International Journal of Advance and Applied Research
www.ijaar.co.in
ISSN – 2347-7075 Impact Factor – 8.141
Peer Reviewed Bi-Monthly
Vol. 6 No. 19 March - April - 2025

A Comparative Study of Cropping Pattern of Food grain in Osmanabad District with Respect to Maharashtra State and India

Kamble Shyamrao Rambhau
Assistant Professor, Dept. of Economics,
Saraswati Mandir Night College of Commerce and Arts, Pune, Maharashtra
Corresponding Author – Kamble Shyamrao Rambhau
DOI - 10.5281/zenodo.15112777

Abstract:

In 1991, India adopted a free economic policy and privatization, liberalization and globalization have affected all sectors of India. The impact on Indian agriculture is noteworthy. Factors such as the new industrial policy adopted by India, the first Green Revolution, changing climate and the government's minimum support price policy for agricultural products have had a direct impact on Indian agriculture. There have been radical changes in Indian agricultural production in the last twenty years. The present study has reviewed the nature of cropping pattern and production of food grains in India in the last twenty years in the context of the state of Maharashtra and how they are in the context of a district at a micro level. For this, Osmanabad district, which is known to be backward in the Marathwada region of Maharashtra, has been selected. The changes in the area under cultivation of some major crops in this district from 2006.07 to 2021.22 have been studied and compared with the cropping patterns of India and Maharashtra. This study relies on secondary sources of data collection. RBI reports, Maharashtra State Statistics Department reports and district reports have been considered for this. This analysis has been done after reviewing some studies done in this regard. According to this, the rice cultivation area in India and Maharashtra has increased, while the rice cultivation area in Osmanabad district has decreased. In the case of wheat, the wheat cultivation area in India has increased, while the wheat cultivation area in Maharashtra and Osmanabad districts has decreased. Regarding the cultivation area of pulses, the increase in the cultivation area in Osmanabad district is more than the increase in India and Maharashtra. In the case of total food grains, the cultivation area in India and Osmanabad district has increased, while the cultivation area of food grains in Maharashtra is seen to have decreased.

Keynotes: Cropping Pattern, Comparison, Osmanabad District, Food Grain, Cereals, etc.

Introduction:

India has achieved self-sufficiency in food grains due to the first green revolution in agriculture in the 1960s. Today, a large amount of food grains is being exported from India. Agriculture plays an important role in India's foreign trade. India's agricultural exports have been increasing steadily for the last few years **(kanakadandi and others 2024).** According to the data of the financial year 2022.23, India's total exports were $ 451.07 billion. In this, the share of agriculture was $ 53.12 billion or 11.8 percent **(farmerconnect.abeda.gov.in).** By achieving self-sufficiency in food grains, India is also exporting food grains on a large scale today. For example, in the year 2021.22, wheat exports from India were worth Rs 15845 crore. Out of rice exports, Basmati rice worth Rs 26390 crore and non-Basmati rice worth Rs 45725 crore were exported from India. Sugar exports were worth Rs 34345 thousand crores **(agriwelfare.gov.in).** In the last few years, due to a large-scale change in the crop structure of India as a whole, agricultural products have increased and exports are also increasing. Just as there is a change in the cropping pattern at the Indian level, the subject of this study has been selected for review to see whether there is a change in the cropping pattern at the micro level. In this, an attempt has been made to study the change in the cropping pattern of Osmanabad district of Maharashtra state from 2006.07 to 2021.22 and compare it with the

crop structure of India and Maharashtra state. This has been compared in the case of the selected crops. This will provide information on whether the trend in the agricultural sector at the micro level is also at the overall level. For this, this study has been conducted by reviewing the studies conducted on cropping pattern at the Indian level and the Maharashtra state level. A second source of data collection has been considered for this study.

Literature Review:

Kanakadandi Charishma, Rajendra Singh (2024), Contribution of Agriculture Sector in Export of India-An economic Analysis, Journal of Education: Rabindra Bharati University, Page No. 90-100 in this study, the said researcher has reviewed the various types of agricultural exports from India.

Pragati, Murigendra Hiremath, Marium Sabitha, Muthusamy Murugan (2007), Changing in cropping pattern and Farming Method in India, and their Relationship to the incidence of insect pests and diseases, Indian Agri-History, Vol.11-page no. 265-289 in this study, the researcher has studied the cropping pattern in India from 1960 to 2005.

Puja Sharma, Vandana Agarwal (2018), Indian Agriculture: Role, Challenges and Cropping Pattern, Journal of Emerging Technologies and Innovative Research, Page No. 583-586 in this study, the researcher has studied the changes in the cropping pattern of some selected crops from 2023.14 to 2015.16.

Krishne Gowda, (2024), Agriculture Cropping Pattern in India: A Study, African Journal of Biomedical Research, Page 410-414 in which the researcher has studied the cropping pattern of all types of crops including food grains, millets, sugar, cotton, and jute etc. for the period 1951.52 to 2021.22.

Sanjay Pagar, (2018), Geographical Analysis of Cropping Pattern in Maharashtra State, India, Current Global Reviewer Vol. 1, Page No. 43-50, in which the researcher has studied the district-wise cropping area in Maharashtra for the period 1960.61 to 2010.11.

S S Rupe, A. M. Bhosale, V.V. Bhosale (2024), An Evaluation of Changing Cropping Pattern in Maharashtra, A Global Journal of Humanities, Page No. 165-170 in which the researcher has studied the change in cropping pattern of all types of crops in Maharashtra. For this, he has considered the period 2000.01 to 2015.16.

AB Thakare, NV Shende, AS Tingre, UT Dangore (2024), Changing in Cropping Pattern in Maharashtra, in this study, the researcher has studied the cropping pattern of Kharif and Rabi seasons in Nashik, Pune and Kolhapur regions of Maharashtra. For this, he has considered a period of twenty years from 2001.02 to 2020.21.

Research Gap:

All the above studies reviewed have studied a specific region. For example, there is a study of cropping pattern in India and Maharashtra. However, none of the above studies has compared the change in cropping pattern in a district at the state and national level. In this study, the change in crop composition of some selected crops in Osmanabad district has been compared at the Maharashtra state and Indian level. In this regard, this study will be different from the above studies.

Objectives of the study:

1. To study the crop composition of Osmanabad district in terms of some selected crops.
2. To compare the crop composition of Osmanabad district with Maharashtra and India in terms of some selected crops.

Research Methodology:

This study depends on the secondary source of data collection. For this, the study has been conducted using district reports, Reserve Bank reports, various reports of Maharashtra state, reports of other institutions and websites of government departments.

Discussion and Finding (Data Analysis):

Comparison of Rice and Wheat Cultivation in the District:

There has been a decline in the area under rice and wheat in Osmanabad district. Just as there is a decline in both crops in Osmanabad district, the changes in the area under rice and wheat cultivation at the Indian level and in the state of Maharashtra have been studied and the following data have been found.

Table No. 1.1: Comparison of rice and wheat cultivation area in the district (in lakh hectares)

Year	Rice			Wheat		
	India	Maharashtra	District	India	Maharashtra	District
2006-07	438	15.29	0.15	280	12.31	0.36
2007-08	439	15.74	0.16	280	15.53	0.29
2008-09	455	15.22	0.16	278	10.22	0.27
2009-10	419	14.70	0.17	285	10.81	0.26
2010-11	429	15.18	0.17	291	13.07	0.26
2011-12	440	15.43	0.09	299	8.43	0.17
2012-13	428	15.57	0.07	300	7.73	0.14
2013-14	440	16.13	0.07	312	10.97	0.45
2014-15	439	15.51	0.12	310	10.67	0.27
2015-16	435	15.03	0.05	304	9.11	0.18
2016-17	440	15.35	0.05	308	12.72	0.34
2017-18	438	14.51	0.05	297	10.24	0.30
2018-19	442	14.69	0.02	293	8.34	0.20
2019-20	438	15.53	0.01	314	10.57	0.31
2020-21	458	15.60	0.006	311	11.26	0.34
2021-22	463	15.52	0.007	305	11.32	0.30

Source: Data Collection N A- Not Available

Table 1.1 above shows a comparative study of the area under wheat and rice cultivation in India, Maharashtra and Osmanabad district from 2006.07 to 2021.22. According to this, in 2006.07, rice cultivation was done on 438 lakh hectares in the whole of India, 15.29 lakh hectares in Maharashtra and 0.15 lakh hectares in Osmanabad district. Maharashtra's share in the total rice cultivation in India was 3.49 percent while Osmanabad district's share was 0.03 percent. However, in the following period, there has been an increase in the area under rice cultivation in India and Maharashtra. If we consider the first phase, i.e., if we look at the data of 2014.15, the area under rice cultivation in India has increased by 11 lakh hectares while the area under rice cultivation in Maharashtra has increased by 0.23 lakh hectares. However, there is a decrease in the area under rice cultivation in Osmanabad district. The rice cultivation area of this district has decreased by 0.03 lakh hectares. This means that while there is a trend of increase in rice cultivation area in India and Maharashtra, there is a decrease in the cultivation area of rice crop in Osmanabad district. If we look at the data of the last year of the research period, the rice cultivation area in India has increased by 5.70 percent to 463 lakh hectares in 2021.22. The rice cultivation area of Maharashtra has increased by 7.98 percent to 16.52 lakh hectares from 15.29 lakh hectares in 2021.22. If we consider Osmanabad district, the initial area of 0.15 lakh hectares has decreased by 95.33 percent to only 0.007 lakh hectares in 2021.22. There has been a significant decrease in the rice cultivation area of Osmanabad district during the research period. The above data shows that this matter is worrisome in terms of rice production in the district. Also, the share of Osmanabad district in the total rice cultivation area of India, which was 0.03 percent in 2006.07, has decreased to 0.002 percent in

2021.22. In short, this shows that the share of Osmanabad district in the rice cultivation area of India is very negligible.

If we consider the area under wheat cultivation, in 2006.07, wheat was cultivated on 280 lakh hectares in the whole of India, 12.31 lakh hectares in Maharashtra, while wheat cultivation was on 0.12 lakh hectares in Osmanabad district. Maharashtra's share in the total wheat cultivation in India was 4.40 percent, while Osmanabad district's share was 0.12 percent. However, in the following period, there has been an increase in the area under wheat cultivation in India and Maharashtra. If we consider the first phase, i.e., if we look at the data of 2014.15, the area under wheat cultivation in India has increased by 30 lakh hectares, while the area under wheat cultivation in Maharashtra has increased by 1.64 lakh hectares. However, there is a decrease in the area under wheat cultivation in Osmanabad district. The wheat cultivation area of this district has decreased by 0.09 lakh hectares. That is, while there is a trend of increase in wheat cultivation area in India and Maharashtra, the area under wheat crop is decreasing in Osmanabad district. If we look at the data for the last year of the research period, the area under wheat cultivation in India has increased by 25 lakh hectares or 8.93 percent to 305 lakh hectares in 2021.22. The area under wheat cultivation in Maharashtra has decreased by 8.04 percent from 12.31 lakh hectares to 11.32 lakh hectares. If we consider Osmanabad district, the area under wheat cultivation, which was initially 0.36 lakh hectares, has decreased by 16.47 percent to only 0.30 lakh hectares in 2021.22. There has been a significant decrease in the area under wheat cultivation in Osmanabad district during the research period. The above data shows that this matter is worrisome in terms of wheat and overall food grain production in the district. Also, the share of Osmanabad district in the total wheat cultivation area of India, which was 0.12 percent in 2006.07, has decreased to 0.10 percent in 2021.22. Also, while there is a trend of increase in wheat production cultivation area in India, there is a trend of decrease in cultivation areas in Maharashtra and Osmanabad districts. Moreover, it is evident from this that the share of Osmanabad district in the wheat cultivation area of India is very negligible.

Comparison of the area under pulses cultivation in the district:

To see how the district is trending in terms of pulse cultivation in the state of Maharashtra and India, the area under pulses cultivation in the district has been compared with the area under pulses cultivation in India and Maharashtra. The data obtained accordingly are as follows.

Table No. 1.2: Comparison of the area under pulses cultivation in the district (in lakh hectares)

Year	Area in India	Area in State	Area in District
2006-07	232	38.28	1.86
2007-08	236	40.56	NA
2008-09	221	30.82	1.99
2009-10	233	33.76	2.20
2010-11	264	40.38	2.20
2011-12	245	32.73	1.32
2012-13	233	32.74	2.18
2013-14	252	39.53	2.47
2014-15	231	34.69	2.46
2015-16	249	35.44	2.54
2016-17	294	43.58	3.39
2017-18	298	42.09	3.34
2018-19	292	40.02	2.52
2019-20	280	41.92	3.26
2020-21	288	45.29	3.67
2021-22	307	50.92	3.81

Source: Data Collection N A- Not Available

Table 1.2 above shows the area under cultivation of pulses in India, Maharashtra and Osmanabad district for the period 2006.07 to 02021.22. According to this, in India, a total of 232 lakh

hectares of pulses were cultivated in 2006.07. While in Maharashtra, pulses were cultivated on 38.28 lakh hectares. In Osmanabad district, which was selected for the research, pulses were cultivated on 1.86 lakh hectares. Out of the total area under cultivation of pulses in India in 2006.07, Maharashtra accounted for 16.50 percent while Osmanabad district accounted for 0.80 percent. Out of the total area under cultivation of pulses in Maharashtra, Osmanabad district accounted for 0.62 percent. However, in the subsequent period, there is an increase in all three places. For example, if we look at the data of 2014.15, the area under cultivation in India has decreased by 1 lakh hectares. Whereas, the area under cultivation in Maharashtra has decreased by 3.59 lakh hectares. The area under cultivation in Osmanabad district has increased by 0.47 lakh hectares. According to the period selected for the research, in the last year i.e. 2021.22, the total area under cultivation of pulses in India has increased by 32.33 percent, while in Maharashtra it has increased by 32.97 percent in 2021.22 compared to 2006.07. In Osmanabad district, the area under cultivation of pulses has increased by 103.84 percent in 2021.22 compared to 2006.07. Also, Maharashtra's share of India's total pulse cultivation area in 2006.07 was 16.50 percent, while in 2021.22 this share has remained stable at 16.58 percent, while Osmanabad district's share of 0.80 percent in 2006.07 has increased to 1.24 percent in 2021.22. From this, it is evident from the above data that the growth of Osmanabad district in pulse cultivation area during the research period is higher and satisfactory than that of India and Maharashtra.

Comparison of Total Food Grain Cultivation Area in the District:

A study of the trend of change in the total food grain cultivation area in Osmanabad district and the changes in the cultivation area in India and Maharashtra state has revealed the following statistics.

Table No. 1.3: Comparison of total food grain cultivation area in the district (in lakh hectares)

Year	Area in India	Area in State	Area in District
2006-07	1237	134.52	5.55
2007-08	1241	132.07	N.A.
2008-09	1228	114.17	6.06
2009-10	1213	121.13	6.32
2010-11	1267	130.29	6.32
2011-12	1248	108.57	3.10
2012-13	1207	105.75	5.08
2013-14	1260	114.71	4.95
2014-15	1220	114.50	5.05
2015-16	1232	112.12	5.32
2016-17	1292	123.77	6.45
2017-18	1275	109.29	6.00
2018-19	1248	96.22	4.39
2019-20	1270	110.26	5.75
2020-21	1298	113.46	6.07
2021-22	1302	115.85	5.84

Source: Data Collection N A- Not Available

Table 1.3 above shows the total area under food grains cultivation in India, Maharashtra and Osmanabad district. According to this, in 2006.07, total food grains were cultivated on 1237 lakh hectares in India, 134.52 lakh hectares in Maharashtra and 5.55 lakh hectares in Osmanabad district. Maharashtra's share in the total food grains cultivation area in India was 10.87 percent while Osmanabad district's share was 0.45 percent. There is some decrease in this in the later period. If we look at the first phase, i.e. in the year 2014.15, there is a decrease in the cultivation area by 17 lakh hectares in India while there is a decrease in Maharashtra by 20.02 lakh hectares. In Osmanabad district, there is a decrease in the area under food grains cultivation by 0.5 lakh hectares. In the last phase of the research period, i.e. in 2021.22, the area under food grains in India has recorded a satisfactory increase of 5.25 percent compared to 1237 lakh hectares in 2006.07, while in

Maharashtra, the area under food grains has decreased by 13.88 percent in 2021.22 compared to 2006.07. However, there is an increase in Osmanabad district during this period. In 2021.22, the area under food grains in Osmanabad district has increased by 5.23 percent compared to 2006.07. In 2021.22, the area under food grains in Maharashtra has decreased from 10.87 percent in the initial period to 8.90 percent in the total area under food grains in India, while the initial ratio of 0.45 percent in Osmanabad district has remained at 0.45 percent in 2021.22. In short, while the total area under food grain cultivation in India is increasing marginally by 5.25 percent, the area under food grain cultivation in Maharashtra is decreasing and the proportion in Osmanabad district is increasing only nominally.

Conclusion:

When the area under cultivation of some selected crops during the period selected for the study is analysed, the area under rice cultivation in India has increased by 5.70 percent to 463 lakh hectares in 2021.22 compared to 2006.07. The area under rice cultivation in Maharashtra has increased by 7.98 percent to 16.52 lakh hectares. If we consider Osmanabad district, the area under 0.15 lakh hectares at the beginning of the research period has decreased by 95.33 percent to only 0.007 lakh hectares in 2021.22. While the area under rice cultivation in India and Maharashtra has increased, there has been a significant decrease in the area under rice cultivation in Osmanabad district during the research period. In the case of wheat, if we look at the data for the last year of the research period, the area under wheat cultivation in India has increased by 8.93 percent to 305 lakh hectares in 2021.22 compared to 2006.07. The area under wheat cultivation in Maharashtra has decreased by 8.04 percent to 11.32 lakh hectares during the research period. If we consider Osmanabad district, the area initially 0.36 lakh hectares has decreased by 16.47 percent to only 0.30 lakh hectares in 2021.22. In short, there has been an increase in the area under wheat cultivation in India, but there has been a decrease in the area under wheat cultivation in Maharashtra and Osmanabad districts.

If we consider the area under pulses, according to the period selected for the research, there has been an increase of 32.33 percent in the total area under pulses in India in 2021.22, while in Maharashtra there has been an increase of 32.97 percent in 2021.22 compared to 2006.07. In Osmanabad district, there has been an increase of 103.84 percent in the area under pulses in 2021.22 compared to 2006.07. Also, in India's total food grain cultivation area, Maharashtra's share was 16.50 percent in 2006.07, while in 2021.22 this share has remained stable at 16.58 percent, while Osmanabad district's share has increased from 0.80 percent in 2006.07 to 1.24 percent in 2021.22. From this, it is evident from the above data that the growth of Osmanabad district in food grain cultivation is higher than that of India and Maharashtra and is satisfactory.

If we study the total food grain cultivation area, it is seen that there has been a satisfactory increase of 5.25 percent in food grain cultivation in India in 2021.22 compared to 2006.07, while in Maharashtra; there has been a decrease of 13.88 percent in the area of food grain cultivation in 2021.22 compared to 2006.07. However, in Osmanabad district, there has been an increase during this period. In the year 2021.22, there has been an increase in the area under food grains in Osmanabad district by 5.23 percent. In 2021.22, the initial share of Maharashtra's area under food grains in India has decreased from 10.87 percent to 8.90 percent, while the initial share of Osmanabad district has remained stable at 0.45 percent in 2021.22. In short, while there is a marginal increase of 5.25 percent in the total area under food grains in India, the area under food grains in Maharashtra is decreasing and the share of Osmanabad district is increasing only nominally. This means that the trend of the area under cultivation of any crop at the district level does not necessarily follow at the state or country level.

References:

1. AB Thakare NV Shende, AS Tingre, UT Dangore, (2024), Changing in Cropping Pattern in Maharashtra, International Journal of Statistics and Applied Mathematics, Page No. 177-182
2. Economic Survey of Maharashtra 2023.24
3. Kanakadandi Charishma (2024), Contribution of Agriculture Sector in Export of India-An economic Analysis, Journal of Education: Rabindra Bharati University Page No.90-100
4. Krishne Gowda (2024), Agriculture Cropping Pattern in India: A Study, Agrerian Journal of Biomedical Research Page No. 410-414
5. Pragati, Murigendra Hiremath, Marium Sabitha, Muthuswamy Murugan (2007), Changing in cropping pattern and Farming Method in India, and their Relationship to the incidence of insect pests and diseases, Indian Agri-History Vol. 11 Page 265-269
6. Puja Sharma, Vandana Agarwal (2018), Indian Agriculture: Role, Challenges and Cropping Pattern, Journal of Emerging Technologies, and Innovative Research Page-583-586
7. Sanjay Pagar, (2018), Geographical Analysis of Cropping Pattern in Maharashtra State, India, Current Global Reviewer Vol.1 Page No. 43-50
8. S S Rupe, A. M. Bhosale, V.V. Bhosale (2024), An Evaluation of Changing Cropping Pattern in Maharashtra, A Global Journal of Humanities, Page No. 165-170
9. जिल्हा अहवाल, जिल्हा सामाजिक व आर्थिक समालोचन, जिल्हा उस्मानाबाद, अर्थ व सांख्यिकी संचालनालय, महाराष्ट्र शासन मुंबई, 2006.07 ते 2021.22
10. www.http://farmerconnect.abeda.gov.in
11. www.http://agriwelfare.gov.in
12. www.http://rbi.gov.in