IMPACT OF IRRIGATION ON AGRICULTURAL PRODUCTION OF LATUR DISTRICT
[1983-84 TO 2002 -03]

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Study Area—Latur district is one of the most important district in Marathwada region of Maharashtra state. Latur district lies between 18^0 15' to 19^0 15' North latitudes and 73^0 25' to 77^0 25' East longitudes. Latur district covered an area of 7391.90 Sq.Kms. It is located on Deccan Plateau region & in the south eastern part of Maharashtra state. The district is situated on maharashtra karanata Boundary. Before 1982 Latur district was a part of Osmanabad district. On 15th August 1982 Latur District was separated from Osmanabad district with five tahsils, these are Latur, Nilanga, Ausa, Udgir & Ahmedpur. Now there are ten tahsils, but newly formed five tahsils Devni, Jalkot, Shirur Anantpal, Chakur & Renapur are not considered in the study due to non availability of basic year data Recently formed tahsils data is add in old tahsils for which new tahsils are separated.

Data And Methodology—This paper is totally depends on secondary data. Data is collected from Socio-Economic Reviews and District Statistical Abstract of Latur District. The data is collected for twenty years i.e. 1983-84 to2002-03. Impact of Irrigation on production of selected crops in Latur district calculating by method of Pearsonian co-relation co-efficient & tahsilwise results are shown by different cartographical techniques.

Results And Discussion : Impact of Irrigation on Agricultural Production of Selected Crops In Latur District-Latur district is food grain oriented district. Out of eight selected crops, the maximum production is observed of Jowar, Tur, Sugarcane and Wheat crops. There is fluctuation in production of all crops in twenty years. There is very close positive association between gross irrigated area and production of rice & production of groundnut. Very less correlation is observed in GIA & production of wheat; jowar; gram, tur & sugarcane. There is impact of irrigation on the production of rice & production of groundnut. Graph showing the significant level of correlation between gross irrigated area and production of different crops of Latur district.

Impact of Irrigation Agricultural Production of Selected Crops In Different Tahsils of Latur District -The maximum production is observed of Jowar crop during the period under study. All figures of the production are showing fluctuations during the period under study. Total gross irrigated area is also not even. There is very close positive association between gross irrigated area and production of Bajra and sugarcane in Udgir tahsil. There is also positive correlation between gross irrigated area and production of gram crop during the period 1982-83 to 2002-03. There is impact of irrigation on the production of bajra, gram, sugarcane crops. The major crops in agricultural productions are jowar, sugarcane, tur & wheat in Ahmedpur tahsil. The gross irrigated area is not equal in all the years of period under study.

There is very close association in gross irrigated area and production of wheat, production of bajra & production of groundnut in Ahmedpur tahsil during the period under study. There is positive correlation between gross irrigated area and production of sugarcane. There is impact of irrigation on the production of wheat, bajra, sugarcane and groundnut in Ahmedpur tahsil during period under study. The gross irrigated area is not uniform in Latur tahsil during the period of under study. The maximum production is observed of sugarcane, jowar, tur and wheat in Latur tahsil. There are fluctuations in the production of all selected crops in Latur tahsil during the period 1983-84 to 2002-03. There is very close association between gross irrigated area and production of rice, production of wheat, production of bajra, production of tur, production of sugsrcane in Latur district. There is impact of irrigation on the production of rice, wheat bajra, tur and sugarcane in Latur tahsil. The highest production is observed of sugarcane in Ausa tahsil. Jowar is leading crop in Ausa tahsil. Tur, wheat, & groundnut crops are also important crops in the production during the period under study. There is very close corre-

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Table No. 1.1

CO-EFFICIENT OF CORRELATION BETWEEN GROSS IRRIGATED AREA AND AGRICULTURAL PRODUCTION OF SELECTED CROPS IN DIFFERENT TAHSILS OF LATUR DISTRICT (1983-84 TO 2002-03)

Name of he crops	Udgir Tahsil		Ahmedpur Tahsil		Latur Tahsil		Ausa Tahsil		Nilanga Tahsil		Total Latur District	
	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent	Correlation between GIA & Production of Different crops ('r' value)	Significant Level in percent
ice	0.05	Less Than 50	0.37	Less Than 50	0.58	99	0.51	95	0.52	98	0.48	95.00
/heat	0.31	Less Than 50	0.64	99	0.45	95	0.36	Less Than 50	0.07	Less Than 50	0.37	Less Than 50
owar	0.06	Less Than 50	0.23	Less Than 50	0.42	90	-0.01	Less Than 50	0.09	Less Than 50	0.11	Less Than 50
ajra	0.67	99	0.60	99	0.57	99	0.31	Less Than 50	0.18	Less Than 50	0.34	Less Than 50
ram	0.43	90	0.09	Less Than 50	0.34	Less Than 50	0.19	Less Than 50	0.27	Less Than 50	0.23	Less Than 50
ur	0.29	Less Than 50	0.22	Less Than 50	0.47	95	-0.07	Less Than 50	-0.06	Less Than 50	-0.05	Less Than 50
ugarcane	0.48	95	0.40	90	0.73	99.9	0.25	Less Than 50	-0.21	Less Than 50	0.26	Less Than 50
iroundnut	0.22	Less Than 50	0.46	95	0.08	Less Than 50	0.51	95	0.38	90	0.51	95.00

Source: Computed by the author.

lation between gross irrigated area and production of rice, production of groundnut, in Ausa tahsil during the period under study. There is impact of irrigation on the production of rice and groundnut in Ausa tahsil during the period 1983-84 to 2002-03. Out of the total eight selected crops jowar crop is on first rank and tur is on second rank in Nilanga tahsil.

There is very close association between gross irrigated area and production of rice and production of groundnut in Nilanga tahsil during the period 1983-84 to 2002-03. Impact of irrigation is observed on the production of rice and groundnut in Nilanga tahsil.

Conclusion—There is very close association between gross irrigated area and production of rice and groundnut in Latur district. In Udgir tahsil very close association between gross irrigated area and production of Bajra, Gram and Sugarcane, very high association is noted between GIA and production of wheat, Bajra, Sugarcane and Groundnut in Ahmedpur tahsil. There is perfect impact of irrigation on production of latur tahsil because out of eight crops only two crops i.e. Gram and Groundnut have not close association. During the period under study very close association between GIA and production of Rice and Groundnut in Ausa tahsil. There is very close association between GIA and production of Rice and Groundnut in Nilanga tahsil.

Suggestions- 1. Increase the irrigation facilities for increasing of agricultural production. 2.Now the methods of irrigation in study area are traditional, so farmers utilize new technology like drip, drop irrigation. 3. The district administratiors, engineers of irrigation department, district planners concentrate their mind on expends of irrigation in study area. 4. Conservation of surface water (rainwater) is the need of time in study region.

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