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Research Article

Factors Responsible for Replanting of Coconut as Perceived by the Cyclone Affected Coconut Growers

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ABSTRACT

Thanjavur district is the third largest coconut producing district in the TamilNadu with 37,346 Ha of land under coconut cultivation. As a perennial crop, coconut has been giving a steady income to farmers over the years. The Gaja cyclone which hit the east coast of Tamil Nadu on 16th of November 2018 has caused a severe damage to the coconut plantations, affecting the livelihood of several thousands of coconut growers. The study conducted in 2019 among the sample of 120 cyclone-hit coconut farmers revealed that almost all of the respondents preferred to replant coconut despite huge loss. Hence, data regarding the factors perceived by the farmers for retaining in coconut cultivation were collected and the perceived factors were ranked using Garrett ranking technique, which showed that Possibility of management of coconut farms with permanent labour was the foremost perceived factor followed by higher returns, less number of irrigation requirement, less labour requirement, and Area specificity. The Kendall correlation coefficient which was calculated between the rankings of two different groups of respondents categorized for the selected socio-personal variables showed that Experience in coconut cultivation, Farm size and Number of earning members in the household are the variables on which the perception of factors by the farmers greatly differ.

Keywords: *Coconut cultivation, Factors influencing coconut cultivation.*

INTRODUCTION

Coconut is being cultivated in 37,346 Ha in Thanjavur district, which stands to be the third largest coconut producing district in the state, and the largest among the coastal districts. The Gaja cyclone which hit the east coast of Tamil Nadu on 16th of November 2018 has caused a rampage to the coconut plantations in the district, affecting the livelihood of several thousands of coconut growers. As a perennial crop, coconut requires five to six years to generate steady income.

A survey was conducted to study the livelihood changes of the coconut farmers aftermath the Gaja cyclone during 2019 which revealed that almost all the farmers preferred to continue with coconut plantation despite the heavy loss due to the cyclone. Hence, the factors perceived by the farmers for re-engaging in coconut cultivation are studied.

MATERIALS AND METHODS

The data for this study were collected from Pattukottai and Peravurani blocks of Thanjavur district. The blocks were purposively selected owing to the large area under coconut cultivation and consequently higher damage to coconut by Gaja cyclone. A list of 12 items relevant to the factors perceived by the farmers for re-engaging in coconut cultivation is drafted and the respondents (N=120) were asked to rank desired number of items in order of their priority. Garrett ranking was carried out to derive the final rank of the items. To find out the influence of socio-personal characteristics of the respondents on their perception of factors, the respondents were categorized into two different groups on the selected variables such as education status, number of earning members in the household, annual income of the household, farm size and experience in coconut cultivation by using mean score and the ranking of the items was derived for both the groups.

To find out whether there is significant difference among the two groups in ranking the perceived factors, Kendall rank correlation was employed. Among the calculated 'τ' value between two sets of rankings, those variables with high 'τ' value indicates high association of ranking between the two groups and not much difference between the groups in their ranking. When the 'τ' value between the rankings of the two groups is low, it indicates that the two groups notably differ in the rankings. Here, the null hypothesis is assumed such that the two groups differ significantly in their ranking of the perceived factors. If the correlation coefficient is significant, we reject the null hypothesis and if the correlation coefficient is non-significant, we accept the null hypothesis that shows there is marked difference in the perception of factors between the two groups.

FINDINGS AND DISCUSSION

Table: Ranking of factors responsible for replanting of coconut as perceived by the farmers

S. No.	Item	Rank N=120	education status		no. of earning members		income		farm size		experience	
			1 upto secon-dary school n=77	2 above secon-dary school n=43	1 (1) n= 74	2 (>1) n= 46	1 ≤ 6 Lakh n= 65	2 > 6 Lakh n= 55	1 ≤ 5 ac n= 74	2 >5 ac n= 46	1 ≤ 20 yrs n= 56	2 > 20 yrs n= 64
1	Possibility of Management through permanent labour (11)	1	1	1	1	1	1	1	2	1	1	2
2	High returns than other crops (72)	2	3	2	3	3	2	4	1	5	3	3
3	Less no. of irrigation requirement (33)	3	4	5	2	7	4	3	3	4	2	7
4	Less Labour requirement (67)	4	5	4	5	5	8	2	8	2	5	6
5	Area specificity (25)	5	2	10	8	2	3	7	7	3	11	1
6	Easy to manage (67)	6	7	3	4	6	5	5	4	7	6	4
7	Less cost of cultivation (45)	7	6	8	9	4	6	6	6	10	4	9
8	Unsuitability of land to other crops /suitability of only land to coconut (46)	8	8	6	6	10	7	9	5	9	8	5
9	Expertise in coconut cultivation (32)	9	9	7	10	9	10	8	10	6	10	8
10	Assured regular income for lifetime (43)	10	10	9	11	8	9	11	9	11	9	10
11	Investment for next generation (14)	11	11	11	7	12	12	10	12	8	7	11
12	Assured market for coconut (40)	12	12	12	12	11	11	12	11	12	12	12
	Correlation coefficient	-	$\tau = .576^{**}$		$\tau = .364$		$\tau = .576^{**}$		$\tau = .364$		$\tau = .273$	

* Indicates significance at 1% level of significance

** indicates significance at 5% level of significance

From the table it could be ascertained that irrespective of the socio personal characteristics, management of coconut plantation with the permanent labour available with them was ranked as the foremost factor, followed by High returns from coconut and Less number of irrigations required as the second and third important factors. Though only few farmers have ranked the possibility of managing the coconut farm through their permanent labour, it assumed the first rank in Garrett ranking since all of them have ranked it as the first factor. The existence of adequate number of private traders for coconut and the competitions among them would have resulted in better price for the coconut. This might be the reason for High returns from coconut being ranked as the second important factor. Being a part of Cauvery delta zone, the coconut groves are well connected with the canals which irrigate the groves for nearly 6-8 months from June to January. Hence the farmers need to irrigate the palms with their own water source only for 4-5 months, they might have quoted it to be the third important factor. The other important perceived factors in the order of ranking are Less labour requirement, Popularity of this region for coconut due to prevalence of larger cultivable area and Easy management of established crop.

Further, the respondents were categorized into 2 different groups pertaining to the selected socio-economic characteristics and the differences in the ranking between the two groups were found out. Kendall rank correlation was carried out to identify the influence of such characteristics on their perception of factors.

It was observed that Experience, farm size and number of earning members in the household are the three important characteristics in which the farmers differ in their ranking as the correlation coefficient was non-significant.

Respondents belonging to higher experience group have ranked Area specificity, more profit from coconut and ease of maintenance of coconut plantation to be the important factors, whereas the respondents possessing low experience in coconut cultivation perceive less water requirement by coconut, less cost of cultivation and labour unavailability to be the more important factors. Further they have not ranked unsuitability of land to other crops as an important factor. The differences in the preference of factors can be explained by the fact that the farmers with low experience in coconut might have diversified to coconut recently after facing problems of water shortage, labour unavailability and high cost of cultivation in other seasonal crops and annual crops. Highly experienced coconut farmers have found the advantages for coconut over the other crops for quite longer period, they might have perceived area specificity as the most important factor for retaining in coconut cultivation.

Marked differences in ranking were noticed between the two groups on number of earning members in the household. While single member earning family ranked less number of irrigation requirement to be higher than their counterpart, in the same vein the family possessing more than one earning member have assigned higher ranks to Area specificity and less cost of cultivation.

There are significant differences in ranking observed among the perceived factors like High return from coconut, less labour requirement, Area specificity, Easy to manage and less cost of cultivation between the two categories under farm size. Farmers with small land holding tend to seek employment elsewhere compared to bigger land holding farmers. Hence, out of their experience, they would have found that coconut gives better income than other enterprise and ease of management of coconut farm than other crops whereas most of the big farmers would have experienced less labour requirement in coconut and its relative advantages over other crops in their region. This might have made them assign higher rank to those factors.

CONCLUSION

From the above findings, it is seen that Experience, Farm size and Number of earning

members in the household of the respondents are the socio-personal characteristics of the farmers on which the perception of the factors responsible for continuing coconut cultivation vary greatly. Irrespective of the categories, Possibility of management of the coconut farms with permanent labour, High returns, Less number of irrigation requirement, Less labour requirement and Area specificity are the major factors perceived by the farmers for continuing coconut cultivation despite the damage to the coconut farms due to the cyclone.

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