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Production, processing and marketing related problems faced by orange growers in Chhindwara district of Madhya Pradesh

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Abstract

The study was conducted with the objectives to problems faced by Orange Growers in Central India District. The study was purposively conducted in Chhindwara district of Madhya Pradesh where Nagpur mandarin orange is the pride fruit of the region. In all, 200 growers were considered for the study. In production aspect Study revealed that Shortage of irrigation water during summer was top most problem faced by the orange growers, Lack of capital rank second followed by High cost of labour third major problem. In processing aspect Study revealed that Lack of storage facilities near production Areas were the first major problems in processing operation of orange, lack of waxing, grading and packing plant were second major problem, Non-availability of processing plant were third problem faced by growers. In marketing aspect Study revealed that Lack of competition among buyers was the first major problem faced by farmers and Lack of market information was the second important problem faced by the growers.

Keywords: Competency, orange, problem, production, processing and marketing etc.

Introduction

India is the second largest country in population in Asian Continent. Agriculture is the main occupation since ancient times. In Indian Economy. Agriculture and related sectors play crucial role. Horticulture is an important sub sector in Agriculture, which is rapidly growing and contributes 28 per cent share in the Indian Economy. Horticulture influences consumption habits and attitude of customers. People are leaning towards horticulture products instead of food grains due to variety of reasons. Thus horticulture sector gaining significance in our economy and Agriculture as well.

In India, 11.35 per cent of the gross cropped area cultivated under horticulture crops and it contributes more than 28 per cent to the GDP of agriculture and 52 per cent of export earnings in agriculture during 201 3-1 4.

Fruits and vegetables account for nearly 90% of total horticulture production in the country. India is now the second largest producer of fruits and vegetables in the world and is the leader in several horticultural crops, namely Mango, Banana, Papaya, Cashewnut, Arecanut, Potato and Okra. However the nature of horticulture crops being such it's not easy to make assessment of their production. These crops, especially vegetables are grown in small plots, fields or in the backyard of the houses, do not have single harvesting in most of the cases which makes their assessment difficult. Many horticulture crops have multiple pickings in a single season. Similarly many fruit trees are scattered, which do not count for assessment.

It is a matter of satisfaction, we are second largest producer of Vegetables and Fruits and our presence in global market is significant. The different types of fruits are exported to the outside World. Grapes occupies the premier position in exports with 188.2 Thousand Tonnes valued Rs. 1, 89,994.86 Lakhs. Other fruits which have attained significant position in exports are Banana and Mango. Fresh vegetable (e.g. Onion, Peas and Potato) exports have been on the rise. (Horticultural Statistics at a Glance 2018).

The development achieved in the horticulture sector is indicative of the fact that there is growing demand for horticulture produce. The past experiences have been rewarding for enhanced output from the investment. Availability of timely robust information in this sector will certainly improve the socio-economic conditions of Indian citizens by providing self-reliance besides environmental protection (Horticultural Statistics at a Glance 2018).

The scenario of horticulture crops in India has become very encouraging. The percentage share of horticulture output in Agriculture has become 33%. Under the purview of Agriculture &

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allied activities, the share of plan outlay for Horticulture which was 3.9% during IX Plan, has increased to 4.6% during the XII Plan. India has witnessed increase in horticulture production over the last few years. Significant progress has been made in area expansion resulting in higher production. Over the last decade, the area under horticulture grew by 2.6% per annum and annual production increased by 4.8%. During 2017-18, the production of horticulture crops was 311.71 Million Tonnes from an area of 25.43 Million Hectares. The production of vegetables has increased from 101.2 Million Tonnes to 184.40 Million Tonnes since 2004-05 to 2017-18 and production of fruits has increased from 50.9 Million Tonnes to 97.35 Million Tonnes since 2004-05 to 2017-18. In 2017-18, the total horticulture production was highest in case of Uttar Pradesh (392.48 Lakh Tonnes) followed by West Bengal (324.2 Lakh Tonnes). The total production of fruits is highest in case of Andhra Pradesh (152.15 Lakh Tonnes) followed by Maharashtra (117.28 Lakh Tonnes). (Horticultural Statistics at a Glance 2018).

Mandarin orange (*Citrus reticulata*) is a commonly grown easily peelable citrus fruit in India. It occupies nearly 40% of the total area under citrus cultivation in India. The most important commercial citrus species in India are the mandarin (*Citrus reticulata*), sweet orange (*Citrus sinensis*) and acid lime (*Citrus aurantifolia*) sharing 41, 25 and 23%, respectively of all citrus fruits produced in the country. China stands first in citrus production (29.56 million tonnes) followed by Brazil (18.96 million tonnes) and India stands third in citrus production (11.14 million tonnes) in the world. In India, citrus is grown in 1.04 million ha, covering 26 states but only nine states contribute more than 89 percent of the total production.

The Mandarin Orange (*Citrus reticulata*) belongs to Rutaceae family and it is very important fruit crop due to rich source of vitamin "C". In world cultivated over an area of 7.9 million ha with a production of about 3.84 million metric tons of fruit. India ranks ninth among top Orange producing countries contain 3% to the world's total production. Orange producing states are Punjab, Madhya Pradesh, Maharashtra, Rajasthan, Assam, Karnataka, West Bengal, and Nagaland. In India total area under Orange fruit is 330 thousand ha with the production of 3431 thousand million tones and productivity of 10.4 mt/ha (Data base on Horticulture 2014). Punjab is leading state in orange production. Maharashtra is the leading area under Orange fruit is 105.47 thousand ha with production of 716.07 million tonnes (data base of horticulture board 2014). Punjab is the highest orange producing state in India.

During 2017-18, around 15840.48 MT of fresh oranges were exported to Bangladesh, Nepal, UAE, Qatar, Oman, Kuwait, Saudi Arabia, United Kingdom, Netherlands, Singapore, Spain and Maldives etc. (Horticultural Statistics at a Glance 2018).

The area under citrus in Madhya Pradesh is estimated to be 1, 15,488 ha of which 96,233 ha is under mandarin oranges (*Citrus reticulata*), 14,666 ha under acid lime (*Citrus aurantifolia*) and 4,589 ha under sweet oranges (*Citrus sinensis*), (Ministry of Agriculture and Farmers Welfare Department of Agriculture, Cooperation and Farmers Welfare Horticulture Area and Production Info System 2017-18). Out of 1, 15,488 ha under citrus cultivation in Madhya Pradesh.

The main citrus fruits in Madhya Pradesh are mandarin orange (Santra), acid lime and sweet orange. Citrus fruits are grown in 49 out of 51 districts of the state. The area under mandarin orange, sweet orange and acid lime in Madhya Pradesh is 1, 15,488 ha with the production of 13, 50,278

metric tonnes. The average productivity is estimated to be 11.69 metric tonnes/ha.

A farmer running a family farm has three roles: in addition to being craftsman and a manager, he is an entrepreneur. In large firms, these tasks and functions are performed by different persons, whereas in family farms the farmer is involved in all three of them. In the past, education and extension emphasized the competencies required to be a good craftsman and manager. To cope with the present challenges in farming, the farmer needs to be well-informed, analytical, proactive and flexible. Possessing social skills and knowing how to get access to sources of knowledge are becoming more important for the farmer (Gielen *et al.* 2003) ^[1].

Competencies are defined as the ability to perform specific tasks. They are the underlying knowledge, skills, abilities, personality traits and know-how that results in effective task fulfilment (Langbert, 2000, Mulder, 2001a, 2001b.) ^[2, 3, 4]

Technical competence is indicated when a farmer is able to select and combine profitable enterprises. An enterprise or combination of enterprises is profitable when the total receipts exceed total payments, allocate and utilize production factors efficiently. Production factors are efficiently allocated when the value of the marginal physical product is equal to the marginal factor cost. Efficiently utilized when the least possible amount of resources is used to obtain the best level of output, adopt and use modern production practices and techniques. Identify activities, operations, materials, equipment and people needed to undertake the activities, operations, set time and cost targets and identify production risks.

Methodology

In present study analytical research design was used. Analytical research, on the other hand, the researcher has to use facts or information already available, and analyze these to make a critical evaluation of the material. In this study Madhya Pradesh state was selected purposively because Madhya Pradesh is second leading producer of orange and accounts for 21% of the production of orange production in the country with productivity of 13.58 T/ha. (National Horticulture Board, 2018). Out of 53 districts of Madhya Pradesh, Chhindwara District was selected purposively because Chhindwara major orange producing district in Madhya Pradesh. Orange is the major growing fruit as compared to other fruits in the district. It occupied 24500 ha area with the production of 485550 metric tons. (District Horticulture Department, 2019). Orange is mainly grown in 7 blocks of Chhindwara district viz. Mukhed, Chourai, Parasia, Bichhua, Sausar, and Pandurna. The Pandurna and Sausar blocks were selected purposively for the study because of the 1st highest orange producing (250500 mt) and 2nd highest orange producing (155000mt). A list of Orange growing villages of Pandurna and Sausar blocks were prepared with the help of Block technology manager and Rural Horticultural Extension Officer and out of which 10-10 villages were selected randomly from Pandurna and Sausar blocks. A list of orange producing farmers of each selected villages, were prepared with the help of RHEO and ATMA Professionals. Orange growers were selected by using proportionate random sampling method. The total number of selected farmers were 200.

It refers to impediments or obstacles in following a particular way. Problems for the present study have been operationalised as obstacles or hurdles experienced by the orange growers in improved orange production technology.

The respondents were asked to rank each of the problems relevant to them according to the degree of importance as perceived by them. As all the items were not ranked same by all the respondents the method of combining of incomplete order of merit ratings as suggested by Garret (1981) was followed. The formula for per cent position suggested by Garret (1981) is

$$\text{Per cent position} = 100 (R-0.5) / N$$

Where, R is the rank of the individual item in the series and N is the number of individual items ranked.

Score for each of the factors after transformation of orders of merit as per Garret (1981) was found out. To obtain the final order of merit, the scores for all the respondents for each of the factor were summated and the mean value was calculated. In finding out the mean values, the sum of the scores for each item was divided by its frequency of responses. The mean scores were calculated for each problems and the appropriate rank was given accordingly.

Identify the major problems faced by orange growers

Table 1: Problems faced by orange growers in Production related

S. No.	Problems related to production	Garret Score	Rank
1	High cost of micronutrients	66.37	4 th
2	High cost of labour	70.045	3 rd
3	Shortage of irrigation water during summer	78.395	1 st
4	Lack of capital	70.785	2 nd
5	High incidence of insect pests	63.15	5 th
6	High cost of pesticides	52.795	6 th
7	Non-availability of skilled labour	50.3	7 th
8	Problem of electricity supply	35.39	12 th
9	Non-availability of quality grafts in locality	47.575	8 th
10	Inferior or poor quality of insecticide/pesticide	43.875	9 th
11	Lack of knowledge about the correct dose of insecticide/ pesticide	42.28	10 th
12	Lack of technical knowledge in identifying diseases	35.83	11 th
13	Inadequate Extension services	32.735	13 th
14	Lack of knowledge about recommended practices	25.915	14 th

Shortage of irrigation water during summer was top most constraint with garret score (78.395) faced by the orange growers (Table 1). The reason may be that, the ground water of soil goes down to earth day by day recent one decade and maximum exploration of water, followed by Lack of capital rank second with garret score (70.785) that constraints may be due to the farmers economically dependent on Rabi and kharif crops so farmers do not get money from over the year and borrowing the loan procedure may be complicated or lengthy in financial institutions, followed by High cost of labour third major problem with garret score (70.045) this constraints may be due to scarcity of man power, whereas 'high cost of micronutrients' was ranked fourth with garret score (66.37), high incidence of insect pests was fifth ranked with garret

score (63.15), High cost of pesticides was sixth ranked with garret score (52.795), Non-availability of skilled labour was seventh ranked with garret score (50.3), Non-availability of quality grafts in locality was eighth ranked with garret score (47.575), Inferior or poor quality of insecticide/pesticide was ninth ranked with garret score (43.875), Lack of knowledge about the correct dose of insecticide/ pesticide was tenth ranked with garret score (42.28), Lack of technical knowledge in identifying diseases was eleventh ranked with garret score (35.83), Problem of electricity supply was twelfth ranked with garret score (35.39), Inadequate Extension services were thirteenth with garret score (32.735) and Lack of knowledge about recommended practices were fourteenth ranked with garret score (25.915).

Table 2 Problems faced by the orange growers in relation to Processing

S. No.	Problems related processing of orange	Garret Score	Rank
1	Lack of storage facilities near production Areas	67.045	1 st
2	Lack of waxing, grading and packing plant	58.385	2 nd
3	Non-availability of processing plant	56.235	3 rd
4	Non-availability of good packing material	51.91	4 th
5	Inadequate supply of storage material	41.965	5 th
6	Less intensity of advisory services	33.175	6 th

In Table No. 2 found that Lack of storage facilities near production Areas were the first major problems in processing operation of orange with garret score (67.045) the reason may be less numbers of cold storage available in the production site, lack of waxing, grading and packing plant were second major problem faced by growers with garret score (58.385) that constraints due to not aware about importance of natural waxing. Proper methods of grading and packing plant. Non-

availability of processing plant was the third major problem faced by farmers with garret score (52.235) the problem may be due to not available of the processing plant. Non-availability of good packing material was fourth problem with garret score (51.91). Inadequate supply of storage material was fifth problem with garret score (41.965) and last Less intensity of advisory services were sixth main problem with garret score (33.175).

Table 3: Problems faced by the orange growers in relation to Marketing

S. No.	Problems related to Marketing	Garret Score	Rank
1	Lack of inputs regarding market intelligence	57.79	6 th
2	Delay in Payment	66.095	4 th
3	Lack of competition among buyers	68.465	1 st
4	Lack of market information	68.395	2 nd
5	Lower prices due to seasonal gluts	67.7	3 rd
6	Malpractices in weighing	55.81	5 th
7	Fluctuation in market price	51.4	7 th
8	High commission charges	45.875	8 th
9	Exploitation by commission agents	41.67	9 th
10	No standard weighing procedures	35.525	10 th
11	No guarantee of payment from merchants	28.365	11 th

In the Table No. 3 found that Lack of competition among buyers was the first major problem faced by farmers with garret score (68.465) the problem may due to less number of buyers in the local market. Lack of market information was the second important problem faced by the growers with garret score (68.395) the reason may the not getting information day to day and updated information. Lower prices due to seasonal gluts was third major constraints in marketing with garret score (67.70). Delay in Payment was fourth major constraints with garret score (66.095) the reason may be lengthy process of getting money from *Mandi*. Malpractices in weighing was fifth problem faced by farmers with garret score (55.81). Lack of inputs regarding market intelligence was sixth major problem faced by the orange growers with garret score (57.79) the problem may due to not proper getting information regarding marketing survey. Fluctuation in market price was seventh important problem with garret score (51.40). High commission charges was eighth major problem faced by orange growers with garret score (45.875). Exploitation by commission agents was ninth major problem with garret score (41.67). No standard weighing procedures with garret score (35.52) was major problem faced by respondents in the marketing of fruits. No guarantee of payment from merchants was also an important constraints with garret score (28.36).

Conclusion

It's concluded that Shortage of irrigation water during summer was top most constraint faced by the orange growers, Lack of capital and High cost of labour third major problem identified in research area. In the processing, Lack of storage facilities near production Areas, lack of waxing, grading and packing plant and Non-availability of processing plant were found the major problems. Marketing related problems were found that lack of competition among buyers, Lack of market information and lower prices due to seasonal gluts was major constraints in marketing

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