



STUDY OF CROPPING PATTERN IN RATNAGIRI DISTRICT MAHARASHTRA

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Abstract :

Indian economy is depending on agriculture sector. Industrial development is achievable through the growth of agriculture sector. Agriculture sector provides employment opportunity in rural area. Agriculture production is inducing the rural agro based industry establishment in rural area. India being a developing country with second largest population in the world is rich in manpower, natural resources and biodiversity. Out of total population of India 83 core population live in rural area. Prime occupation of people is agriculture. Now recent period farmers are divert to cultivation of commercial crops which help to raise income level of farmers. Change in cropping pattern leads to the increases the export of agriculture production as well as raise the farmers income level in rural area.

Key Words: Cropping pattern, Horticulture, Agribusiness, Rural development.

1. Introduction:

In Indian Economy the agriculture sector plays a significant role. India is the second largest food producing country in the world in sense of the total value of agriculture production. As compared to China, India produces less than half of China's total output which pushes India to fourth place. The farm productivity in India is also lower than other leading countries.

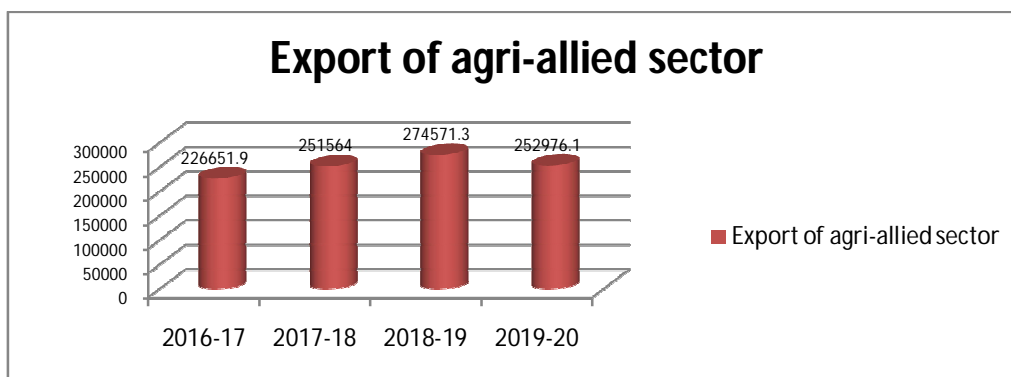
India has emerged as a significant agri-exporter in crops like rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar. As per available WTO's Trade Statistics (2018), the share of India's agricultural exports and imports in the world agriculture trade were 2.15% and 1.54%, respectively. Share of agricultural exports as a percentage of agricultural GDP has decreased from 9.9 % in 2018-19 to 8.3 % in 2019-20. Major destinations of exports for India's agri and allied commodities are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom.

Agriculture sector is playing a vital role in rural development as well as economy development. Rural industries are a boost to agriculture sector development, production of crop is increased by raising the demand of agriculture product. It is possible through the agribusiness and agriculture development. India is the second largest food producing country in the world in sense of the total value of agriculture production. India ranks second in the production of rice, wheat, sugarcane, groundnut, vegetables, fruit

and cotton. India is the world's largest producer of milk, pulses and jute. India also leads in the production of spices, fish, poultry, livestock and plantation crops.

Diversity in the climatic condition of India ensures availability of all varieties of fresh fruits & vegetables. India ranks second in fruits and vegetables production in the world. The area under cultivation of fruits stood at 6.3 million hectares while vegetables were cultivated at 10.1 million hectares. As per National Horticulture Database published by National Horticulture Board, during 2015-16, India produced 90.2 million metric tonnes of fruits and 169.1 million metric tonnes of vegetables. Hence, production of fruits and vegetables has a great potential in India. The vast production of fruits and vegetables proffers India huge opportunities for export. India has emerged as a significant agri-exporter in crops like rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar As per available WTO's Trade Statistics (2018), the share of India's agricultural exports and imports in the world agriculture trade were 2.15% and 1.54%, respectively. Share of agricultural exports as a percentage of agricultural GDP has decreased from 9.9 % in 2018-19 to 8.3 % in 2019-20. Major destinations of exports for India's agri and allied commodities are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom.

Graph No. 1 The agriculture and allied sector export during the last 5 years



Source: Department of Agriculture, Cooperation & Farmers' Welfare Annual Report 2020-21

The above graph shows the India's export of agri- allied sector has increasing trend. Growth of export agri- allied sector during 2016-17 to 2019-20 is 11.6143%. It was show the positive growth of agriculture export.

Table No. 1 Area, Production & Productivity of Horticulture crops
Area: Million Hectare, Prod: Million Tonnes, Productivity: Tonnes/Hectare

Year	Area	Production	Productivity
2009-10	20.88	223.9	10.69
2010-11	21.83	240.53	11.02
2011-12	23.24	257.28	11.07
2012-13	23.69	268.85	11.35
2013-14	24.20	277.35	11.46
2014-15	23.41	280.99	12.00
2015-16	24.47	286.19	11.69
2016-17	24.85	300.64	12.10
2017-18	25.24	310.67	12.31
2018-19	25.74	311.05	12.09
2019-20(3rd Advance Estimates)	26.22	319.57	12.19
	Arithmetic mean	279.73	11.63
	Growth rate	42.7288	14.0318

Source: Department of Agriculture, Cooperation & Farmers' Welfare Annual Report 2020-21

The above table shows the production and productivity of horticulture crops in India. The production of horticulture crops has increased from 223.9MT in 2009-10 to 319.57MT in 2019-20. The growth rate of production is 42.7288% during the period of 2009-10 to 2019-20. It shows the horticulture production rate is increased positively. But productivity increased 14.0318% as compare to production the productivity not increased much more but it increasing trend. The arithmetic mean of the production is 279.73,

Table No. 2: Industry wise employment in India

Sector/ Year	2018-19	2019-20
Agriculture	19.86	23.27
Mining and Quarrying	0.20	0.15
Manufacturing	6.12	6.24
Electricity, Water etc.	0.28	0.35
Construction	5.86	6.22
Trade hotel and Restaurant	6.39	7.47
Transport storage and communication	2.99	3.15
Other services	7.05	6.71

Source: https://www.ibef.org/download/Economic_Survey-2021-22.pdf

The above table shows the employment opportunity of agriculture industry was increased as compare to other industries. In 2018-19 agriculture industry provides 19.86 employments and it increased 23.27 in 2019-20.

2. Objective

1. To study the cropping pattern of agriculture in Ratnagiri district.
2. To study the relationship of agriculture and Rural Development.
3. To study the challenges of agriculture production in Ratnagiri district.

3.1 Research Methodology

Primary and Secondary data is used for the study. Data and information related to present paper is taken from various governments published data, internet, news paper, etc. The study of present research paper is confined to Ratnagiri district. Present research study has used the descriptive analysis method.

3.2 Analysis of Data

3.2.1 Study area

The study area of the research is confined to Ratnagiri district. There are 9 talukas in Ratnagiri district and 1,537 villages in total. 318 villages are selected for the study by using solvency formula.

3.2.2 Techniques of data analysis

The present study is more of descriptive nature and hence data will be processed by using simple statistical techniques such as mean, percentage, and compound growth rate and time series. Different types of graphs are used to present the data analysed graphically.

4. Profile of Ratnagiri district

The study area of Ratnagiri district is one of famous district of 36 districts in Maharashtra state. Considering the geographical location of Ratnagiri district, the district is surrounded by the Arabian Sea to the West, Sindhudurg district to the South, Satara, Sangli, Kolhapur to the East and Raigad district to the North. Bounded by the Sahyadri range on the East and the Arabian Sea on the West, it is a rugged, convex-shaped district stretching South-east. The total geographical area of Ratnagiri district is 8208 sq. kms., which is 2.7% of the total Maharashtra State. The coastline of the district is about 170 kms long. Ratnagiri district falls in the geographic belt of 16.30 degrees to 18.04 degrees North latitude and 73.02 degrees to 73.52 degrees East longitude. The climate of the district is humid. As Ratnagiri district

is near to the sea coast, there is no significant change in temperature during the day and night as well as in different seasons. (District Social and Economic Commentary 2017, District – Ratnagiri, page – 2)

4.1 Cropping pattern

As per the census of 2011 41.58% of the total workers in Ratnagiri district were engaged as cultivators and 21.44% were engaged in as agriculture labour. They together constitute 63.02% total workers in the district. (Source: www.pincodindia.net).

The District is well known for its' Alphonso mangoes, apart from Alphonso mangoes people of the district are also engaged in production of following crops:-

- 1) Cereals - Paddy, Nagli & Wari
- 2) Pulses – Toor, Udid, Waal, Pavta, Moong, Chavali,
- 3) Oil Seeds
- 4) Horticulture – Mango, Cashew, Coconut, Kokum , Jackfruit, Banana
- 5) Vegetables – Lady finger, Leafy vegetables, Brinjal, Crural , etc.
- 6) Floriculture - Gerbera, Lily, Marigold

Table no.3 Crop Production of Mango and Cashew nut in Ratnagiri district from 2013-14 to 2019-20

Year	Fruit Crop (000MT)	
	Mango	Cashew nut
2013-14	127.77	127.20
2014-15	128.22	129.05
2015-16	128.76	131.03
2016-17	129.32	132.10
2017-18	129.74	133.68
2018-19	129.86	136.08
2019-20	130.22	136.55
A.M.	129.12	132.24

Source: NAP phase II Ratnagiri district

Above table no. 3 shows the production of mango and cashew nut in Ratnagiri district. Average of mango production was 129.12 mt during the 2013-14 to 2019-20. Cashew nut average production during the same period was 132.24mt. Increase in Cashew nut production is more as compared to the increase mango production. Ratnagiri district soil and climate is favorable for mango and cashew production as well as kokum, water melon.

Despite of the natural blessing the agricultural sector has remained under – developed, From the point of view of commercial farming in Ratnagiri district. Some farmers have developed agribusiness by overcoming the problems such as lack of capital, lack of modern technology, lack of knowledge, etc. The Agribusiness will help to bring revolution in agricultural development in rural area like Ratnagiri District. Agribusiness has proved a boon to the farmers who got engaged in commercial farming. Hence all the farmers can develop their farm and convert the traditional farming into agribusiness such as horticulture, floricultural, organic farming, agro-tourism, poultry, animal husbandry etc.

Table No. 4: No. of Agro based Industries in Ratnagiri District

Sr. No.	Commodity	Processing units	Functioning Processing units	Commodity processed
1	Fruits	2127	1997(97.75%)	Mango, Cashew, Kokum
2	Fish	3	3(0.15%)	Fish Prawns
3	Bakery	14	14(0.69%)	Flour
4	Flour products	5	5(0.24%)	Papad, Coconut
5	Milk Products	5	5(0.24%)	Milk
	Rice Mill	19	19(0.93%)	Paddy
Total		2173	2043(100%)	

Source: District Development *phasa II*- National Council of Applied Economic Research August 2021

To conclude, for the rural development agriculture sector is a foundation of development. Rural people are engaged in agricultural activities. It is a primary occupation of rural people.

4.2 Role of Agriculture in rural development in Ratnagiri district

Present study took the effort for review of role of different agribusinesses on employment, cropping pattern. The detailed analysis of the collected primary and secondary data of various portions related to the impact of agribusiness units on rural development in Ratnagiri district is conducted during the study. The present study found the different agribusiness in Ratnagiri district in selected villages is 95. the classification of agribusiness as per follow

Table No. 5 Selected Agribusiness and employment in Ratnagiri district.

Agribusiness	units	employment
Agro processing units	45	654
Agro service centers	5	09
Agro Manufacturing	7	122
Nursery	38	238
Total	95	1023

Source : Field visit 2022

Ratnagiri district has more numbers of Agro produces processing units and its follow the nursery units. Above table shows the number of agro processing units is maximum(45) out of 95 which is created employment opportunity in rural area. agribusiness. Ratnagiri district climate is favorable for cultivation of horticulture crops specially Alphonso mango and Cashew nut. The present study analysed the employment generated by the selected agribusinesses in Ratnagiri district. The employment pattern of agribusinesses in Ratnagiri district differs from one agribusiness to another, depending on the nature and size of the agribusinesses. It is observed that the Agro processing unit and Nursery created comparatively more employment opportunities in the district than the other agribusinesses.

5. Challenges

1. Seasonal nature

Study area is rural hilly area where the cropping pattern is seasonal in nature for the important crops like cashew nut, mango, paddy etc.

2. Low landholding: Due to low land holding, the landowners could produce little food grains which may not be sufficient to supply to the industries and hence low productivity.

3. Perishable products: The products are perishable in nature and hence create wastage due to the poor availability of the cold chain.

4. Quality of crop production: The poor quality of products poses a big challenge to the exports.

6. Conclusion

Present research found that agriculture sector play important role in employment generation and raising the production of agriculture crops in Ratnagiri district. 95 selected respondents provide 1023 employment opportunity to rural people in Ratnagiri district. Starting the agribusiness leads to raise agriculture production. In Ratnagiri district demand for Alphonso mango, cashew nut, kokum and other crops is more, which boost to start the agribusiness in the district. Agriculture production leads to Agribusiness which is one great opportunity for income generation of rural people.

7. Suggestions

1. Create awareness among farmers to quality and packing through the various activities like workshop at village level.
2. Modern cultivation methods should be adopted to maintain and raise the quality of crop production for exports.
3. To need establish the agro zone or centers for export promotion.
4. Creating easy crop insurance process and awareness among the farmers to cover the risk of natural calamities.

7. Reference

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