



## MANAGERIAL EFFICIENCY OF COCONUT PLANTATION GROWERS IN COASTAL AREA OF SAURASHTRA REGION

KALSARIYA B.N.<sup>1</sup>, KHODIFAD P.B.<sup>2</sup>, GORFAD P.S.<sup>3</sup>, AND MARKANA J.G.<sup>1</sup>

<sup>1</sup>Department of Agril. Extension, College of Agricultural, JAU, Junagadh, Gujarat

<sup>2</sup>Department of Agril. Extension, College of Agricultural, Navsari Agricultural University, Navsari, Gujarat

<sup>3</sup>Scientist, KVK, Jamnagar, Junagadh, Gujarat

\*Corresponding Author: Email- [bnkalsariya@jau.in](mailto:bnkalsariya@jau.in)

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**Abstract-** The study was conducted in the coastal areas of Saurashtra where coconut is a major crop. Total five talukas i.e. 3 talukas of Junagadh, 1 taluka of Porbandar and 1 taluka of Bhavnagar district were selected purposively, which is having the highest coconut growing area. Three villages from each taluka and 10 respondents from each village i.e. total 15 villages and 150 respondents were included in the sample. The study was conducted to know the managerial efficiency of coconut plantation growers in coastal area of Saurashtra region. The finding of the study revealed that in various aspect of managerial efficiency viz., coconut plantation growers gave first position to intercropping and quality of coconut products in knowledge, planning about the inputs in ability to planning, implementing the decision in ability to make rational decision, coconut plantation growers gave importance to team work to achieve the goal in organizing the activities, consulting the extension worker when they heard about the incidences of insect-pests and eriophyid mite in epidemic condition or disease attack on the coconut plantation for coordinate activities, consultation with family members about source of credit for budgeting, well aware about co-operation with co-workers which produce better results in form of desirable work hours in communication and human relationship, supply of coconut fruits to the market when high price of produce in ability to make rational marketing, ability to sell the coconut produce after grading process which increase value addition and supervising the working of people while different agricultural operation in ability to controlling activities. In all, more than half of the coconut plantation growers had medium level (51.33 per cent) of overall managerial efficiency.

**Keywords-** Managerial Efficiency, Knowledge, Coconut growers, Saurashtra

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### Introduction

Coconut (*Cocos nucifera* Linn.) is one of the important perennial crops belonging to family Arecaceae (palm family). In religious, it is the legendary 'Devavrikshas' in all the tree of Indian classics. Coconut is unique among horticultural crops grown in India, as a source of food, drink, shelter and a variety of raw materials for industrial exploitation. The inhabitants therefore, affectionately eulogized the coconut plant with reverence as "Kalpavriksha", because of its manifold virtues. Coconut is grown in 92 countries in the world. In Gujarat, 16,674 hectares area and 250.63 million nuts productions with productivity 8433 nuts per hectare are recorded [1]. Average productivity per tree is 40 nuts in irrigated area in Gujarat, whereas, average productivity of India is 44 nuts per tree [2]. The cultivation of horticultural crops requires many skills and exceptional thoughtfulness among the farmers. Among various affecting factors in the production of most important plantation crop like coconut, the management factor is very important for an individual as it makes him capable to make best use of available natural and other resources to generate higher income. The probable reasons for low production of coconut in this area are many but the adverse effects of climate, as well as less scientific management in coconut plantation are the major concerns, which affect quality as well as productivity. This problem needs to be carefully tackled for long run solution of under developed coconut growers. Therefore, the present investigation on "Managerial Efficiency of Coconut Plantation Growers in Coastal Area of Saurashtra Region" is thought to be undertaken [3-6].

### Materials and Methods

The study was conducted in Coastal area of saurashtra region of Gujarat state with ex-post facto research design. Three districts viz. Junagadh, Bhavnagar and Porbandar from the coastal area of Saurashtra region were selected. Five talukas were selected which had the highest coconut growing area from the districts randomly. From each selected taluka three villages were selected by purposively. Total number of 150 farmers, 10 farmers from each selected village was selected by using purposive random sampling technique. 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 coconut growers about scientific cultivation of coconut plantation, the scale developed for the purpose was applied. The score assign to these equations according to its important. The formula used for calculating the Managerial Efficiency Index (MEI) was as under.

$$MEI = \frac{\sum (\text{Score obtained for indicator} \times \text{Scale value of indicator})}{\sum (\text{Maximum score for indicator} \times \text{Scale value of indicator})} \times 100$$

$$MEI = \frac{\sum (Osl_1 \times Rc_1) + (Osl_2 \times Rc_2) + (Osl_3 \times Rc_3) \dots (Osl_{10} \times Rc_{10})}{\sum (Msl_1 \times Rc_1) + (Msl_2 \times Rc_2) + (Msl_3 \times Rc_3) \dots (Msl_{10} \times Rc_{10})} \times 100$$

Where,

Osl<sub>1</sub> = Obtained score value of Knowledge

Osl<sub>2</sub> = Obtained score value of Planning

Osl<sub>3</sub> = Obtained score value of Rational decision.

Osl<sub>10</sub> = Obtained score value of Controlling activities

Msl<sub>1</sub> = Maximum score value of Knowledge

Msl<sub>2</sub> = Maximum score value of Planning

Msl<sub>3</sub> = Maximum score value of Rational decision.

Msl<sub>10</sub> = Maximum score value of Controlling activities

Rc<sub>1</sub> = Scale value of Knowledge

Rc<sub>2</sub> = Scale value of Planning

Rc<sub>3</sub> = Scale value of Rational decision

Rc<sub>10</sub> = Scale value of Controlling activities

I = Indicator 1, 2, 3, .....10

Rc = Scale value as Appendix =II

Managerial efficiency index from each coconut growers were calculated. The final managerial efficiency index of coconut growers was determined by averaging the index from respective coconut growers. Then, the coconut growers were classified in to three categories based on Mean and Standard Deviation viz;

Low managerial efficiency = < (Mean – S.D.)

Medium managerial efficiency = (Mean ± S.D.)

High managerial efficiency = > (Mean + S.D.)

## Result and Discussion

### Overall managerial efficiency of coconut plantation growers

**Table-1** Distribution of respondents by managerial efficiency (n=150)

Sr. No.	Category	Frequency	Percentage
1	Low ME ( below 48.96 )	37	24.67
2	Medium ME ( 48.96 to 88.47 )	77	51.33
3	High ME ( above 88.47 )	36	24.00
Total		150	100
Mean = 68.72		S.D. = 19.76	C.V.= 28.75

It can be seen from the [Table-1] that majority (51.33 per cent) of coconut plantation growers had medium level of overall managerial efficiency, while slightly less than one fourth (24.67 per cent) of respondents fall under the category of low managerial efficiency. The remaining 24.00 per cent respondents possessed high managerial efficiency. Thus, the managerial efficiency of the respondents was predominantly medium.

### Detail analysis of main indicators of managerial efficiency

**Table-2** Distribution of respondents according to their knowledge of scientific coconut cultivation practices (n = 150)

Sr. No.	Practices	Mean Score	Rank
1	Weather condition / Climate	138.66	IV
2	Soil and Soil preparation	142.00	II
3	Varieties	138.00	V
4	Propagation and Sowing	139.00	III
5	Transplanting & Planting distance	113.25	VII
6	Farm yard manure & fertilizer	108.92	X
7	Irrigation	116.75	VI
8	Plant protection	101.94	XI
9	Intercropping	150.00	I
10	Quality of coconut	150.00	I
11	Harvesting	110.17	VIII
12	Value addition	109.00	IX

Persuasion of data presented in [Table-2] indicated that among the different package of practices, coconut plantation growers had the highest knowledge in intercropping in coconut plantation and quality of coconut products (I rank) followed by soil and soil preparation (II rank) and propagation and sowing (III rank). Whereas, coconut plantation growers had the lowest knowledge in value

addition, farm yard manure & fertilizers and plant protection measure having ninth, tenth and eleventh rank, respectively.

**Table-3** Distribution of respondents according to their ability in planning (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1.	Determination of objectives	46.30	V
2.	Future plan for coconut plantation	53.33	IV
3.	Points to be considered while planning for management of coconut plantation	44.70	VI
4.	Strategies for marketing	36.30	VIII
5.	Planning about the inputs	83.33	I
6.	Consult while planning	44.50	VII
7.	Planning for increasing yield	72.66	II
8.	Decreasing the cost of production in coconut plantation	66.00	III

The persuasion of data presented in [Table-3] revealed that coconut plantation growers had given first choice to planning about the inputs followed by planning for increasing the yield of coconut plantation and decreasing the cost of production in coconut cultivation. Further, it can be seen that consulting while planning and strategies for marketing occupied seventh and eighth rank, respectively. It means that coconut plantation growers had given least importance to these aspects.

**Table-4** Distribution of respondents according to their ability to make rational decision (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Decision at proper time	69.67	III
2	Technical competency in making decision	72.00	II
3	Discuss with family member while taking important decision	66.00	IV
4	Implementing the decision	73.33	I
5	Decision regarding type of fertilizer	36.73	VII
6	Decision regarding quantity of fertilizer	30.73	VIII
7	Plant protection measures	30.13	IX
8	Decision about use of inputs at proper time	39.60	VI
9	Decision about coconut sapling	51.90	V

Examination of [Table-4] revealed that implementing the decision got first rank followed by technical competency in making decision (II rank) and decision at proper time for coconut plantation (III rank). Whereas, decision regarding types and quantity of fertilizers and plant protection measure in coconut crops had take last position.

**Table-5** Distribution of respondents according to their organizing the activities (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Organization of activities based on priority and past experience	53.60	VI
2	Form team for various farming operations to achieve the goal	88.67	I
3	Delegation of authority to perform a job	54.33	V
4	Division of work among family members and labours	81.67	III
5	Assignment of work for various farm operation	86.00	II
6	Optimum use of technological improvement	81.00	IV

The data presented in [Table-5] indicated that coconut plantation growers were organized in a way to make group for various farming operations to achieve the goal followed by assigning the work of various farm operation. Whereas, delegation of authority to perform a job and organization of activities based on priority and past experience at last in organizing activities.

The data presented in [Table-6] indicated that coconut plantation growers were consulted extension worker when they heard about the incidences of insect-pests, eriophyid mite in epidemic condition or disease attack on the coconut plantation (I rank) followed by integrating the work with family member and labour (II rank).

Whereas, the ability to co-ordinate with other farmers for sharing some inputs, resources and information and engagement of skill labours throughout the year to hire their services for irrigation, inter-culturing, fertilizer application, collection of nuts etc. stood last position

**Table-6** Distribution of respondents according to their ability to coordinate activities (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Engagement of skill labours throughout the year	70.00	VII
2	Co-ordinate with other farmers for sharing some inputs, resources and information	70.67	VI
3	Integration of work with family member and labour	85.33	II
4	Cooperation from extension workers and scientists	82.67	IV
5	Collective thinking to achieve common goal	78.00	V
6	Mobilization of diversified interest for effective management of coconut plantation	83.66	III
7	Consultation with extension worker when incidences of insect-pest, eriophyid mite and disease attack etc.	87.00	I

**Table-7** Distribution of respondents according to their budget (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Make provision for budget	45.13	IV
2	Planning the budget	58.50	III
3	Consultation with family members about source of credit	73.67	I
4	Involvement of family member in decision making regarding credit	70.33	II

The data presented in [Table-7] showed that coconut plantation growers had given choice in descending order as to consultation with family members about source

of credit, involvement of family member in decision making regarding credit, planning the budget and make provision for budget in coconut plantation.

**Table-8** Distribution of respondents according to their communication and human relationship (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Instructions to the labour regarding the care of coconut tree i.e. timely irrigation, digging of pits, plant protection etc.	79.00	II
2	Consultation for solution of problems	69.33	V
3	Pass on the latest information about coconut plantation to other fellow farmers	61.00	VIII
4	Personal contact to others for coconut cultivation	67.33	VII
5	Recognize and appreciate of work carried out by people	72.00	IV
6	Knowledge of the habit of the people	60.67	IX
7	During the act of listening, avoid undesirable arguments	68.33	VI
8	Co-operation with co-workers	92.00	I
9	Interest in development of workers	74.33	III
10	Consideration of a team work	68.33	VI

The data in [Table-8] showed that coconut plantation growers were known about co-operation with co-workers, which produce better results in form of desirable work hours followed by instructions to the labour regarding the care of coconut tree i.e. timely irrigation, digging of pits, plant protection as they occupied first and second rank. Further, it can be seen that coconut plantation growers were unable to pass latest information about coconut plantation to other fellow farmers and less knowledge of the habit of the people as they stood last rank i.e. eighth and ninth rank, respectively.

**Table-9** Distribution of respondents according to their ability to make rational marketing (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Collect information about various markets to sell the produce	84.00	II
2	Collect information about price of produce at various markets as well as price of previous year / season	76.33	VI
3	Select a market where competitive price for the produce and assurance of less malpractices	80.33	IV
4	Efforts for receiving high price of immature coconut	78.67	V
5	Grading of mature coconut fruits to market	74.67	VII
6	Supply of coconut fruits to the market when high price	94.00	I
7	Following timely plant protection measures for quality nut	83.67	III

The data illustrated in [Table-9] indicated that coconut plantation growers were given more emphasis on supply of coconut fruits to the market when high price occupied first position followed by collecting information about various markets to sell the produce (II rank). Whereas coconut plantation growers had given less

emphasis on collection of information about price of produce at various markets as well as price of previous year / season and grading of mature coconut fruits to market, these occupied last position as they occupied sixth and seventh rank, respectively.

**Table-10** Distribution of respondents according to their adoption of value addition in coconut (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Selling of coconut produce after grading process	87.33	I
2	Selection of tender nuts at the time of harvesting	86.00	IV
3	Control measure of eriophyid mite to avoid disappearance of nuts	84.33	V
4	Selling of coconut pulp product in different forms	55.00	VIII
5	Sell the coconut fruit production through contractual method	87.00	II
6	Sell the coconut and coconuts products as purpose for medicines	87.00	II
7	Sell the coconut leaves for making thatching houses, covering retting pits, making baskets & partition walls etc.	83.67	VI
8	Sell the coconut midribs of leaves for making broom, baskets, fish traps, petioles bunch stalks, spathes, stipules, thresh & jhaps	86.67	III
9	Sell the old coconut trees as timber for house construction	82.33	VII

From the [Table-10], it can be said that coconut plantation growers were given first rank to sell the coconut produce after grading process, and second rank to sell the coconut and coconuts products as purpose for medicines and sell the coconut fruit production through contractual method. Further, the coconut plantation growers

were less interest in sell the wet meat / kernel of coconut product in different forms like Chutneys, Curries, Toffee, Sweet and other culinary purpose, etc. as it occupied last rank by the respondents.

**Table-11** Distribution of respondents according to their ability to controlling the activities (n = 150)

Sr. No	Sub indicator	Mean score	Rank
1	Selection of labour as per type of work	51.17	IV
2	Maintain various records pertaining to coconut plantation operations	68.00	II
3	Payment wages to labour	63.67	III
4	Hire implement for agricultural operation	37.00	V
5	Supervise the working of people	97.33	I

It can be seen from the data presented in [Table-11] that the coconut plantation growers were supervising the working of people while different agricultural operation seriously as it got first rank. Also they were aware the importance of maintain the necessary record of coconut plantation operation ranked second. Further, data also indicated that they were hiring the implements for agricultural operation at limited level as it got last rank.

### Conclusion

From above discussion, it could be concluded that more than half of coconut growers (51.33 per cent) had medium level of overall managerial efficiency, while almost same number of respondents (24.67 per cent and 24.00 per cent) was fall under low and high managerial efficiency, respectively. The coconut plantation growers had highest knowledge in intercropping in coconut plantation and quality of coconut products, given first choice to planning about the inputs and implementing the decision got first rank. The coconut plantation growers gave importance to team work to achieve the goal, consulted extension worker when they heard about the incidences of insect-pests, eriophyid mite in epidemic condition or disease attack on the coconut plantation in coordinate activities. Coconut plantation growers had obtained first ranking consultation with family members about source of credit in budgeting; well aware about co-operation with co-workers was the important factor to make rational marketing. The supply of coconut fruits to the market when high price of produce and collect information about various markets to sell the produce were the important factors to make rational marketing. The coconut plantation growers had ability to sell the coconut produce after grading process, which increase value addition, supervising the working of people while different agricultural operation seriously as it got first rank.

**Conflict of Interest: None declared**

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