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Cropping Pattern of Odisha

Arati Priyadarshini[1*], Sarba Narayan Mishra[2], Abhiram Dash[3] and Subrat Pattanaik[1]
[1]Ph.D. Research Scholar, Department of Agricultural Economics, College of Agriculture, O.U.A.T, Bhubaneswar (Odisha), India.
[2]Professor and Head, Department of Agricultural Economics, College of Agriculture, O.U.A.T, Bhubaneswar (Odisha), India.
[3]Professor and Head, Department of Agricultural Statistics, College of Agriculture, O.U.A.T, Bhubaneswar (Odisha), India.

(Corresponding author: Arati Priyadarshini)*
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ABSTRACT: The study was undertaken in Cuttack and Sundargarh district of Odisha to analyse the cropping pattern of the state. The study was based on secondary data. The secondary data was collected from Odisha Agriculture Statistics. To study cropping pattern of the state, per cent of Gross Cropped Area was calculated over a period of time. It was observed that post economic reforms the percentage of GCA in the state under rice has decreased over the years by 3 per cent. The area under cereals other than paddy has also decreased and been diverted towards other crops. Area under pulses has significantly increased by nearly 3 per cent.

Keywords: Diversification, trend, Cropping Pattern, Compound Growth Rate.

INTRODUCTION

India has achieved record food grain production from 51 million tonnes in 1950-51 to 316.06 million tonnes in 2020-21. However, this is primarily restricted to cereals. Although cereal production has increased substantially, the production of pulses and oilseeds has not made a dent. As a result, there is a chronic shortage of edible oils and pulses in the country (Chand and Pal 2003). Consequently, a perceptible change in consumer preferences away from cereals towards high value non-cereal nutrient-rich diets including fruits and vegetables is visible (Joshi *et al*., 2007; Birthal *et al*., 2013). The question arises whether farmers respond to changes in consumer preferences by altering their crop portfolio. In the context of Indian agriculture, diversification has occurred both across and within crops, from one enterprise to another, an addition of complementary enterprise to main enterprises in the form of increasing income by increased and diverse use of resources and finally producing increased variety of commodities. Diversification is also viewed as uncertain precaution so as to reduce unemployment and variability in income, minimum level such as customary family living plus repayment of loans etc.

In the context of Odisha, some recent studies have emphasised the importance of infrastructure in enhancing the pace of crop diversification. Nayak and Kumar (2019) have found that infrastructure motivates farmers to adopt yield-enhancing practices. Nayak and Kumar (2019) find a higher level of diversification associated with backwardness of agriculture in Odisha (higher in KBK region than in the relatively advanced coastal districts). Nayak (2016) had also revealed that most of the districts in coastal Odisha are undergoing crop specialization, whereas the tribal dominated and technologically less-developed districts are experiencing crop diversification.

MATERIALS AND METHODS

This study is based on secondary data of Odisha. The cropping pattern was studied by calculating the per cent of Gross Cropped Area falling under the selected crops. The secondary data were collected from various sources like different block offices, Directorate of Economics and Statistics, Odisha Agriculture Statistics, different publications etc. Data, thus collected were scrutinized, coded and tabulated on the excel sheets for further analysis.

Analytical framework and analytical tools. Percentage analysis was carried out in the study for getting insights.

$$\text{Per cent area under crop} = \frac{\text{Area under the crop}}{\text{Gross cropped area}}$$

RESULTS AND DISCUSSION

Cropping pattern indicates the allocation of area under different crops at a particular period of time and thus, reveals the relative importance of each crop on a farm. The analysis of cropping pattern also holds great importance as this shows the nature of the farming, important crops grown and cropping intensity. It also reveals the extent of crop diversification in a particular region. Table 1 represents the cropping pattern of the state Odisha post economic reforms. It can be seen from

the table that the percentage of GCA under rice has decreased over the years by 3 per cent. The area under cereals other than paddy has also decreased and been diverted towards other crops. Area under pulses has significantly increased by nearly 3 per cent post economic reforms. It can be concluded that area under paddy has been diverted to grow pulses. Additionally, area under vegetables, fibre crops and fruits have increased while area under oilseeds has decreased significantly. The per cent of gross cropped area under oilseeds has decreased because of poor market price of oilseeds, the farmers felt discouraged to grow oilseeds.

Table 1: Change in Cropping pattern of Odisha (% of GCA).

Sr. No.	Crops of Odisha	1993-1997	1998-2002	2003-2007	2008-2012	2013-17
1.	Rice	49	53.65	50.55	46.95	46.28
2.	Other cereals	5.24	5.27	4.92	5.28	4.97
3.	Total pulses	20.78	18.41	20.57	22.76	23.4
4.	Total oilseeds	11.30	9.30	9.35	8.67	7.08
5.	Total vegetables	7.60	6.04	7.38	7.66	7.86
6.	Total spices	1.75	1.84	1.64	1.69	1.73
7.	Total fibres	0.85	1.10	1.06	1.28	2.08
8.	Sugarcane	0.51	0.40	0.40	0.44	0.30
9.	Tobacco	0.10	0.07	0.05	0.03	0.02
10.	Fruits	2.88	3.92	4.07	5.24	6.28
11.	Gross cropped area	100	100	100	100	100

Source: Calculated from the OdishaAgricultural Statistics

The table clearly depicts that there has been no change in the per cent of Gross Cropped Area share by paddy. The farmers still prioritize cultivating paddy. The reasons can be the assurance of fixed price in case of paddy because of MSP. Though the availability of infrastructure including irrigation and electricity, and the use of inputs such as HYV seeds and fertilisers are higher in coastal Odisha, but still crop concentration is observed here. Nayak (2016) had also revealed that most of the districts in coastal Odisha are undergoing crop specialization. The area under vegetables has increased markedly by 2 per cent in these 10 years. The area under pulses has also increased by nearly 2 per cent. This shows slight diversification but paddy still dominates the entire cropping pattern in Cuttack.

Table 2: Cropping Pattern of Cuttack district of Odisha (Per cent of GCA).

Sr. No.	Crops	2008	2010	2012	2014	2016	2018
1	Paddy	42.97	42.58	41.46	42.89	42.32	42.38
2	Other cereals	0.77	0.69	0.81	0.42	0.33	0.38
3	Total Pulses	35.97	35.86	36.05	36.32	37.13	37.53
4	Total Oilseeds	4.75	4.88	5.35	4.64	3.77	4.54
5	Total Vegetables	7.78	8.41	8.08	8.60	8.99	9.22
6	Total spices	2.25	2.17	2.23	2.61	2.74	2.85
7	Total fibres	0.58	0.47	0.72	0.49	0.38	0.41
8	Sugarcane	0.85	0.80	0.94	1.16	1.07	1.27
9	Fruits	4.08	4.11	4.34	4.88	5.27	5.41
10	GCA	100.00	100.00	100.00	100.00	100.00	100.00

Though more than 50 percent of the gross cropped area is occupied by paddy, but diversification has taken place as the per cent area share of paddy has decreased by 4 per cent and per cent area share under pulses has increased by 3 per cent. A significant increase in per cent share has been observed in case of vegetables and fruits which clearly marks diversification has taken place over these years. It can also be said that farmers of Sundargarh are comparatively more diversified than the farmers of Cuttack. Nayak (2016) had also revealed that most of the districts in coastal Odisha are undergoing crop specialization, whereas the tribal dominated and technologically less-developed districts are experiencing crop diversification.

Table 3: Cropping pattern of Sundargarh district of Odisha (Per cent of GCA).

Sr. No.	Crops	2008	2010	2012	2014	2016	2018
1.	Paddy	57.84	54.24	54.30	52.64	53.44	53.41
2.	Other cereals	3.34	3.46	3.95	4.03	3.47	4.09
3.	Total Pulses	15.69	16.62	16.99	17.79	18.66	18.17
4.	Total Oilseeds	8.78	10.68	9.34	9.66	9.73	8.94
5.	Total Vegetables	7.81	8.30	8.44	8.66	7.79	8.14
6.	Total spices	1.33	1.40	1.38	1.54	1.46	1.52
7.	Total fibres	0.27	0.29	0.24	0.21	1.46	0.23
8.	Sugarcane	0.02	0.01	0.02	0.02	0.20	0.05
9.	Fruits	4.92	4.99	5.35	5.45	0.02	5.45
10.	GCA	100.00	100.00	100.00	100.00	100.00	100.00

CONCLUSION

On the basis of the analysis, the paper offers the following conclusion:

There has been a sluggish rise in crop diversification in Odisha. Diversification has taken place from paddy to non-paddy crops in Odisha. Odisha still remains a paddy dominated state but farmers have started diversifying the area under paddy towards pulses and oilseeds. The gross cropped area in most parts of the study area is decreasing because area under agriculture is now being diverted for infrastructure development. Youths are more interested in service sector than in agriculture sector as the latter is less remunerative.Since the dependence on crop agriculture is not very high in the area due to the overwhelming contribution of service sector, agricultural activities need to made more productive and lucrative, more so from the view point of young generation through incentivizing them in all possible ways. This study would help Govt of Odisha in policy formulation.

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Conflict of Interest. None.

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