

Development of Land Utilizes: Summarize in Akole Tahsil (Ahmednagar District), M.S, India

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Abstract: Agricultural lands are converted to barren, manmade forest and water bodies (+0.41%). Specifically settlement land and sparse forest land has been converted to dense forest land (+14.49%), agricultural land, barren land due to population growth in the akole tahsil. Land utilize pattern of the study area has changes over the past 20 years. Several ways of modification are there. Farmers have adopt modern technology i.e. fruits and vegetables drip irrigation facility, variety seeds material, increasing use by composting biomass, improved planting technology and micro irrigation systems, crop loans, good network of transports and markets, agricultural advisory centers and also available facilities in the study area. Therefore, recently cropping pattern is change and day by day positive increased but eastern part of the study area is concentrate in the rice crop because of these areas situated in the hilly and heavy rainfall. 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. Vegetable is the next crop which is cultivated in 11283 hectares recurring 15.50 % of total cropped area. While the bajra, flower crops, wheat, soya been, pulses, jawar-maize, cotton, oilseeds, sugarcane, fodder crops and fruit crops are 14.63, 8.95, 8.63, 6.33, 5.04, 5.74, 4.11, 3.05, 2.57, 1.82 and 1.69 % of the total area under different crops that varies in different villages. The objective of the study is to study To study Causes of Development on Land utilization and to study in changes Crop diversification (20 Years) in Akole tahsil.

Keywords: Development of Land, Land utilization, Modern Techniques, Crop Pattern and Hilly Areas.

1. Physical and Demographic Properties

The study area Akole is a Tahsil place in Ahmednagar district, state of Maharashtra in India. Well surrounded with the mountains of Sahyadri, extends between 19° 15' 14" and 19° 44' 59" North Latitude and 73° 37' 00" to 74° 07' 24" East Longitudes, covering an area of 1, 50,508 hector (Map no.1). The Highest Peak of Kalsubai (5427 feet) in the Sahyadris with a mean annual rainfall of about 508.9 mm. lies in the study area. Area under forest in 41,698 hectores and agriculture land 98,712 hectores. Total Villages 191 and 4 (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. The climate of the tahsil is hot and dry. It is characterized by a hot summer and general dryness except during the south-west monsoon season in India.



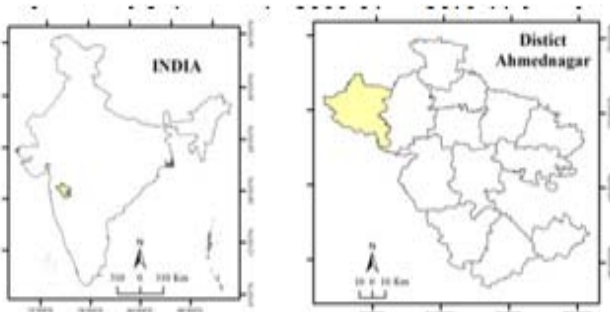
Map No.1: Location Map

2. Data and Methodology

The present outline with the help of Secondary Sources. Development on Land utilization 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.

3. Descriptions of Land utilize

A change in the land utilization implies a change in the proportion of area under different crops at two different times. As such the amount of area involved in change for the study area is calculated for individual crops and the crops of leading increase and decreased are marked. The intensity of land utilization is reflected in number of crops raised during the year. Among the various determinants of agriculture, it is assumed that irrigation positively affects the intensity of cropping. The study area has recorded in 20 years (1990-91



to 2010-11) parts of the eastern sides significant increase in residential and agricultural area due to which gained more land from water bodies, barren and vacant lands. It is clear

from the study that the land utilization and cropping pattern is mostly increasing during 1990-91 to 20101-11. Shows the four circles Scenario on Land utilization in follows:

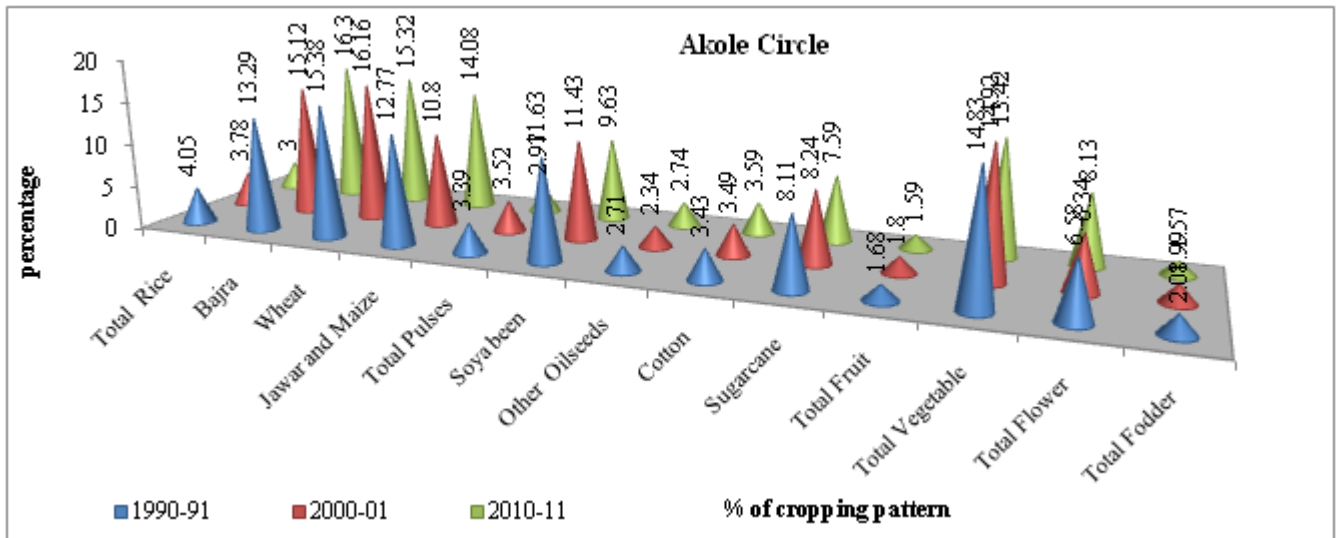


Figure 1: Akole Circle

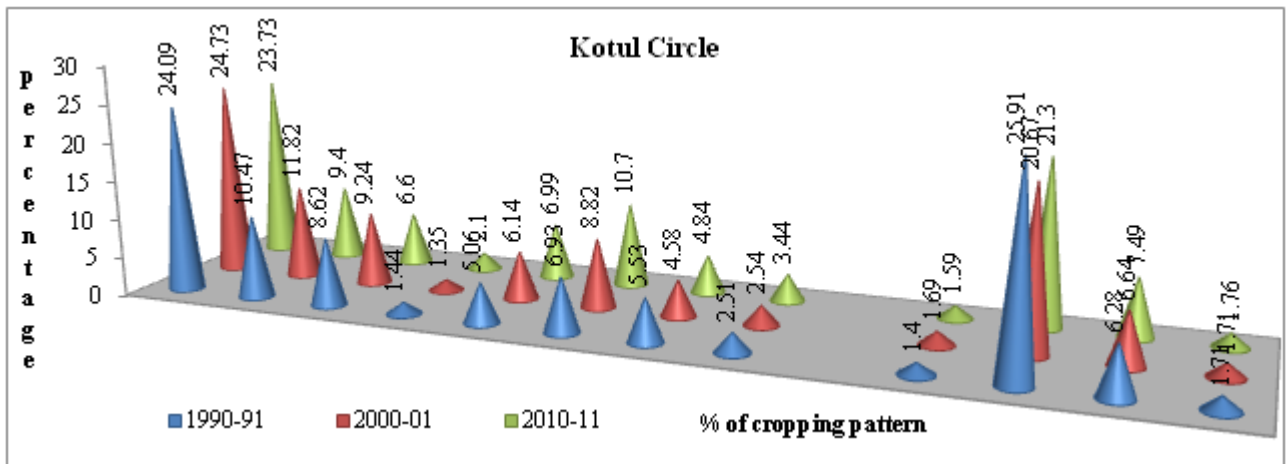


Figure 2: Kotul Circle

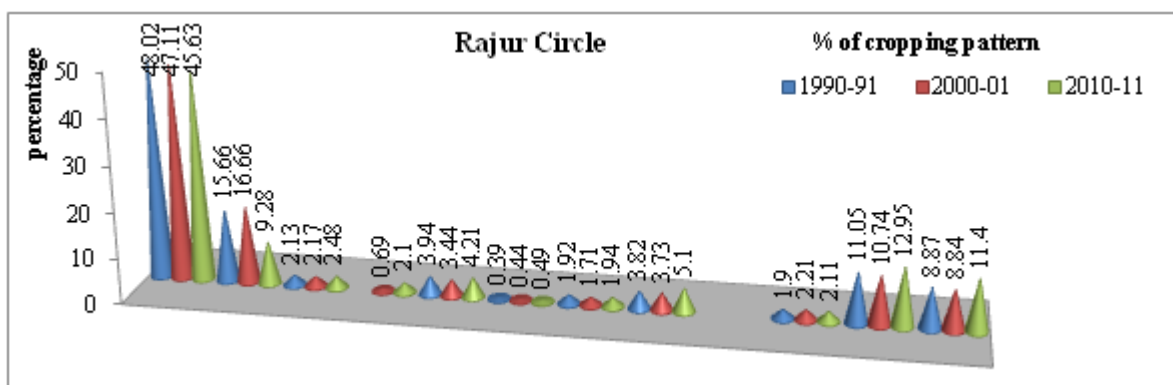


Figure 3: Rajur Circle

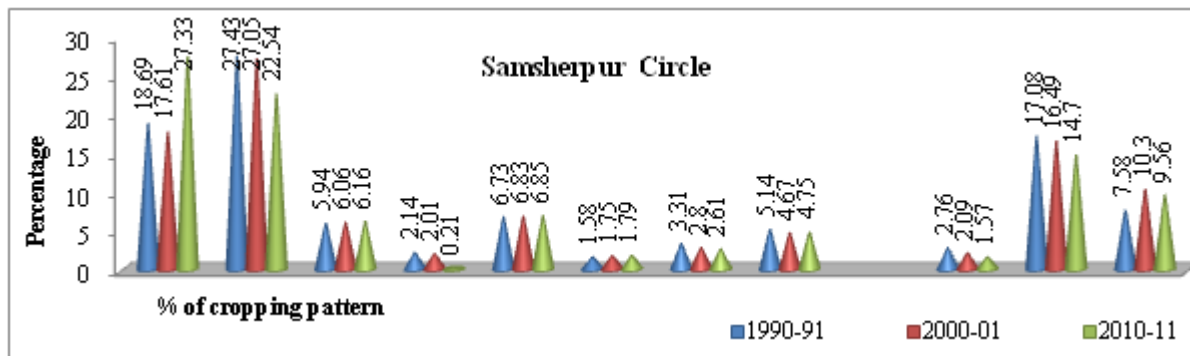


Figure 4: Samshepur Circle

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 circle** (Fig.no.1). The significant increase during 1990-91 to 2000-01 in the area under vegetable and 2000-01 to 2010-11 in the area under wheat has been found in **Kotul circles**. The area under other cereals, other oilseeds and vegetable crops in 1990-91 to 2000-01 and rice, bajra, wheat, and fruit crops in 2000-01 to 2010-11 has decreased in **Kotul circle** (Fig.no.2). The area under rice, pulses, other oilseeds, cotton, vegetables, flower and fodder crops in 1990-91 to 2000-01 and rice, bajra and fruit crops in 2000-01 to 2010-11 has decreased in **Rajur circle** (Fig.no.3). The area under rice, bajra, other cereals, other oilseeds, cotton, vegetables and flower crops in 1990-91 to 2000-01 and bajra, other cereals, other oilseeds, fruit, vegetables, flower and fodder crops in 2000-01 to 2010-11 has decreased in **Samshepur circle** (Fig.no.4).

4. Crop Diversification:

The method used by Bhatia (1965) is employed for present investigation and about 13 crops grown in the tahsil have been considered. The village level data are further aggregated for akole tahsil an areal unit for present investigation.

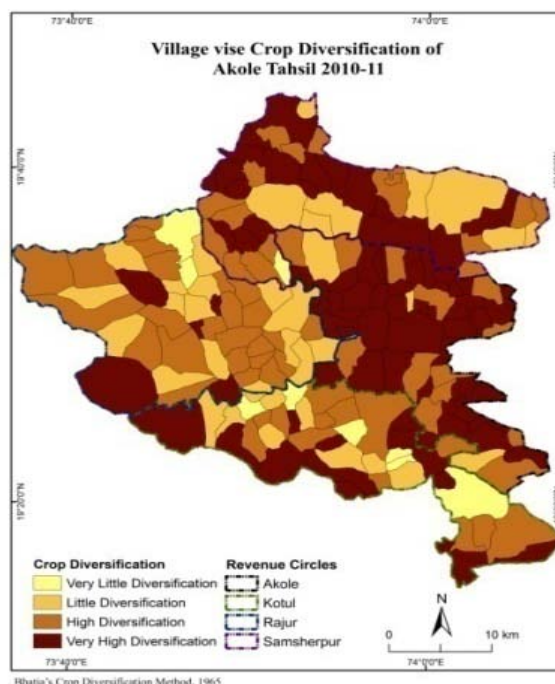
$$\text{Index of Crop Diversification} = \frac{\% \text{ of Sown area under 'x' crops}}{\text{Number of 'x' crops}}$$

Where, 'X' crops are those crops that individually occupied 10% or more of the cultivated area in Akloe tahsil.

5. Results

It is well surrounded with the mountainous of Sahyadries. Pravara, Mula, Adhala and Mahalungi are important rivers, rises in different places of the study area. It's also covered by co-operative sugar factory, dairy milk, rice mills, banks and various co-operatives thrive here. The cropping pattern of a region is closely influenced by the geo-climatic, socio-cultural, economic, historical and political factors. Moreover the land tendency ownership of land, size of holdings and size of fields also impose restrictions on the cropping pattern of a region in the study area of small holdings, the farmers tend to be subsistent despite innovation diffusion. The total geographic area of the tahsil is 149942.43 hectares, out of which about 92922.63 hectares area is under cultivation. Wilson (Bhandardara, storage capacity of 312.60 MCM,

pravara river) and Nilwande (Upper Pravara project II, storage capacity of 236.0 MCM, pravara river) dam (major), Adhala dam (medium), another small and medium size surfaces reservoirs are very important role in agricultural activities.



6. Conclusion

In conclusion it can be said that cropping pattern and agricultural land use in the Akole tahsil, A.nagar district (M.S) has been developed to meet the demands of food supply for increasing population. The cropped area has been expanded over the land where the physical conditions of cultivation might be suitable. However in this area the land is prone to degrade its productivity and the distribution of cropped area may change temporarily. In the study area farmers have adopt modern technology i.e. fruits and vegetables drip irrigation facility, variety seeds material, sugarcane, increasing use by composting biomass in crop cultivation, improved planting technology, machineries and micro irrigation systems, available for nearby village inputs, agricultural labour, bullock power, crop loans, electricity, irrigation, dairy centers and processing units, nearby sugar factory, agricultural advisory centers and also available facilities in 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. From the above discussion, it can be concluded that the tahsil in:

1. Increase in Population Recently.
2. Rice is currently the Most Popular Kharip Crop.
3. Good network of transports and markets.
4. Good communication facilities.
5. Increasing irrigation requirements.
6. Changing crop pattern.
7. Improving drainage systems.

The increasing need for economic development of this particular region is expected to be met through the extension and intensification of the agricultural activities. It is observed from the study area, there is a greater variation in the changes land use and cropping pattern, during the study period i.e. 1990-91 to 2010-11.

7. 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.

References

- [1] Chandrakant T. Pawar (1989): Impact of Irrigation (A Regional Perspective), Himalaya Publishing House, Bombay.
- [2] Dept. of Agricultural and Revenue circle information in Talathi Office, akole Tahasil.
- [3] Dr. Mhaske P.H and Tupe B.K (2014): 'Available of Physical and Environmental Conditions effect on Rice Crop: A Case Study of Akole Tahasil (M.S, India)', International Journal of Environmental Research, P.V.P, Mahavidyalaya, Pravaranagar.
- [4] Dr. Mhaske P.H and Tupe B.K (2014): 'Demands of Changes in Cropping Pattern: A Case Study of Akole Tahasil (M.S, India)', International Journal of Science and Research (IJSR), Volume 3 and Issue 5 (P.p 1314-19).
- [5] Dr. Wagh S. R and Tupe B.K (2013): 'A Micro level study of agricultural modern techniques and changing cropping pattern in Akole Tahasil of A.nagar dist.(MS)', Natural Resources Management and Sustainable Development, ASC College Parner, India, ISBN: 978-81-926129-8-0 (P.p 174-77).
- [6] Dr. Wagh S. R. and Tupe B.K (2014): 'Changes in Agricultural land of Rahata Tahasil (A.nagar Dist)', University recognized Conference, ASC Col. Parner, ISBNNo. 978-81-129754-8-0 (P.p174-77)
- [7] Handbook of Agricultural (2011): Indian Council of Agricultural Research (Sixth Edition Revised), Directorate of Knowledge Management in Agriculture ICAR, New Delhi.Jasbir
- [8] Jain C.K (1988): 'Patterns of Agricultural Development in M.P', Northern Book Center, New Delhi.

- [9] Jainendra Kumar (1986): 'Landuse Analysis-A Case Study of Nalanda Distict', Bihar-Inter-India, Publication, New Delhi.
- [10] Lawande G.B and Tupe B.K (2014): 'Overview of Rice and Sugarcane Cultivation in Akole Tahasil Dist. A'Nagar (M.S, India)', International Journal of Science and Research (IJSR), Volume 3 and Issue 9.
- [11] Rajkumar Moharkar and Dr. J.P.Jagtap (Dec. 2009): 'Agricultural Landuse Pattern in South Solapur Tahsil of Solapur District, Maharashtra', Deccan Geographer, Vol. 48.
- [12] Tupe B.K (2009): Unpublished M.Phil Dissertation, 'The Changing Cropping Pattern - A Case Study of Rahata Taluka in Ahmednagar district'.

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