

LEVELS OF IRRIGATION DEVELOPMENT IN LATUR DISTRICT

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1.1 Introduction—Irrigation is human being's efforts to substitute for any inadequacy and deficiency in natural rainfall with the purpose of expansion in crop output. Broadly speaking on one hand irrigation has become one of the fundamental need for agricultural output in the area of scanty rainfall on the other hand irrigation can act as an insurance against failure in rainfall during the wet crop season in the regions of favorable rainfall. Irrigation plays a vital role during the dry season in the rainless tracts where it provides the water supply to the agriculture land and improve its utilization and crop also. In this way, with the help of irrigation farmers may annually produce two or three crops in sequence from the same land. They also can cultivate long duration crops as sugarcane and it facilitates the intensive use of scare land resources. Therefore, the protective role of irrigation substantially lowers the production risk in the wet season; consequently farmers are greatly induced to raise land productivity by the way of input intensification.

1.2 Study Area—In the present work an attempt has been made to study the 'Levels of Irrigation Development in Latur District'. Latur district has been selected as the study area'. The location of the Latur district is considered it lies between 17⁰52' and 18⁰50' North latitudes, 76⁰12' and 77⁰18' East longitudes. It is surrounded by Beed and Parbhani in the north east, Karnataka state in the north east and Osmanabad district in the North West. The total area covered by Latur district is 7372 sq.km. According to the census 2001, the total population. It accounts for 2.39 percent of the area of the state and 2.15 percent population of the state.

1.3 Objectives—To identify the tahsil-wise variations in the levels of irrigation on the basis of following indicators.

- i) Percentage of gross irrigated to gross cultivated area.
- ii) Percentage of net irrigated to net cultivated area.
- iii) Percentage of gross area to net irrigated area.

To attempt to delineate homogenous regions for the purpose of planning for development of irrigation.

1.4 Database—The entire data used for the present study have been obtained from secondary sources. Data from secondary sources have been

collected principally from various bulletins :

1. Bulletins of Agricultural Statistics of Maharashtra (year wise from 1985-86 to 2000-2001)
2. Statistical abstract of Latur district (year wise from 1985-86 to 2003-2004)
3. District Census Handbook of Latur (1981, 1991, 2001).

Since the study is from 1985, district level published data was available from 1985 onwards to 2000. All the analysis has been done for the ten tahsils of the district.

1.5 Levels of Irrigation Development—Though irrigation plays a vital role in the development of agriculture in Maharashtra, yet the development and utilization of irrigation varies from region to region. So it is noteworthy to present homogeneous area having some characteristics of irrigation development on the basis of composite scores of the following three indicators.

Percentage of gross irrigated to gross cultivated area.

1. Percentage of net irrigated to net cultivated area.
2. Percentage of gross irrigated area to net irrigated area.

On the basis of composite scores the tahsils are divided in following three categories

1. High more than 6.00
2. Medium 3:00 to 6.00
3. Low 1:00 to 3.00

On the basis of the data displayed in table no. 1.1 and fig. no. 1.1, it has been, clearly, experienced for the duration for fifteen years.

Moreover, on the basis of ranks, levels and magnitude of development, the tahsils are divided in the following three categories.

1. Highly developed
2. Moderately developed
3. Less developed

1. Tahsils of highly Developed Irrigation—It has been observed that tahsils as Latur, Nilanga and Ausa as the tahsils of highly developed irrigation which have maintained their level and rank high and showed an increase in their magnitude of scores during the last fifteen years i.e 1985-86 to 2000-01. The tahsils as Latur and Nilanga facilitated with the river basin of Manjara river and Ausa tahsil is located in the river

basin of Tavarja. The whole area covered by this belt is 322400 hectares which is about 45.04 percent of the district. With the study of Table no. 1.3, it is clearly seen that the net cultivated area is 85.66 percent of the total area, out of which 8.89 percent is under irrigation. On the contrary the total cultivated area is 99.71 percent out of which only 10.00 percent area is under irrigation. It is also observed that the highly developed region covers smallest area of the study region. It is a developed area in terms of endowed facilities of irrigation which has got the highest percentage of net and total cultivated area under irrigation.

Though it is so, this region did not record a high overall compound growth rates in net irrigated area which is 0.19 percent and total irrigated area which is 0.15 percent it is because, irrigation developed even early than eighty five. Therefore, by 2000-2001, there is a little scope for further development. It compared with other sub-regions, it shares very lowest growth rates. Notwithstanding the irrigation sectors which are already developed, captivated the agriculturists. Moreover, farmers could use the inputs intensity so much so that they could increase their yields. Adding to it, it is a region where low of technological and capital facilities are easily available. Though, the present efforts are important the other area shouldn't be neglected for the overall composite growth rates.

2. Tahsils with moderately developed Irrigation—This sub-region includes those region which have maintained a medium level and showed a moderate increase in their level, rank and magnitude of score during the fifteen years. In this category tahsils Udgir and Ahmedpur are included from the table no. 1.1, it is observed that, Udgir and Ahmadpur maintained moderate level and rank in the development

of irrigation and there is a slight increase in its score. These tahsils are the part of Balaghat plateau, and they cover an area of 156900 hectares which is 29.92 percent of the total area of the district. From table no.1.1, it is observed that the net cultivated area is 120.07 percent out of which 3.80 percent is under irrigation and total cultivated area is 132.50 percent of the total area and out of which 3.47 percent area is directly moistened by irrigation facilities. The region covers 21.92 percent area but irrigation facilities are not much developed here. The intensity of irrigation is 1.16 percent. This region is potential for the development, for present plan and strategies. The existing condition of this region should be taken in view for the development of irrigation to promote irrigation facilities, more efforts are required in the study region.

3. Tahsils with less Development of Irrigation—

This sub region consists of the tahsils which have maintained a low a very low level, and it registered a fall in their level, rank and magnitude of score during the last fifteen years. This category includes Deoni, Jalkot, Chakur, Sirur Anantpal and Renapur from the Table 1.2, it is clearly seen that all the tahsils of Latur district maintained a low level of irrigational facilities which shows a declining trend in their ranks and magnitude score from 1985-86 to 2000-01. This region covers an area of 636400 hectares which is about 33.03 percent of the total area. With a careful study of Table no. 1.3, it is seen that out of total area the net cultivated area covers the area about 32.22 percent out of which 7.13 percent area is under irrigation. The total cultivated area is 35.10 percent, of which 6.72 percent is under irrigation. This is the least developed area in all the five sub-tahsils. It covers the largest area and which has least area under irrigation.

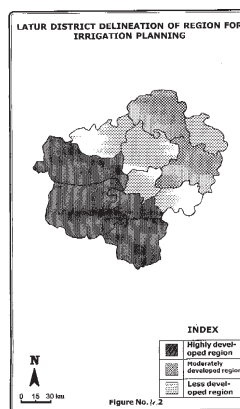
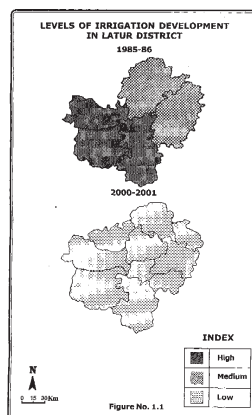


Table 1.1
Standard Scores of Indicators for the Development of Irrigation in Latur District
1985-86 to 2000-2001

Tahsils / Year	1985-86				2000-01			
	I	II	III	IV	I	II	III	IV
Latur	0.075	9.65	1.34	11.06	0.15	0.19	1.02	1.36
Ahmadpur	0.018	1.3	1.74	3.05	0.02	0.02	1.00	1.04
Udgir	0.047	4.27	1.24	5.55	0.03	0.30	1.33	1.66
Nilanga	0.079	6.27	1.44	7.78	0.08	0.06	1.20	1.34
Ausa	0.068	7.57	1.10	8.73	0.05	0.05	1.03	1.13
Renapur	-	-	-	-	0.06	0.06	1.00	1.12
Chakur	-	-	-	-	0.10	0.09	1.24	1.43
Deoni	-	-	-	-	0.05	0.50	1.30	1.85
Jalkot	-	-	-	-	0.03	0.02	1.42	1.47
S.Anantpal	-	-	-	-	0.07	0.08	1.01	1.16

Indicators: I Proportion of total irrigated area to total cultivated area
 II Proportion of net irrigated area to Net cultivated area
 III Percentage of gross irrigated area to Net irrigated area
 IV Composite Score.

Table 1.2
Classification of Tahsils According to the levels of Development of Irrigation in Latur District

Category	1985-86 Rank	Tahsils	Composite Scores	2000-2001 Rank	Tahsils	Composite	Sub-regions	Tahsils	1985-86 to 2000-01		Comprise Scores
									Level	Ranks	
1) High >6.00	1	Latur	11.06	-	-	-	Highly Developed	Latur	H	1	11.06
	2	Ausa	8.73	-	-	-		Ausa	H	2	8.73
	3	Nilanga	7.78	-	-	-		Nilanga	H	3	7.78
2) Medium 3 to 6	4	Udgir	5.55	-	-	-	Moderately Developed	Udgir	M	4	5.55
	5	A.pur	3.05	-	-	-		A.pur	M	5	3.05
3) Low <3	6	-	-	6	Deoni	1.85	Low Development	Deoni	L	6	1.85
				7	Udgir	1.66		Udgir	L	7	1.66
				8	Jalkot	1.47		Jalkot	L	8	1.47
				9	Chakur	1.43		Chakur	L	9	1.43
				10	Latur	1.36		Latur	L	10	1.36
				11	Nilanga	1.34		Nilanga	L	11	1.34
				12	S.Anantpal	1.16		S.Anantpal	L	12	1.16
				13	Ausa	1.13		Ausa	L	13	1.13
				14	Renapur	1.12		Renapur	L	14	1.12
				15	A.pur	1.04		A.pur	L	15	1.04

Table no. 1.3
Delineation of Regions in Latur District for irrigation planning

Regions	Tahsils	Area	Net Cultivated Area	Total Cultivated Area	Double Cultivated Area	Net irrigated Area	Total Irrigated Area	Net irrigated Area to net cultivated Area	Total irrigated Area to total cultivated Area.
High Developed	Latur Ausa Nilanga	322400 (45.04)	85.66	99.71	15.47	8.42	8.86	10.00	8.89
Moderately Developed	Udgir Ahmedpur	156900 (21.92)	120.07	132.50	12.42	4.17	5.04	3.47	3.80
Less Developed	Deoni Jalkot Chakur S.Anantpal Renapur	636400 (33.03)	32.22	35.10	2.87	2.16	2.50	6.72	7.13

Figures in brackets show the percentage to the total area of the study region.

1.5 Summary—Levels of irrigation development are presented on the basis of ranks and magnitude of development in three categories i.e highly developed, moderately developed and highly developed the tahsils as Latur, Ausa and Nilanga which are facilitated with the river basins of Manjara and Tavarja are included it covers an area of 322400 hectares which is about a 45.04 percent of the district while in second category that is moderately developed irrigation tahsils are Udgir and Ahmedpur these tahsils situated

in the plateau of Balaghat they cover an area of 156900 hectares which is 29.92 percent of the total area of the district. Furthermore, in the third category of less developed irrigation tahsils as Deoni, Jalkot, Chakur, Sirur Anantpal and Renapur are included. Most of the tahsils are shown less development of irrigation. This region covers an area of 536400 hectares which is about 33.03 percent of the total area of the study region.