waste is 1.58 percent from study period, which shows highly upward trend. The permanent pasture and other grazing lands increased by 4.96 percent, but a miscellaneous tree and groves land increased by 0.32 percent in tahsil statistical office and cultivable waste increased by 1.58 percent. There was a small increase in permanent pasture and other grazing lands.

Fallow Land

The fallow land includes current fallow and other than current fallow. The current fallow means land kept uncultivated for regaining fertility of soil and other purposes during the agricultural year. Other fallow land means land kept uncultivated for more than five years due to various reasons i.e. non-availability of capital, lack of agricultural know-how. In the study region, both current fallow and other than current fallow show increased during the study period of 2.20 percent and 7.98 percent respectively while the total decrease of fallow land is 5.78 percent. This fact suggests that less land under other fallow has been brought under cultivation. Moreover, there is a fluctuation in the area under fallow land from 1960-61 to 2010-11.

Forest

In assessing the character of the vegetation type, a factor that cannot be neglected in the long occupation of man and the consequent change on the vegetal carpet through agriculture. The type of vegetation met with any given locality depends on the climate, soil and past treatment has been emphasized by the leading plant ecologists. The influence of temperature and rainfall on plant life has received special attention in the classifications of climate proposed by Koppen and Thornthwait.Khultabadtahsil had 21.21 percent and 0.73 percent of land under forest cover during 1960-61 and 2010-11 respectively. There were forest lands decreased during fifty years. Whereas during 1960-61 to 2000-01 land under forest decreased 3.21 percent but 2000-01 to 2010-11 is very high decline for forest covers 17.27 percent. Forest plays a dominant role in maintaining ecological and environmental balance in the tahsil.

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