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Overview of Rice and Sugarcane Cultivation in Akole Tahasil Dist. A'Nagar (M.S, India)

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Abstract: ***About 80 percent population depends directly upon land middle and eastern part of the Akole tahasil, state of Maharashtra, India, is mainly use of the agricultural land and converted into residential and other uses for the growth and development of the facilities. Various agricultural and governmental facilities available in the study area. Therefore, recently cropping pattern is change and day by day positive increased. Depending on the terrain, topography, slope, soils and availability of water for irrigation. Mostly, eastern part of the study area (Rajur, Samsherpur and Kotul circle) is concentrate in the rice crop because of these areas situated in the hilly and heavy rainfall. Separating grains of rice from husk by pounding and gathering medicinal plants are the small scale industries in study area. Only Akole circle have leading Sugarcane Cultivation and another crop is decreased rank. In case of overall change, the shift from food grains to sugarcane is noteworthy in areas facilities by perennial sources of irrigation. Objectives:***

1. To study rice and sugarcane cultivation.
2. To study in changes 20 years cultivation (Rice and sugarcane crop).

Keywords: Hilly Region, Physical and Environmental Conditions, Irrigation Facilities, Rice Crop and Sugarcane Crop.

1. Introduction

Akole Tahasil is well surrounded with the mountainous of Sahyadries. It's located at western part of Ahmednagar District, in the state of Maharashtra. In these tahasil Bhandardara, Nilwande and Adhala reservoir, large number of Small tanks, minor irrigation projects or peculation tanks, Pravara, Mula, Adhala and Mahalungi are important four rivers and also covered by co-operative sugar factory, dairy milk, rice mills, banks and various co-operatives thrive here. The economy of the tahasil is driven mainly by agriculture of sugarcane, rice, horticulture, floriculture and various major cash crop of the study area. In the hilly region, climate is slightly cool. Factory making sugar from sugarcane is located at Agastinagar (Agasti S.S.K Ltd. Jamgaon Akole tahasil).

2. Study Area

The study area Akole is a Tahasil place in Ahmednagar district, state of Maharashtra in India. Well surrounded with the mountains of Sahyadri, extends between 19^0 $15^{'}$ $14^{''}$ and 19^0 $44^{'}$ $59^{''}$ North Latitude and 73^0 $37^{'}$ $00^{''}$ to 74^0 $07^{'}$ $24^{''}$ East Longitudes, covering an area of 1, 50,508 hector (fig no.1). The Highest Peak of Kalsubai (5427 feet or 1646 mt's) in the Sahyadris with a mean annual rainfall of about 508.9 mm. lies in the study area.

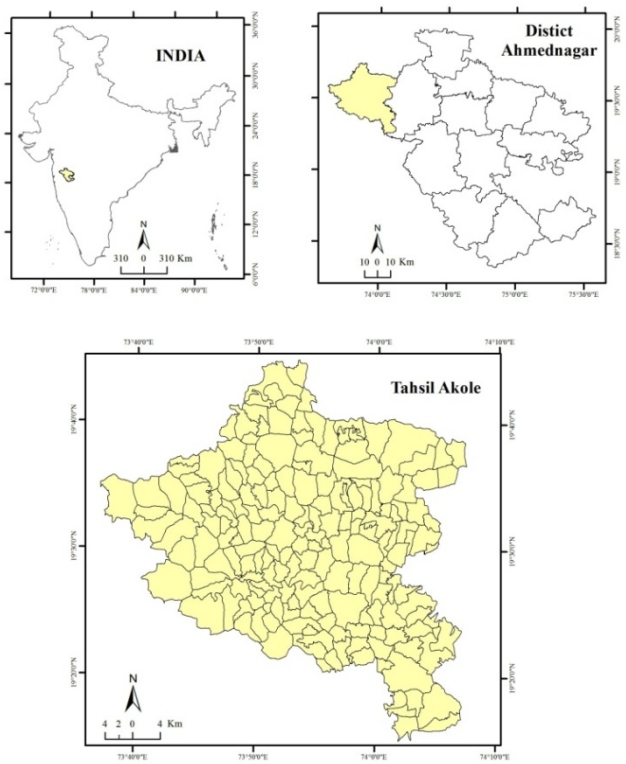

Figure 1: Location Map of the Study area

Area under forest in 41,698 hectors and agriculture land 98,712 hectors. Total Villages **191** and Four **Revenue Circles** namely **Rajur**, **Akole**, **Samsherpur** and **Kotul**. Total population is **2, 91,950** Census 2011 (No. of Male 1, 47,880 and No. of Female 1, 44,070), literacy **1, 92,461** persons and one of which 1, 39,730 (ST) Tribal people in this area. It is characterized by a hot summer and general dryness except during the south-west monsoon season in India.

3. Data and Methodology

The overview of present study with the help of Secondary Sources. Rice and Sugarcane crop of study area was prepared with the help of Arc GIS 10.1, Arc View 3.32 and RS analysis Ilwis 3.3 software packages thematic maps related to study area was prepared by using SOI Toposheet of 1: 50000 scale as the raster maps.

4. Result and Discussion

It is observed that rice is the leading crops as is grown irrigated land. The next important crop is sugarcane another cereals, vegetable, fruit crops etc. grown by the irrigated land. It is quite interesting to note that almost all the farmers used high yielding varieties seeds of cereals and pulses. It is cultivated in 15925 hectares of land, which accounts for 21.88% of gross cropped area.

4.1 Rice (Oryza Sativa)

Rice is the most important food grain of India. It is the staple food of the country where rainfall exceeds 100 cm. India ranks second in the production of rice, after china. A climatic condition of rice is a crop of the tropical monsoon lamed. It requires hot and humid climate its 16 ^{o}c to 20 ^{o}c temperature. Rice requires flooded fields on hills and mountains, rice is grown on terraces. Rice grows on a wide variety of soils. The rice cultivation requires cheap and abundant labour, as most of the works in rice fields. Such as sowing, transplanting and harvesting are done by hand.

4.1.1 Distribution of Rice Crop (1991 to 2011)

Table 1: (Source: Agriculture Dept. Akole Tahasil)

Sr. No	Name of Circle	Year (Area in %)		
		1990-91	2000-01	2010-11
1	Akole	4.05	3.78	3.00
2	Kotul	24.09	24.73	23.73
3	Rajur	48.02	47.11	45.63
4	Samsherpur	18.69	17.61	27.33
	Total	94.85	93.23	99.69

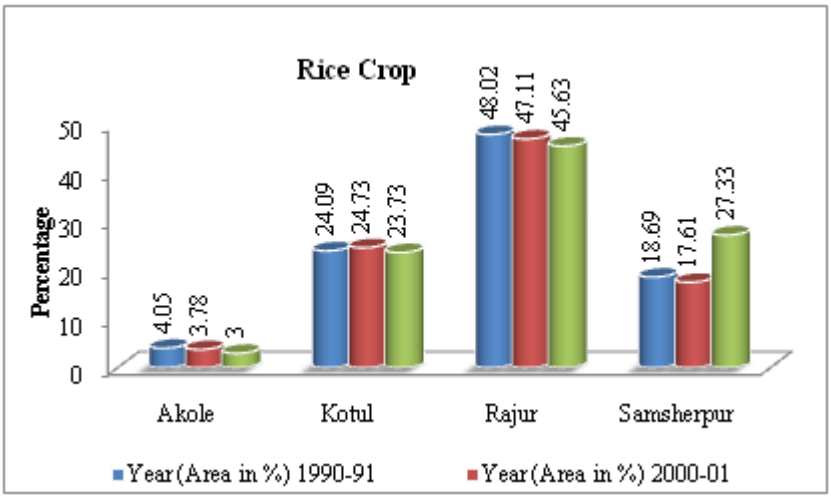

Figure 2: Rice Crop Area in %

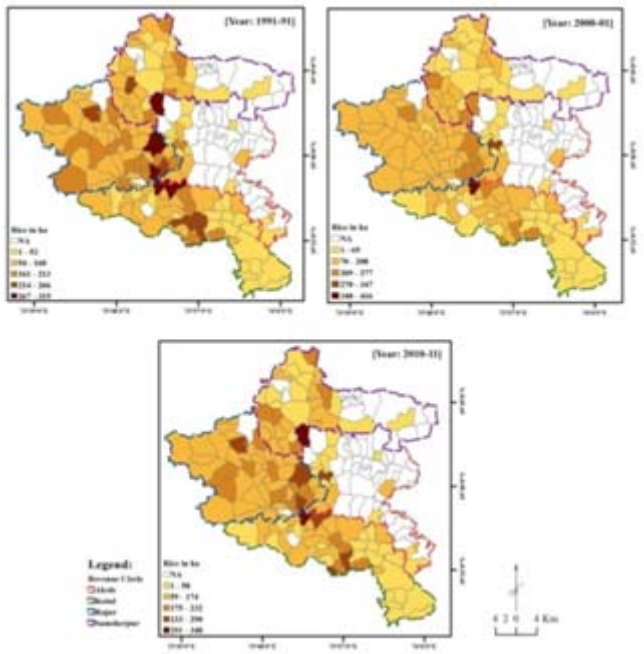

Figure 3: Distribution of Rice Crop

In the study area has recorded highest area under rice cultivation have rajur circle. Because of these area is mostly received high rainfall, uncertain topography or steep hill ranges and low cost labours are available. Akole circles have found less than 10%, rice area, kotul and samsherpur circles have found more than 10% rice area. (Table 1, fig.2 and 3)

The distributional pattern of rice crop cultivation in the study region (Rice varieties: Tulasi, prasanna, heera, kranti, aditya, darna, suvarna, surekha, mahamaya, dharana, kasturi, pusa-basmati, radhanagari 185, halwa (1974), indrayani (1987), kundlika and pawana (1988), phule-maval (1998), bhogawati and phule-radha (2004), phule-samruddhi (2007), sughandha, prabhavati, hmt-sona, phule-makarand etc.) is influenced by soil, climate and receiving high rainfall. Rice cultivation are grown a 95.85% in 1990-91, 93.23% in 2000-01 and 99.69% in 2010-11. The highest area under rice was recorded in rajur circle 48.02% in 1990-91, 47.11% in 2000-01 and 45.63% in 2010-11(Table 1, fig.2 and 3)

4.2 Sugarcane (Sacharum Officinarum L.)

Sugarcane i.e. Sacharum Officinarum L. is the most irrigated cash crop cultivated in Bhandardara, Mula and Pravara command area of the study area. Although it is an annual crop (unlike seasonal crops like rice, wheat, vegetables etc.). It is high requiring water throughout the year, irrigation from sources like the river, well, tube well, lift, canal, tank or reservoirs also. In the study area number of farmers and land engaged in cultivation of sugarcane it was the high density of crop during the rabbi season. Where the crop matures within a year of its plantation. The growth of sugarcane is adequate rainfall between 1100 to 1500 mm.

Sugarcane is cultivated as 'Adsali', 'Pre-seasonal' and 'Suru'. The study area has recorded the agricultural land use is increasing day by day. This is mainly because of the agricultural land is being converted into residential and other uses for the growth and development of the specific area of the study area.

4.2.1 Distribution of Sugarcane Crop (1990-91 to 2010-11):

It is observed that sugarcane is the leading crops as is grown irrigated land. The next important crop is cereals another vegetable, fruit crops, rice etc. grown by the irrigated land. It is quite interesting to note that almost all the farmers used high yielding varieties seeds of cereals and pulses.

4.2.2 Distribution of Sugarcane Crop

Table 2: (Source: Agriculture Dept. Akole Tahasil)

Particulars	*1990-91 (Hect.)*	*Area in %*	*2000-01 (Hect.)*	*Area in %*	*2010-11 (Hect.)*	*Area in %*
Sugarcane	1541	8.11	1639	8.24	1873	7.59

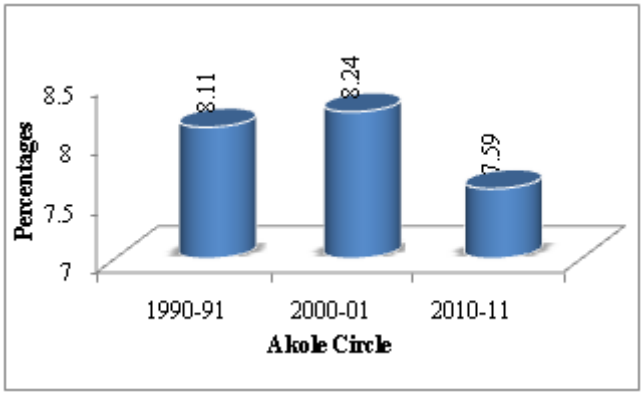

Figure 4: Sugarcane Crop Area in %
(Source: Agriculture Dept. Akole Tahasil)

According to the details given in the Fig. 1, we may find that there are recorded only akole circle have 8.11 per cent in 1990-91, 8.24 per cent in 2000-01 and 7.59 per cent in 2010-11 area under sugarcane cultivation. Other three circles are remaining areas have negligible per cent under the crop (Table 2, fig.4 and 5).

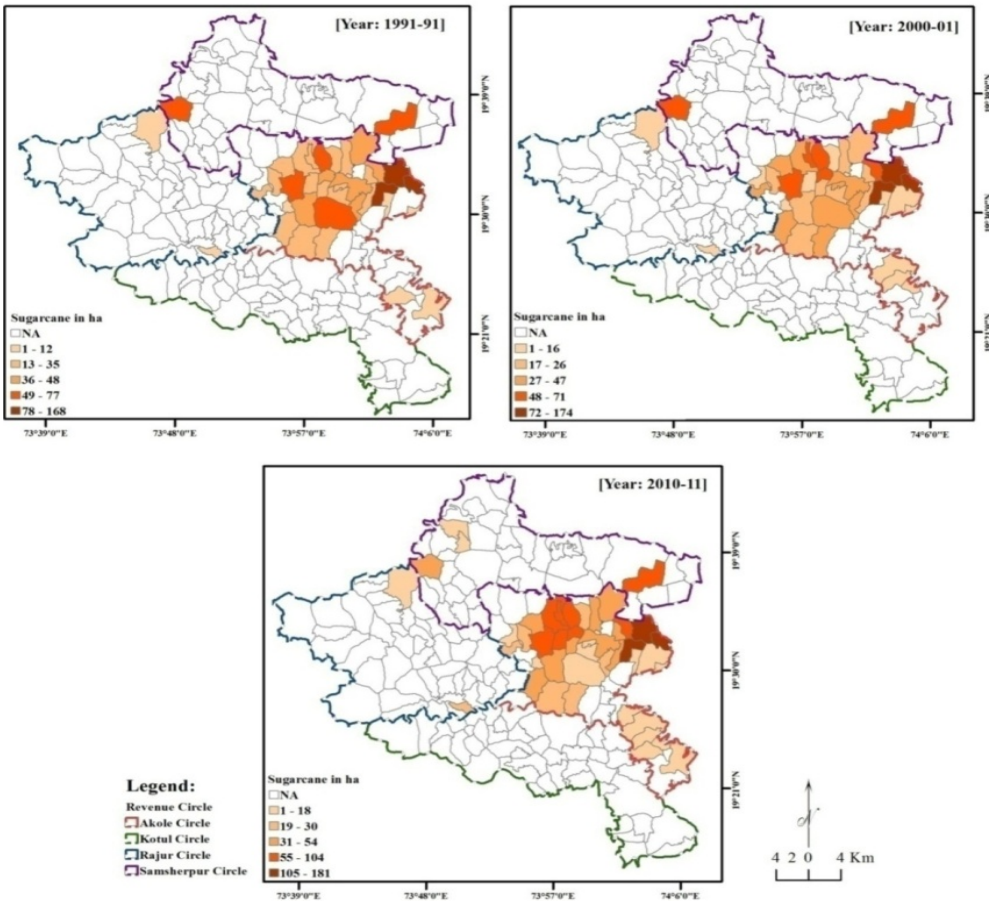

Figure 5: Distribution of Sugarcane Crop

In the study area has recorded highest area under Sugarcane cultivation has akole circle. Because of these area is mostly Irrigated Area and labours are available. These circles have found less than 10 per cent, rice area, kotul and samsherpur circles have found more than 10 per cent rice area. (Table 2, fig.4 and 5). The area under akole circles, study grows a variety of crops. However, food grains constitute a major produce of agricultural land during 1990-91 to 2010-11. The main food grains grown are wheat, bajra, jawar and maize, oilseeds and pulses. Among the non-food crops are grown in the major area followed by fodder crops, flower crops and cash crops in these circles.

5. Conclusions

It is observed from the study area, there is a grater variation in the changes land use and cropping pattern, during the study period i.e. 1991 to 2011. The major crops cultivated in kharip season and rabbi season are grown in the study area. Although the entire cropping pattern seems to be governed by agro-climatic conditions, irrigation has played a prominent role by changing the nature and extent of cropping pattern. Rice and fodder cultivation prevail in western heavy rainfall zone. The southern, middle and eastern part, facilitated by assured irrigation and fertile soils are suitable for growing several crops. It was observed during study area that the adoption of farm technology is increasingly found in the irrigated areas. Intensive agricultural systems more accepted all over the study area.

The major portion of the land is under cultivation is positive changed. Significant change is noted that in cropping pattern. The shift from rice, cereals, pulses, groundnut and sugarcane coincides with the irrigation developments in all villages. However, the concentration of sugarcane crop is largely influenced by the degree of development and nature of water resources. The significant increase during 1990-91 to 2000-01 in the area under bajra and 2000-01 to 2010-11in the area under other cereals has been found in akole circles. The area under rice, other cereals, oilseeds, flower and fodder crops in 1990-91 to 2000-01 and rice, wheat, pulses, soya been, cash crop, vegetable and fodder crops in 2000-01 to 2010-11 has decreased in akole circles.

6. Future Scope for Research

To understand significance sound evolution and future planning for agriculture is consider for the study. The present study is very useful for social organization, N.G.O, Educational and Governmental Institutes, policies and Agro based small scale Industries in the future.

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