# TREND OF FOOD GRAIN PRODUCTION IN LATUR DISTRICT, MAHARASHTRA STATE

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#### Abstract:

Change in crop yield and crop land use indicates the impact of the new technology on the district's agriculture. This is resulted on the crop production trends of various crops. An attempt is made here to identify the trends of food grains production and yield, with the compound growth rates and variability an all the food grain crops. Food grain production has recorded an increase trend in the district, except maize. The highest change in production was observed in the case of Tur (0.30 Lakh M.T.) whereas the lowest change was noticed in case of Mung (739 M.T.) Out of eight food grain crops, only maize and Mung showed negative growth rate from 1991-92 to 2010-11. The highest positive compound growth rate was registered in wheat (4.26%). While the lowest positive compound growth rate was noticed in Bajara during the same period.

# **Key Words**: Food grain, Drought prone area, Compound growth rate.

#### **Introduction:**

The important factors that influence production of agricultural commodities are, the nature of soil, rainfall and weather variables and the new technology. The agricultural output continued to grow at a steady rate, prior to independence and particularly before the first five year plan. The district as the rest of india was largely a region of self- sustained villages, in which traditional agriculture based on centuries of experiences was more way of life than a business.

The performance was particularly impressive in the case of food grains. However, there

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are annual fluctuation in the output of food grains and non- food grains in Latur district.

Because a large proportion of these crops continuous to be produce under conditions of uncertain rainfall and even a good part of minor irrigation including the so, called controlled irrigation through wells is vulnerable to the vagaries of monsoon. But since 1970's our food grain production is increasing and too the country is self sufficient in the food grains. Production due to the technological development. It is estimated that food grains production increase from last three decades, due to increase in per hectore out put. The food grains production is increased from 2.56 Lakh M.T. in 1991-92 to 3.48 Lakh M.T. in 2010-11, recorded 36.12% increase during the period of investigation.

# **Objective:**

The present paper has attempted to find out the spatio- temporal changes in food grain production of Latur district.

# **Database and Methodology:-**

Gazetteers of Maharashtra state and district census Handbook and Socio-economic review of Latur district have been used for data analysis. The data collected was processed and organized in the table form. For the study of trends of food grain crops, compound growth rate has been calculated by using following formula ......

 $Y = ab^t$ 

Where, y = is the variable for which the growth rate is calculated.

a = amount of the initial time.

b = 1+r, (r =compound growth rate) t =time variable.

### Study Area:-

Latur district is situated between 17 degree 52 min. N to 18 degree 50 min. N latitudes and 76 degree 12 min. E to 77 degree 18 min E Longitudes. It is surrounded by Beed & Parbhani district in the north, Nanded district in the north-east, Karnataka State in the south-East, and Osmanabad district in the north-west. In 2001, total population of the district was 20.80 Lakh and it was 2.15% to state of Maharashtra. At present there are 10 Tahsils in the

district. But the information newly formed tahsils are not available, hence only old tahsils, i.e. latur, Ausa, Udgir, Ahmedpur, Nilanga, tahsils are considered in this investigation.

### **Result And Discussion:**

Quantitative indication of changes in output of food grains crops have shown in table 1. It gives us idea about trend of food grains production since 1991-92 to 2010-11.

Table-1. Trends of food grains production in Latur District (1991-92 & 2010-11)

Sr. No.	Crop	Production in M.T.			Production 92 to 2010-11	Change in Annual production		
		1991-92	2010-11	Quantity In M.T.	Percentage	Quantity In M.T.	Percentage	
1	Rice	8729	12712	3983	45.63%	189.68	2.17%	
2.	Wheat	17733	29663	11930	67.28%	568.11	3.20%	
3	Jowar	171706	242924	71258	41.50%	3393.24	1.98%	
4	Bajara	3647	5637	1990	54.57%	94.76	2.60%	
5	Maize	1744	1227	-517	-29.64%	-24.62	-1.41%	
6	Gram	8925	15486	6562	73.52%	312.46	3.50%	
7	Tur	24867	55365	30498	122.65%	1452.30	5.84%	
8	Mung	4233	4973	739	17.46	35.31%	0.83%	

#### **Source : -** Compiled by Author.

The highest change in food grain production was found in the case of Jawar (7.12 thousand M.T.) whereas the lowest change was registered in case of Mung (739 M.T.). Negative change was found in the case of Maize. The highest positive change in production was recorded in Tur (122.65%). Whereas lowest positive change in food grains production was marked in the case of Mung (17.46%) during the period of investigation. The negative annual change was observed only in Maize (-1.41%). The highest annual change in food grains production was noticed in Tur (5.84%), while the lowest annual change in production was experienced in Mung (0.83%) during the period of investigation.

Table - 2 indicate that Jowar ranks first in (1.99 lakh M.T.) production of food grains during the period of investigation. From column 4, it is clear that maize is having less standard deviation, as compared to rice, wheat, jowar and bajara crops. From selected pulses Mung shows least standard deviation during the period of investigation. The highest

variability 74.76% was recorded in production of Tur and the lowest variability (29.49%) was registered in the production of Bajara during the same period.

Table -2 Mean standard Deviation, Variability and Compound Growth Rates of Production of Food grains.

Sr. No.	Crop	Mean in M.T.	Standard Deviation in M.T.	Co-efficient of Variability in %	Compound growth rate in %	
1	Rice	10086.29	4201.63	41.66	2.97	
2	Wheat	20655.52	9052.09	43.82	4.26	
3	Jowar	199611.14	66444.8	33.29	2.84	
4	Bajara	4107.62	1211.37	29.49	2.34	
5	Maize	2075.43	1089.72	52.51	-1.48	
6	Gram	11714.43	5574.92	47.59	4.11	
7	Tur	34019.38	25433.68	74.76	3.51	
8	Mung	7897.14	3493.73	44.26	-0.15	

# **Source :-** Compiled by Author.

Below 40% variability of output was recorded under jowar and Bajara crops. Variability of output from 40% to 50% was marked in rice, wheat, gram, and mung, whereas above 50% variability of output was experienced in the case of Tur, maize during the period of investigation.

Compound growth rates of food grains crops are presents in Table-2. All food grains crops shows positive growth rate, except maize and mung. The highest positive compound growth rate was registered In wheat, whereas the lowest positive compound growth rate was noticed in bajara (2.34%) during the same period. The positive compound growth rate of Rice, Jowar, Gram were 2.97%, 2.84% and 4.11% respectively.

# Tahsil wise trends of Food grains productions:-

Table-3 indicates the tahsil wise food grain production from 1990-91 to 2010-11. The production of rice increased from 8.01 thousand M.T. to 12.67 thousand M.T. during the period of investigation. The highest production of rice recorded in Ahemedpur (26.25%) tahsil and lowest in Ausa (14.76%) out of the total production of rice below 15% rice out put was received from Ausa Tahsil (14.76%) whereas 15% to 20% rice production was obtained

from Udgir (17.19%) and Nilanga (19.36%). Above 20% production of rice was experienced in Latur (22.44%) & Ahemdpur (26.25%). Tahsils during 2010-11. Out of 5 tahsils positive change was observed in four tahsils. Below 5% positive change In Rice production was recorded in Ahemedpur, Nilanga and Ausa tahsils while above 5% positive change in rice production was found in latur tahsil. (table No. 3)

Table-3 Tahsil wise trends of production of food grains crops from 1991-92 to 2010-11

( Production in % )

Name of Tahsil	Year	Rice	Wheat	Jowar	Bajara	Maize	Gram	Tur	Mung
Latur	1991-92	15.35	35.86	21.82	18.05	26.17	15.06	15.84	31.86
	2010-11	22.44	15.10	25.19	29.77	25.32	15.92	22.13	25.80
	VOC (%)	+7.08	-20.76	+3.38	+11.73	-0.84	+0.86	+6.29	-6.05
Ahemdepur	1991-92	25.80	6.40	22.27	17.71	6.95	19.00	25.77	13.99
	2010-11	26.25	13.35	20.83	29.48	17.51	15.14	24.29	15.86
	VOC (%)	+0.46	+6.95	-1.45	+11.77	+10.56	-3.86	-1.47	+1.87
Udgir	1991-92	28.44	13.29	22.14	17.34	9.78	16.96	26.26	16.23
	2010-11	17.19	14.19	17.26	14.99	28.73	21.31	19.52	22.48
	VOC (%)	-11.25	+1.69	-4.88	-2.55	+18.95	+4.35	-6.74	+6.25
Nilanga	1991-92	15.76	19.71	14.59	35.54	45.48	24.78	17.73	20.88
	2010-11	19.36	34.29	17.25	19.33	16.98	28.10	17.54	18.38
	VOC (%)	+3.60	+14.58	+2.67	-16.21	-28.50	+3.32	-0.19	-2.50
Ausa	1991-92	14.64	24.74	19.18	11.36	11.62	24.19	14.41	17.05
	2010-11	14.76	22.28	19.47	6.62	11.45	19.53	16.52	17.48
	VOC (%)	+0.12	-2.46	+0.28	-4.74	-0.17	-4.67	+2.11	+0.43

#### **Source :-** Compiled by Author

In 1991-92 Latur tahsil was leading in the production of wheat (35.86%). Out of the total wheat output, below 15% wheat output was received from Ahemdepur (13.35%) and Udgir (14.99%) tahsils whereas 15% to 25% output was received from Latur (15.10%) and Ausa (22.28%) during 2010-11. Above 25% wheat production was received from Nilanga Tahsil (34.19%). Negative change in wheat output was noticed in Ausa and Latur tahsils, while positive change in wheat output was found in Udgir, Ahemdpur and Nilanga tahsils during the period of investigation.

Out of total Jowar production, below 18% output of jowar came from Udgir (17.26%) and Nilanga (17.25%), while 18% to 22% output of jowar obtained from Ahemedpur and Ausa tahsils during 2010-11. Above 22% jowar production was received from Latur (25.19%) during the same period. Negative change in Jowar production was recorded in

Ahemedpur and Udgir Tahsils since 1991-92 to 2010-11. Positive change in jowar output was experienced in Nilanga (2.67%) and Ausa (0.28) and Latur (3.38%) out of the total Bajara output below 10% output was received from Ausa (6.62) while 10% to 20% output was obtained from Udgir (14.27%) tahsils and Nilanga (19.33%) during 2010-11.

Above 20% Bajara output came from Latur (29.77%) and Ahemedpur (29.48%) tahsils during 2010-11. Negative chance in bajara output was took place in Udgir and Ausa, Nilanga tahsils from 1991-92 to 2010-11, whereas positive change in Bajara production was found in Latur (11.73%) and Ahemedpur (11.77%)tahsils between 1991-92 and 2010-11.

Out of the total production of maize below 15% output was received from Ausa (11.45%), while 15% to 20% output was obtained from Ahemedpur (17.51%) and Nlanga (16.98%) tahsils during 2010-11. Above 20% maize output go from Latur & Udgir tahsils during the same period. Negative change in maize output was took place in Latur, Ausa and Nilanga tahsils from 1991-92 to 2010-11. Positive change in maize production was found in Ahemdepur, Udgir tahsils during the same period.

During 2010-11, out of the total gram production below 20% gram output was received from Latur, Ahemedpur and Ausa tahsils. Above 20% to 25% output was obtained from Udgir (21.31%) above 25% gram production was received from Nilanga (28.8%) tahsil during 2010-11.

Negative change in gram production was found in Ahemedpur and Ausa tahsils during the periods of investigation. Positive change in gram output was recorded from Latur, Nilanga and Udgir tahsils during the same period.

Out of total the tur production below 18% production was obtained from Nilanga (17.54%) and Ausa (16.22%) where 18% to 20% Tur production was received from Udir tahsil (19.62%) during 2010-11. Above 20% Tur output came from Latur (22.13%) and Ahemedpur (24.29%) during the same period.

Negative change in Tur production was experienced in Ahemedpur, Nilaga and Udgir tahsils from 1991-92 to 2010-11. Whereas positive change in Tur production was experienced in Ausa, Latur tahsils during the same period.

Latur tahsil was ranking first in Mug production during 2010-11. Out of the total output below 18% output of Mug was obtained from Ahemedpur (15.86%) and Ausa (17.48%). Above 18% to 20% Mug production came from Nilanga (18.38%) tahsils during 2010-11.

Above 20% Mung Production was obtained from Latur (28.80%) and Udgir (22.48%) during the same period.

Negative change in Mung production was recorded in Nilanga, Latur tahsils during the period of investigation. Positive change in Mung production was registered in Ahemedpur, Ausa and Udgir tahsils from 1991-92 to 2010-11.

#### **Conclusion:**

Food grain production was increased from 2,56,325 M.T. in 1991-92 to 348913 M.T. in 2010-11, recorded 92588 M.T. increase during the period of Investigation. Among the food grain production Jowar rank first and Mung rank least during the same period. The highest change in production was noticed in the case of Tur, whereas lowest change was marked in case of Mung.

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