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ORIGINAL ARTICLE

AGRICULTURAL LAND USE EFFICIENCY IN AHMEDNAGAR DISTRICT, MAHARASHTRA

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Abstract:

Land use efficiency is defined as the extent to which the net area sown has been cropped or resown. The total cropped area or gross area sown as percentage of net area sown gives a measure of land use efficiency which really means the intensity of cropping. The higher the index of the efficiency of cropping the higher the land use efficiency vice versa. Agricultural productivity is largely depending upon the land use efficiency. In this paper an attempt has been made to measure the level of Agricultural Land Use Efficiency by selecting Ahmednagar district of Maharashtra

In the present study tehsil is taken as a basic unit of study investigation. The period selected for the present study is ten years i.e.from 1997-98 to 2007-08. The study is entirely based on secondary data which is collected form Socio–Economic Review and District Statistical Abstract of Ahmednagar, Census Handbook of Maharashtra and Ahmednagar District, District Gazetteer of Ahmednagar. Jasbir Singh´s method of land use efficiency is employed to measure the land use efficiency. Present study reveals significant spatial variation and imbalances in land use efficiency.

KEYWORDS:

Land use efficiency, spatial variation.

1.0 INTRODUCTION

Agricultural geography is one of the most highly developed branches of economic geography. Now a day's many geographers and economists give attention to study of land use efficiency in India and abroad. Agricultural productivity is largely depending upon the land use efficiency, so it plays an important role in the study of agricultural geography. Land use efficiency is defined as the extent to which the net area sown has been cropped or resown. The total cropped area or gross area sown as percentage to net area sown gives a measure of land use efficiency, which really means the intensity of cropping (Singh, 1972).

Agricultural productivity is largely depending upon the land use efficiency. It is generally believed that the land use efficiency reflects itself in the yield and the yield figure has been used as the quantitative basis for the measurement of agricultural efficiency. Land use efficiency is largely depends upon fertility of soil, technological development, availability of irrigational facilities and socio-economic condition of farmers in the study region.

2.0 THE STUDY REGION

Ahmednagar district is selected for present study purpose. Ahmednagar district is situated partly in the upper Godavari basin and partly in the Bhima basin occupying a somewhat central position in the

Maharashtra state. It lies between 180 2'and 190 9'north latitude and 730 9' and 750 5' east longitude. The study region covers an area about 17,412sq.km. It occupies 5.54% area of Maharashtra state. The total population of Ahmednagar district is 40, 88,077out of which 21, 06,581(51.52%) are men and 19, 81,576(48.48%) are women. As per 2001 Census, 80.35 per cent is the rural population and 19.65 per cent is urban population . The district has 14 tahsils with 1581 villages.

3.0 OBJECTIVES

In the present research paper an attempt has been made to find out and to analyse the spatio - temporal changes in land use efficiency in the study region.

4.0 RESEARCH METHODOLOGY

In the present study tahsil has taken as a basic unit of investigation. The period selected for the present study is ten years i.e.from 1997-98 to 2007-08. The present study is entirely based on secondary data which is collected form Socio–Economic Review and District Statistical Abstract of Ahmednagar, Census Handbook of Maharashtra & Ahmednagar District, and District Gazetteer of Ahmednagar. Jasbir Singh´s method of land use efficiency is employed to measure the land use efficiency. Land use efficiency is calculated by using following formula.

$$\text{Index of Land Use Efficiency} = \frac{GCA}{NSA} \times 100$$

Where,

GCA = Gross Cropped Area
NSA = Net Sown Area

5.0 AGRICULTURAL LAND USE EFFICIENCY

1)Low Land Use Efficiency (<110%)

During 1997-98 low land use efficiency was observed in the Shevgaon, Nagar, Shrigonda, Karjat and Jamkhed tehsils. Due to drought prone area actual area under double cropping is small. Rugged topography, Uncultivable waste land, less irrigation facilities, poor soil condition, less use of chemical fertilizers, pesticides & other natural as well as socio-economic factors are responsible for low land use efficiency. During 2007-08 low land use efficiency was found in Akola, Sangamner, Nagar, Rahuri, Shrigonda, Karjat and Jamkhed tehsils.

Table-1
AGRICULTURAL LAND USE EFFICIENCY IN AHMEDNAGAR DISTRICT
(Area in hectares)

Sr.No.	Name of the Tehsil	*GCA (1997-98)	*NSA (1997-98)	**CI In %	*GCA (2007-08)	*NSA (2007-08)	**CI In %	**Change CI in %
1	Akola	103023	88039	117.02	95343	91433	104.28	-12.74
2	Sangamner	61742	46098	133.94	111965	102340	109.40	-24.53
3	Kopargaon	108638	77569	140.05	62193	51498	120.77	-19.29
4	Rahata	0	0	0.00	57558	50665	113.61	113.61
5	Shrirampur	87050	69399	125.43	45886	36994	124.04	-1.40
6	Nevasa	133093	100129	132.92	127661	108066	118.13	-14.79
7	Shevgaon	86261	78756	109.53	88623	79542	111.42	1.89
8	Pathardi	124189	105968	117.19	97319	87487	111.24	-5.96
9	Nagar	108545	102861	105.53	120233	114915	104.63	-0.90
10	Rahuri	91218	63890	142.77	68761	62650	109.75	-33.02
11	Parner	169259	129314	130.89	158758	126484	125.52	-5.37
12	Shrigonda	118164	114362	103.32	113870	110780	102.79	-0.54
13	Karjat	115915	109876	105.50	102452	93581	109.48	3.98
14	Jamkhed	74292	68428	108.57	75534	69411	108.82	0.25
	Dist. total	1381389	1154689	119.63	1326156	1185846	111.83	-7.80

Source: *Socio-Economic Review and District Statistical Abstract of Ahmednagar.

**Computed by Researchers.

Table-2
Land use efficiency in Ahmednagar District

Year	Low (Below 110 %)	Medium (110-120 %)	High (120 % & Above)
1997-98	Shevgaon, Nagar, Shrigonda, Karjat, Jamkhed	Akola, Pathardi	Sangamner, Kopargaon, Shrirampur, Nevasa, Rahuri, Parner
2007-08	Akola, Sangamner, Nagar, Rahuri, Shrigonda, Karjat, Jamkhed	Rahata, Nevasa, Shevgaon, Pathardi	Kopargaon, Shrirampur, Parner

1)Medium Land use efficiency (110-120%)

Medium land use efficiency was observed in Akola and Pathardi tehsil in 1997-98, while medium land use efficiency was recorded at Rahata, Nevasa, Shevgaon and Pathardi in 2007-08. Land use efficiency increases in above mentioned tehsils in last decade due to availability of irrigation facilities ,few tehsils lead to increase in cultivable land and also barren land under cultivation.

2)High Land use efficiency (>120 %)

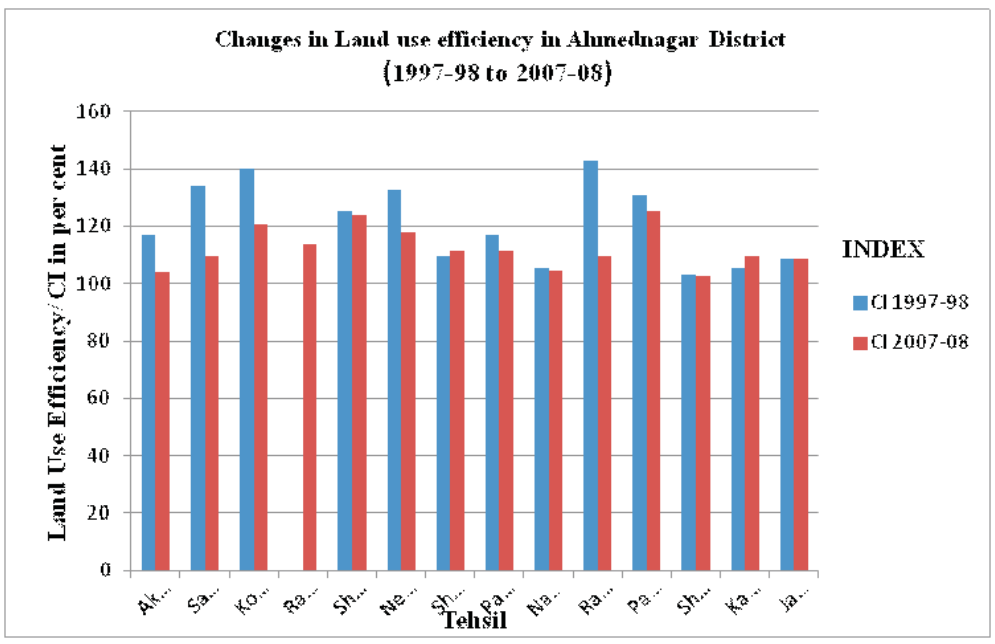
In 1997-98 high land use efficiency was observed in the Sangamner, Kopergaon, Shrirampur, Nevasa, Rahuri and Parner tehsils. In fact, in the year 2007-08 number of tahsils decreased in high land use efficiency.

During 2007-08 high land use efficiency was recorded in the Kopargaon, Shrirampur and Parner tahsils High land use efficiency was observed in six tahsils in 1997-98 and three tehsils in the year 2007-08. The high land use efficiency was found in these tehsils because of availability of irrigation facilities, soil fertility & development of other necessary infrastructural facilities leads to large scale cultivation which has contributed to the high land use efficiency level and also because of less proportion of non cultivable waste lands.

6.0 CHANGES IN AGRICULTURAL LAND USE EFFICIENCY

Very low positive change in land use efficiency was observed in Shevgaon (1.89 per cent), Karjat (3.98 per cent) and Jamkhed (0.25 per cent) tehsils. While all the remaining tehsils showed negative change. It means the land use efficiency decreased during 1997-98 to 2007-08(Fig.2).It is very surprising to note that agriculturally developed tehsils showed decrese in land use efficiecy, due to excessive use of water & chemical fertilizers, and monoculture. On the other hand Karjat, Jamkhed, Nagar, Parner and Shevgaon tehsil showed very low positive increase and low land use efficiency, due to drought prone zone, and lack of irrigation facilities.

The highest negative change in land use efficiency was observed in Rahuri (-33.02 per cent) and the lowest negative change was observed in Shrigonda (-0.54 per cent). Akola (-12.74 per cent), Sangamner (-24.53 per cent), Kopargaon (-19.29 per cent), Shrirampur (-1.40 per cent), Nevasa (-14.798 per cent), Pathardi (-5.96 per cent), Parner (-5.37 per cent), and Nagar (-0.90 per cent) .



7.0 CONCLUSION

The foregoing analysis reveals the following conclusions:

1.The land use efficiency of the study region was 119.63 per cent in 1997-98 and 111.83 per cent during the year 2007-08. It shows declining trend (-7.80 per cent) of land use efficiency in last one decade.
2.High land use efficiencies are associated with the interaction between the relative favorable physical-socio-economic-cultural-organizational factors.
3.The effect of rainfall, drought prone area, irrigation facilities, cultivated area, and nature of soil and size of land holding are the most important factors responsible for variation in land use efficiency in the study region.
4.High land use efficiency is found in developed tehsil and low land use efficiency in less developed tehsils.
5.To satisfy the need of the present and future population, the order of the existing land use pattern requires to be modified with a view to effecting economy and efficiency.
6.The very low and declining trend of land use efficiency is alarming situation to the planners, economist and geographers.
7.The Process of transformation of traditional farming in to scientific farming is essential in drought prone areas for develop the underdeveloped agriculture in the study region.
8.In future there is possibility of increasing producti District on in drought prone tehsils through availability of irrigation facilities and multiple cropping. It would be improve socio-economic status farmers and society.

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