



A Study of Volume of Change in Agricultural Landuse Efficiency in Buldana District (MS)

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Introduction:

Generally, landuse is the actual use of land by house, apartments and industrial location which are categorized as residential, industrial and agricultural. It refers to a system of land utilization implying roads, neighborhood retail and service activities as well as location of industries and the carrying of agricultural pursuits. In a real area, tree crop or row crop would identify landuse, whereas orcharding, truck farming and grazing indicate a system of land utilization. Landuse efficiency may be defined as the extent to which the net sown area is cropped or re-sown. The gross cropped area as a percentage of the net sown area gives a measure of landuse efficiency, which means the intensity of cropping.

Study Region:

The study region, i.e. Buldhana is a district in the Amravati division of Maharashtra state in western India at the westernmost border of Vidarbha region and is 500 km from the state capital, Mumbai. Buldhana district is located in the central part of the state of Maharashtra. Akola, Jalgaon, Jalna, and Parbhani districts are the adjoining districts to the East, West, and South respectively. The Nemad district of Madhya Pradesh is in the North. The Buldhana district lies between 19°51' to 21°17' North Latitude and 75°57' to 76°49' East Longitude.

The district consists of five subdivisions and thirteen blocks. The district Head Quarters is at Buldhana. Buldhana district has an area of around 9,680 square kilometers. In 2011, Buldhana had population of 2,586,258 of which male and female were 1,337,560 and 1,248,698 respectively. Buldhana District population constituted



May 2018 - Volume III - Issue II

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2.30 percent of total Maharashtra population. The district is a gateway for Vidarbha region and also well known for its cool atmosphere.

Objectives:

The present study intends to study, analyze and compare the tahsilwise distribution of agricultural landuse efficiency in Buldhana district.

Database and Methodology:

The present study is based on secondary data pertaining to agricultural landuse efficiency. All relevant published and unpublished records have been considered. The secondary data has been collected from district census handbook, Gazetteer, district statistical abstracts, socio-economic abstracts of the Buldhana district. Results of tabulation has been depicted in the form of table. The period selected for the study is 1995-2000 to 2010-2015.

The statistical method / formula to find out the landuse efficiency is as follow:

$$\text{Landuse efficiency} = \frac{\text{Gross Cropped Area}}{\text{Net Sown Area}} \times 100$$

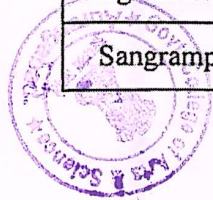
Analysis of Landuse Efficiency:

The tahsilwise agricultural landuse efficiency in the Buldhana district has been calculated and the results has been put in the table 1.

Table 1
Landuse Efficiency in Buldhana District

(Area in "00" hectares)

Tahsil	1995-2000			2010-2015			Volume of Change in Landuse Efficiency in %
	Gross Cropped Area	Net Sown Area	Index of Landuse Efficiency	Gross Cropped Area	Net Sown Area	Index of Landuse Efficiency	
Jalgaon Jamod	431	398	108.29	450	407	110.57	2.27
Sangrampur	453	428	105.84	466	435	107.13	1.29





Tahsil	1995-2000			2010-2015			Volume of Change in Landuse Efficiency in %
	Gross Cropped Area	Net Sown Area	Index of Landuse Efficiency	Gross Cropped Area	Net Sown Area	Index of Landuse Efficiency	
Shegaon	547	522	104.79	534	518	103.09	-1.70
Nandura	474	415	114.22	471	387	121.71	7.49
Malkapur	442	432	102.31	423	397	106.55	4.23
Motala	548	517	106.00	583	540	107.96	1.97
Khamgaon	769	658	116.87	740	585	126.50	9.63
Mehkar	849	736	115.35	801	654	122.48	7.12
Chikhli	647	580	111.55	934	733	127.42	15.87
Buldhana	637	564	112.94	568	451	125.94	13.00
Deulgaonraja	662	781	84.76	380	468	81.20	-3.57
Sindkhedraja	542	604	89.74	565	567	99.65	9.91
Lonar	652	576	113.19	542	459	118.08	4.89

Source : Computed by the researcher

Table 1 indicates that as per year 2010-2015, the highest landuse efficiency has been recorded for Chikhali tahsil on the other hand lowest for deulgaonraja tahsil which is only 81.20. On the basis of the statistics (year 2010-2015) from the table the district is divided in three region / level of efficiency, i.e. Low (Below 105%), Medium (106% to 120%), High (Above 120%). The details of the same is as below:

1) High Landuse Efficiency:

High landuse efficiency has been observed in Chikhli, Nandura, Mehkar, Khamgaon and Buldhana tahsil during the period of investigation. These tahsils are developed tahsils in view point of agricultural and industrial sector.

2) Moderate Efficiency Region:

Moderate level of agricultural landuse efficiency has been observed in





Sangrampur, Jalgaon-Jamod, Malkapur, Motala, and Lonar tahsil where infrastructural facilities for agriculture are not so much developed. Government has given more attention to improve the irrigational condition even then due to variability of rainfall these tahsils showed moderate landuse efficiency.

3) Low Efficiency Region :

Low efficiency of agricultural landuse is observed in Shegaon, Deulgaonraja and Sindkhedraja tahsils. Both physical and non-physical determinants of agriculture are responsible for low efficiency. These tahsils doesn't have sufficient irrigational facilities which has resulted in the low efficiency.

Volume of Change in Agricultural Landuse Efficiency:

During the study period, certain changes in landuse efficiency has been observed. Highest change has been observed from Chikhli tahsil (15.87) whereas lowest change has been recorded from Sangrampur tahsil (1.29).

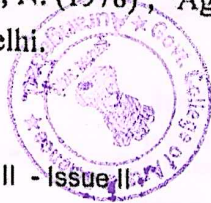
Below 4% positive change in landuse efficiency has been observed in Sangrampur, Motala and Jalgaon jamod whereas 4% to 8% positive change has been observed in Malkapur, Lonar, Mehkar and Nandura tahsil. Above 8% landuse efficiency has been observed in Khamgaon, Sindkhedraja, Buldhana and Chikhli tahsil. Negative change in agricultural landuse efficiency has been recorded from Shegaon and Deulgaonraja tahsil.

Conclusion:

The agriculture efficiency of Buldhana district has shown variation at large scale. Erratic nature of monsoon, cropping pattern, crop combination and other relevant factors are the responsible factors for it. Farmers of the district should increase the net sown area and especially the area under irrigation. More irrigation will certainly increase the efficiency of the land since it is the boosting factor to increase production.

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