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Managerial efficiency of custard apple growers in Vidarbha region of Maharashtra state

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Abstract

The study was conducted in the Western Vidarbha region of Maharashtra State. Total five districts were selected from the Vidarbha region, one tahsil was selected from each district for the study, i.e., Patur tahsil from Akola district, Morshi tahsil from Amravati district, Jalgaon (Jamod) tahsil from Buldhana district, Risod tahsil from Washim district and Babhulgaon tahsil from Yavatmal district were selected purposively, which is having the highest plantation of custard apple. A list of villages from each selected tahsil having maximum number of custard apple growers have been obtained from the concern departments. From the list, only top four villages having highest number of custard apple growers were selected. A list of custard apple growers has been prepared as respondents having more than 7 year old custard apple orchards. From the total 20 villages, a total 200 custard apple growers were selected by using proportionate random sampling method. The study was conducted to know the managerial efficiency of custard apple growers in western Vidarbha region. The finding of the study revealed that in various aspect of managerial efficiency viz., to know the ability in planning, to ascertain ability to mobilize resources for custard apple production, efficient use of resources for custard apple production, ability to make rational marketing custard apple, ability of value addition in custard apple. In all, more than half of the custard apple growers had medium level 64.00 percent of overall managerial efficiency.

Keywords: Managerial efficiency, custard apple growers, Vidarbha

Introduction

About 38 percent of the world population lives in dryland and farming in dryland agriculture is a challenging task, frequent drought and unseasonal rainfall disturbs farming. In Maharashtra, 33 percent of the total area is affected due to unseasonal rainfall, which approximately affected 103.52 lakh farmers. In this manner, the Custard apple (*Annona squamosa* L.) is an important dryland fruit crop which belongs to family annonaceae. Custard apple occupies more area than any other species of annona. It is proving boon to the arid zones of Maharashtra because of their wider adaptability, comparatively freeness from pests and diseases, hardy nature, known to thrive under diverse soil and climatic conditions and also escape from grazing animals. The custard apple is used by indigenous as an insecticidal and antitumor agent, anti-diabetic, antioxidant, anti-epidemic, and anti-inflammatory agent which may be characterized due to the presence of the cyclic peptides. Area under custard apple cultivation in Vidarbha region of Maharashtra is 10367.00 ha. with 70945 MT productivity and the average production is 6.88 MT per hector in Vidarbha (Anonymous, 2020). The Vidarbha region of Maharashtra is mostly characterised by dryland farming, and it's expected to have a serious economic and social impact on Vidarbha, particularly on rural farmers whose livelihood depends largely on rainfall. From a commercial point of view, there are limited dryland fruit crops available in the Vidarbha region and custard apple has become the best alternative for the dryland farmers because this crop requires less water as compared to major traditional fruit crops. From the available data, it has been observed that areas under custard apple are steadily increasing. As a result, in order to improve economic returns, it is necessary to promote custard apple farming in the Vidarbha region among dryland farmers.

In the present study, management efficiency is defined as the degree to which an individual custard apple grower acquires and adopts effective factors in custard apple cultivation to reach a higher level of performance and returns. Management is the process by which the farmer is able to enhance the return from the farm on a sustained basis for the attainment of family goals, while the custard apple is grown mainly for market purposes. Farmers' primary concern is the economic return.

The improved custard apple production technologies recommended by the research institutions ensure a high yield and a good return to the farmers.

The cultivation of horticultural crops requires many skills and exceptional thoughtfulness among the farmers. Among the various influencing factors in the production of the most important dry land crop, such as custard apple, the management factor is very important for an individual because it allows him to make the best use of available natural and other resources to generate more income. The probable reasons for the quality production of custard apple in this area are many, but the adverse effects of climate as well as less scientific management in custard apple are the major concerns, which affect quality as well as productivity. This problem needs to be carefully tackled for a long-term solution for underdeveloped custard apple growers. Therefore, the present investigation on "Managerial Efficiency of Custard Apple Growers in Vidarbha Region" is thought to be undertaken.

Materials and Methods

The study was conducted in Vidarbha region of Maharashtra state with ex-post facto research design. Five districts viz. Akola, Amravati, Buldhana, Washim and Yavatmal were selected purposively from the western Vidarbha region. From each districts one tahasil were selected which had the highest area under custard apple cultivation. From each selected tahasil four villages were selected. Only top four villages having highest number of custard apple growers were selected. A list of custard apple growers has been prepared as respondents having more than 7 year old custard apple

orchards and more than one acre (0.40 ha.) of area under custard apple cultivation. From the total 20 villages, a total 200 custard apple growers were selected by using proportionate random sampling method. The data were collected through specially developed interview schedules. The collected data were classified, tabulated, analyzed and interpreted in order to make the findings meaningful. The statistical measures such as percentage, mean, standard deviation and co-efficient of correlation were used in the study. For measuring the managerial efficiency of custard apple growers about production technology of custard apple cultivation were measured with the help scale developed by Patel (2006) [5] with some modification.

Result and Discussion

Ability in planning

It is the degree to which a custard apple grower is capable of stating the activities that he intends to do through a systemic procedure in custard apple cultivation. This is one of the important components for a custard apple grower to make proper preparation, arrangement, scheduling, and plans for various activities of cultivation. The information was collected, and the results are presented in Table 1.

It refers to how well a custard apple grower can express the actions he plans to take in custard apple cultivation as part of a systematic process. This is one of the key elements that custard apple growers need to properly plan, arrange, and schedule the various custard apple cultivation activities. Custard apple growers use this skill to effectively manage cultivation.

Table 1: Distribution of the respondents according to their ability in planning

Sr. No.	Practices	Followed	Not followed
1.	Advance preparation of different practices of custard apple farming	165 (82.50)	35 (17.5)
2.	Advance estimation of fertilizer, insecticide, irrigation needs	158 (79.0)	42 (21)
3.	Preparation of calendar of operation for custard apple	134 (67.0)	66 (33)
4.	Calculation of labour requirement for custard apple production	179 (89.50)	21 (11.5)
5.	Calculation of cost of production for custard apple	164 (82.0)	36 (18.0)
6.	Locating sources of availability of loan with rate of interest	109 (54.50)	91 (45.5)

(Figures in parentheses indicate percentage)

A look at the Table 1 reveals that advance preparation of different practices of custard apple cultivation was made by (82.50%), followed by advance estimation of fertilizers, insecticide, irrigation needs (79.00%), preparation of calendar of operation (67.00%), calculation of labour requirement (89.50%) and calculation of cost of production (82.00%). At the same time, locating sources of availability of loan with rate of interest (54.50%) followed by the respondents for the production of custard apple cultivation. It could be concluded that majority (more than 54.00% to 90.00%) of the custard apple growers had adopted the practices regarding planning for the effective management of custard apple cultivation.

Ability to mobilize resources

It is the degree to which a custard apple grower is capable of getting the required inputs in terms of material, monetary and labour in adequate quantity at the appropriate time. The ability to mobilize resources is an important component of managing any process. The ability to employ suitable labour and receive other inputs and necessary resources required a vital skill on the part of managers. Accepting the consequence of this concept, the information was collected and the results are presented in Table 2.

Table 2: Distribution of the respondents according to their ability to mobilize resources (n=200)

Sr. No.	Materials	Quantity available	
		Adequate	Not adequate
1.	F.Y.M.	93 (46.50)	107 (53.50)
2.	Fertilizers	193 (96.50)	07 (03.50)
3.	Insecticides/ pesticides	190 (95.00)	10 (05.00)
4.	Plant protection equipments	171 (85.50)	29 (14.50)
5.	Good quality graft	158 (79.00)	42 (21.00)
6.	Packaging materials	73 (36.50)	127 (63.50)
7.	Farming implements	192 (96.00)	08 (04.50)
8.	Labours	137 (68.50)	63 (31.50)
9.	Advanced pruning tools	81 (40.50)	119 (59.50)

(Figures in parentheses indicate percentage)

From Table 2, it is observed that more than two-thirds of respondents had the ability to mobilize various resources for their farming. Fertilizers, insecticides, pesticides, plant protection equipment, and farming implements make up nearly all of the inputs. Following labour (68.50%), below fifty percent of respondents mobilized the FYM, advance pruning tools (36.50%), and packaging materials (36.50%) during custard apple cultivation. Out of these nine resources, five were mobilised by more than two-thirds of the respondents, and in some cases, nearly hundred percent of the resources were mobilised adequately by the custard apple growers; thus, it can be concluded that the custard apple growers have a very good ability in mobilising input resources for custard apple cultivation.

Efficient use of resources

It is the capacity of a custard apple grower to use available resources effectively and wisely at the appropriate stage or time in order to maximize profit from custard apple cultivation. It was believed that one of the characteristics of managerial skill was the capacity to exploit existing money and other resources efficiently and judiciously at the most advantageous moment for custard apple cultivation. The

information was gathered and the findings are shown in Table 3.

Table 3: Distribution of the respondents according to their efficient use of resources (n=200)

Sr. No.	Items	Followed	Not followed
1.	Proper used of mixture of soil, FYM, fungicide, fertilizers for the filling of pits before planting	55 (27.50)	145 (72.50)
2.	Application of Bordeaux pest on the stem of custard apple plant	25 (12.50)	175 (87.50)
3.	Application of fertilizes on proper time	53 (26.50)	147 (73.50)
4.	Application of chemical fertilizers in instalment	47 (23.50)	153 (76.50)
5.	Replacement of new graft in place of dried plants on proper time	169 (84.50)	31 (15.50)
6.	Removal of disease/pest affected / infected branches	158 (79.00)	42 (21.00)
7.	Use of insecticide or mechanical control measure for Mealy bug management	111 (55.50)	89 (44.50)
8.	Raising soil around stem of custard apple	28 (14.00)	172 (86.00)

(Figures in parentheses indicate percentage)

According to Table 3, five of the eight practices were not followed by more than two-thirds of the respondents. Whereas 84.50 percent of respondents replaced new grafts in place of dried plants on time, 79.0 percent removed diseased, pest-affected, or infected branches, and 55.50 percent used insecticides or mechanical control measures for Mealy bug management. It could be said that the use of efficient resources by the custard apple growers is not very efficient.

Ability in rational marketing

It is the capacity of custard apple growers to maximise profits from custard apple farming. A person should attempt to sell his products by understanding the trend of current marketing strategies. Custard apple cultivators require a strong aptitude for balanced selling in order to generate the greatest profit from their produce. To maximise output, farmers must not only increase production but also sell their products. The information was gathered and the results are shown in Table 4 based on the assumption that this ability is an essential characteristic of managerial positions.

Table 4: Distribution of the respondents according to their ability in rational marketing (n=200)

Sr. No.	Activities	Followed	Not followed
1	Collecting information about various markets to sell the produce	130 (65.00)	70 (35.00)
2	Collecting information about prices of produce at various markets as well as price of previous year	121 (60.50)	79 (39.50)
3	Collecting information about malpractices, delay in payment if any at various markets	102 (51.00)	98 (49.00)
4	Selecting market where competitive price for the produce and less malpractices are insured	116 (58.00)	84 (42.50)
5	Process for sending fruits to the various market	103 (51.50)	97 (48.50)

(Figures in parentheses indicate percentage)

From Table 4, it is indicated that, in all the activities of rational marketing, more than fifty percent of the respondents, i.e. (65.00%), (60.50%), (51.00%), (58.00%) and (51.50%) followed them to get proper market information and market intelligence. In contrast, below fifty percent of the respondents do not follow such types of practices. It could be clear that more than fifty percent of custard apple growers have the ability to use rational marketing.

Ability of value addition in custard apple: The value addition in custard apples was calculated by learning about the processes or marketing styles used by respondents to add value to the custard apple for a higher economic return. In the present scenario, farmers should try to develop themselves as entrepreneurs and adopt value-added skills to get a higher reward for their products. Recognizing the role of this aptitude as a requisite feature of management, the data were collected, and the results are presented in Table 5.

Table 5: Distribution of the respondents according to their ability in value addition in custard apple (n=200)

Sr. No.	Activities	Yes	No
1	Selection of varieties of custard apple according to customers choice	57 (28.50)	143 (71.50)
2	Selling of custard apple fruit after grading process	71 (35.50)	129 (64.50)
3	Selection of custard apple fruit at the time of harvesting according to size, shape and customer choice	00	200 (100.0)
4	Control measure to avoid Mealy bug on fruit before marketing	97 (48.50)	103 (51.50)
5	Selling of fruits to the processing industries/ units	29 (14.50)	171 (85.50)
6	Selection of processing favour variety	21 (10.50)	179 (89.50)
7	Following any method to reduce ripening	00	200 (100.0)

(Figures in parentheses indicate percentage)

From Table 5, the vast majority of custard apple growers were not adopting value-added practices such as selection of varieties of custard apple based on customer preference (71.50%), selling of custard apple fruit after grading (64.50%), and cent percent (100%) of respondents were not adopting practices such as selection of custard apple fruit at the time of harvest based on size, shape, and customer preference and control measures to avoid pests (51.50%). Majority the respondents (85.50%) and (89.50%) not adopting practices like selling of fruits to the processing industries and selection of processing favour variety, respectively while, cent percent of the respondents not following the method to reduce ripening of fruits for prolongation its storability. Based on the findings, it can be concluded that the majority of custard apple growers had limited ability in terms of value addition activity in custard apples.

Overall managerial efficiency of custard apple growers

Overall managerial efficiency was defined as the custard apple growers' acquisition of various abilities and effective factors to be effective enterprises in order to achieve a higher level of performance and desirable outcomes from custard apple cultivation management and adoption. The data regarding managerial efficiency of the custard apple growers were collected by knowing, and summing various abilities to make rational decisions: timely adoption, mobilizing resources, efficient use of resources, rational marketing, and value addition in custard apple. Based on overall managerial efficiency, the custard apple growers were categorized into three groups, as indicated in Table 6.

Table 6: Distribution of the respondents according to their overall managerial efficiency (n=200)

Sr. No.	Category	Respondents (n=200)	
		Frequency	Percentage
1	Low (Upto 16)	34	17.00
2	Medium (17 to 31)	128	64.00
3	High (above 31)	38	19.00
Total		200	100.00

Mean = 23.42 SD = 7.19

The data in Table 6 clearly reveal that the majority (64.00%) of the custard apple growers had a medium level of managerial efficiency, slightly less than two fifths (17.00%) of the custard apple growers had a low level of managerial efficiency, and (19.00%) of the custard apple growers had a high level of managerial efficiency. It is concluded that high (19.00%) to medium (64.00%) level of managerial efficiency. Thus, in general, it was found that the majority (64.00%) of the custard apple growers had a medium level of overall managerial efficiency. The medium level of ability in planning, ability to mobilize resources, efficient use of resources, ability in rational marketing, and ability of value addition in custard apples might be the reason for the medium level of overall managerial efficiency among the majority (64.00%) of custard apple growers.

Conclusion

From the above discussion, it could be concluded that more than half of custard apple growers (64.00%) had a medium level of overall managerial efficiency, while nearly the same number of respondents (17.00 percent and 19.00 percent) fell under the categories of low and high managerial efficiency, respectively. The majority of custard apple growers (i.e., more than 54 percent to 90 percent) had adopted practises for effective custard apple cultivation planning. More than two-thirds of custard apple growers had the ability to mobilize various resources for their farming. Fertilizers, insecticides, pesticides, plant protection equipment, and farming implements make up nearly all of the inputs. Thus, it can be concluded that the custard apple growers have a very good ability to mobilizing input resources for custard apple cultivation. The majority of the custard apple growers, five out of the eight practices, were not followed by more than two-thirds of the respondents, which means that the use of efficient resources by the custard apple growers was not made very efficiently. More than fifty percent of custard apple growers were able to do rational marketing. The majority of custard apple growers had limited ability in terms of value addition activity in custard apples.

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