Research Article

Adoption of coconut production technology in Junagadh district of Gujarat

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SUMMARY : Coconut is one of the important plantation crops of Gujarat state particularly in coastal area. Considering the area and production of coconut in Gujarat, Junagadh district ranks first. Therefore, study has been conducted to know the adoption level of coconut growers. The result revealed that majority of the coconut growers (66.67 %) had medium level of overall adoption regarding recommended practices of coconut. Findings of relational analysis revealed that, in respect to adoption, it was found that education, experience in coconut cultivation, land holding, area under coconut, annual income, yield index, extension participation, mass media exposure, risk orientation, scientific orientation, market orientation and innovativeness had positive and significant correlation with adoption level of coconut growers regarding recommended production technology of coconut crop. In case constraint it was found that majority (94.44 %) of the respondents reported that the unavailability of healthy seedlings was a major problem while 89.81 per cent of respondents reported that non-availability of labours. Followed by 84.26 and 83.33 per cent of respondent had high cost of input and lack of market facilities, respectively.

BACKGROUND AND OBJECTIVES

The coconut palm (*Cocos nucifera* Linn.) is supposed to be one of the five legendary Devavrikshas and is eulogised as Kalpavriksha - the all giving tree - in Indian classics. All parts of the palm are used in some way or another in the daily life of the people of the west coast; the traditional coconut growing area. Its fruit is called Lakshmi Phai and is used in social and religious functions in India irrespective of whether palm is locally grown or not.

Coconut is grown in about 90 countries worldwide, with a total production of 57.514 billion nuts per annum or 10.52 million tons of copra. India occupies the premier position in the world with an annual production of 16.9 billion nuts, overtaking Indonesia and Philippines, the other two prominent coconut growing countries (Anonymous, 2008).

Coconut is one of the important plantation crops of Gujarat state particularly in coastal area. The coconut plant having high economic potential for coconut growers. Total production of coconut in India is 101.48 million nuts and productivity is 5231 nuts per hectare (Anonymous, 2009), whereas, in Gujarat, coconut grown in 16674 hectare with production 172466 M.T.

Gujarat is one of the major maritime states of India, possessing the largest coastline about 1,600 km. and widest continental shelf area. It is most suitable for the cultivation of coconut crop. Among all the fruit crops, coconut is the most thrived age old major cash crop of Junagadh district. Considering the area and production of coconut in Gujarat, Junagadh is first. In Junagadh district, the area under the coconut is 7076 hectare producing 77836 M.T. of coconut every year.

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RESOURCES AND METHODS

Locale of study:

The study was conducted in two talukas of Junagadh district namely Mangrol and Veraval having large area under coconut cultivation. The "ex post facto" research design was used for present study. Villages were selected on the basis of maximum area under coconut cultivation. Three villages from each talukas were selected randomly. Amongst Mangrol tahsil Rahij, Shil, Sangavada and in Veraval tahsil Umba, Inaj and Ukadiya villages were selected. 18 respondents were selected from each village by random sampling method, making a sample size 108 in total.

OBSERVATIONS AND ANALYSIS

The results of the present study as well as relevant discussions have been presented under following sub heads:

Adoption of coconut production technologies:

The data presented in Table 1 reveal the adoption level of coconut growers about coconut production technology. Majority of the coconut growers (66.67 %) had medium level of overall adoption regarding recommended practices of coconut, followed by 21.30 per cent and 12.03 per cent of the coconut growers had high and low level of overall adoption, respectively.

Thus, it can be concluded that 87.97 per cent of coconut growers had medium to high level of adoption regarding recommended practices of coconut. The similar results were also reported by Balasubramani (1997), Babanna (2002).

Correlation analysis:

The correlation between personal, socio-economical, communication, psychological characteristics and adoption of improved cultivation practices of coconut have been presented in Table 2.

It is observed from Table 2 that education (0.2213),

experience in coconut cultivation (0.2478), land holding (0.2088), area under coconut (0.3814), annual income (0.2709), yield index (0.2732), extension participation (0.2022), mass media exposure (0.2715), risk orientation (0.2661), scientific orientation (0.2998), market orientation (0.2275) and innovativeness (0.2541) were positively and

Table 1 : Distribution of coconut growers according to their overall adoption of recommended package of practices of coconut crop (n=108)

Sr. No.	Level of adoption	Number	Per cent
1.	Low adoption (below 54.80 score)	13	12.03
2.	Medium adoption (between 54.81 to 71.04 score)	72	66.67
3.	High adoption (above 71.04 score)	23	21.30
	Total	108	100.00

Mean= 62.92   S.D. = 8.12

Table 2 : Correlation co-efficient of characteristics of the respondent with their adoption of coconut production technologies (n = 108)

Sr. No.	Independent variables	Correlation co-efficient ('r' value)
1.	Age	0.1756 (NS)
2.	Education	0.2213**
3.	Family size	0.0257 (NS)
4.	Experience in coconut cultivation	0.2478**
5.	Land holding	0.2088**
6.	Area under coconut	0.3814**
7.	Annual income	0.2709**
8.	Yield index	0.2732**
9.	Social participation	0.1109(NS)
10.	Extension participation	0.2022**
11.	Mass media exposure	0.2715**
12.	Risk orientation	0.2661**
13.	Scientific orientation	0.2998**
14.	Market orientation	0.2275**
15.	Innovativeness	0.2541**

NS = Non- significant ** indicate significance of value at P=0.01

Table 3: Constraints faced by coconut growers in adoption of recommended production technology of coconut (n = 108)

Sr. No.	Constraints	Number	Per cent	Rank
1.	Unavailability of healthy seedlings	102	94.44	I
2.	High cost of inputs	91	84.26	III
3.	High cost of transportation	78	72.22	VII
4.	Non-availability of labours	97	89.81	II
5.	High rates of labours	86	79.63	V
6.	Lack of timely technical guidance	73	67.59	VIII
7.	Lack of proper market facility	90	83.33	IV
8.	Lack of knowledge about recommended dose of fertilizers	47	43.52	IX
9.	Fluctuations in market rate	43	39.81	X
10.	Lack of knowledge about control measures of pests and diseases	82	75.93	VI

significantly correlated with the adoption level of the respondent. The relationship was significant at 0.01 level of probability. The variables *viz.,* age (0.1756), family size (0.0257) and social participation (0.1109) were found to be non-significant relationship with adoption level of respondents.

Constraints faced by coconut growers:

It is observed from Table 3 that majority 94.44 per cent of the respondents that they have unavailability of healthy coconut seedling. While 89.81 per cent of respondents reported that non-availability of labours, followed by 84.26 and 83.33 per cent of respondent had high cost of input and lack of market facilities, respectively.

The majority of respondents (79.63 %) faced high wages of labour, followed by 75.93 and 72.22 lack of knowledge about control measure of pests and diseases and high cost of transportation, respectively.

The other constraints were lack of timely technical guidance (67.59%), lack of knowledge about recommended dose of fertilizers (43.52%), fluctuations in market rate (39.81%).

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