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RESEARCH PAPER

Relationship between personal and socio-economic characteristics of the cashewnut growers and their adoption level

S. S. Raykar*, Y. S. Ekhande, S.C. Holkar **and** V. A. Palkar[1]
Department of Extension Education, College of Agriculture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Ratnagiri (M.S.) India
(Email: shashankagri2715@gmail.com)

Abstract : India is the largest producer of raw cashew in the world which ranks first in area under cashew (8, 55, 000 ha) with an annual production of 6.20 lakh MT. Nigeria ranks second in area under the cashewnut cultivation, but ranks first in cashewnut production with annual production of 6.36 lakh MT. In the year 2007-2008, India had exported 1,34,340 metrics tonnes of raw cashew valued Rs.11.97crore. The cashew production in Maharashtra is mainly concentrated in Konkan region particularly in Ratnagiri district. In Maharashtra, the area under cashew was 1.65lakh ha. In Ratnagiri, area under cashew was 88,612ha with production of 85,822 tonnes of cashewnuts. The exploratory survey research design was used for the present study. The study was conducted in Ratnagiri district of the Konkan region of Maharashtra state. Three tahsils namely, Khed and Dapoli were selected purposively on the basis of the maximum area under cashewnut cultivation. The main objective of this study is to study the relationship between personal and socio-economic characteristics of the cashewnut growers and their adoption level. It was observed during the study that, The relationship between selected characteristics of the cashew growers and adoption of recommended critical crop management practices for the cashew crop revealed that the characteristics namely age, family size, and number of bearing cashewnut trees were non-significantly related with the adoption level of critical crop management practices for the cashew crop. On the other hand, education, land holding, annual income, age of orchard, production from cashewnut tree, experience in cashew cultivation and market orientation were significantly related with adoption level. The present study was used as a multistage sampling procedure. Collected data were classified, tabulated and analyzed by using statistical methods like frequency, percentage, mean, standard deviation and Chi-square.

Key Words : Relationship, Socio-economic, Cashewnut growers, Adoption level

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INTRODUCTION

The cashew (*Anacardium occidentale*) is an important cash and dollar earning crop grown in Brazil, India, Kenya and other tropical countries. It was introduced in western coast of India by Portuguese in

*** Author for correspondence :**
[1]College of Agriculture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Ratnagiri (M.S.) India

16th century, mainly to check soil erosion.

Cashew is a perennial crop requiring about five years to bearing from the year of plantation. The commercial bearing starts from seven year onward and continues upto forty years. It is also important from the view point of its nutritive value, valuable foreign exchange and considerable employment generation potential. The cashew is also becoming an important crop due to its utility for soil and water conservation and to build up balanced ecosystem. Cashew kernel is used for human consumption. It is also used in confectionary industry, having high nutritive value. Besides, cashew apple yields juice which is rich in sugar and ascorbic acid, as well as protein and minerals. The cashew apple can be used for preparation of ready to serve (RTS) juice, squash, syrup, jam, candy and wine. The cashewnut shell liquid (CNSL) which is extracted from the shell during processing is widely used in preparation of water proofing agents, insulating varnishes, industrial flouring tiles, automobile brake linings, adhesive ingredients, ink, oil cloth paints, varnishes, water proofing agents and cardboard finishing reagents. Cashew wood also provides gum like gum Arebica, shipping crate, charcoal etc.

India is the largest producer of raw cashew in the world which ranks first in area under cashew (8, 55, 000 ha) with an annual production of 6.20 lakh MT. Nigeria ranks second in area under the cashewnut cultivation, but ranks first in cashewnut production with annual production of 6.36 lakh MT. In the year 2007-2008, India had exported 1,34,340 metrics tonnes of raw cashew valued Rs.11.97crore. The cashew production in Maharashtra is mainly concentrated in Konkan region particularly in Ratnagiri district. In Maharashtra, the area under cashew was 1.65 lakh ha. In Ratnagiri, area under cashew was 88,612 ha with production of 85,822 tonnes of cashewnuts.

Keeping above fact in view, the present study was designed to analyze the critical crop management practices followed by cashewnut growers in Ratnagiri district with the following specific objective.

– To study the relationship between personal and socio-economic characteristics of the cashewnut growers and their adoption level.

Material and Methods

The exploratory survey research design was used for the present study. The study was conducted in Ratnagiri district of the Konkan region of Maharashtra state. Three tahsils namely, Khed and Dapoli were selected purposively on the basis of the maximum area under cashewnut cultivation. from each tahsil, five villages were selected on the basis of maximum area under cashew cultivation. 10 cashew growers were selected from each selected village. Thus, the total sample size was 100. The present study was used as a multistage sampling procedure. Collected data were classified, tabulated and analyzed by using statistical methods like frequency, percentage, mean, standard deviation and Chi-square.

Results and Discussion

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Relationship between personal and socio-economic characteristics of the cashewnut growers and their adoption level :

The association between the personal and socio-economic characteristics of the cashew growers and their level of adoption of recommended critical crop management practices.

Age and adoption level:

The data regarding the age of the cashew growers and adoption level are shown in Table 1.

It could be observed from Table 1 that the association between age and adoption level was 'non-significant'. It means that adoption level about critical

Table 1: Association between age of the respondents and adoption level about critical crop management practices

Age	Adoption level			Total
	Low	Medium	High	
Young	2.52 (7.14)	9.52 (71.43)	1.96 (21.43)	14 (100.00)
Middle	5.04 (3.57)	19.04 (78.57)	3.92 (17.86)	28 (100.00)
Old	10.44 (27.59)	39.44 (62.06)	8.12 (10.35)	58 (100.00)
Total	18	68	14	100

$X^2 = 9.3036$ Non-significant d.f. = 4 (Figures in parentheses indicate percentages)

crop management practices was not depending on the age of cashew growers.

Education and adoption level :

The data regarding the education of the cashew growers and adoption level are presented in Table 2.

It was noticed from Table 2 that the association between education of the cashew growers and their adoption level was 'significant'. Thus, education was related with the adoption level of the cashew growers about critical crop management practices for cashew crop. The educated person is more aware about new technologies as compared to less educated person. The person can also make better use of the other sources of information. So, the adoption level of educated cashew growers might be better than less educated cashew growers.

Family size and adoption level :

The findings regarding the family size of cashew growers and adoption level are presented in Table 3.

It could be concluded that family size and adoption level were non-significantly related with each other. Thus, the adoption level of cashew growers about critical crop management practices for the cashew crop did not seem to be depends upon the family size.

Land holding and adoption level :

The data regarding the land holding of the cashew growers and adoption level are given in Table 4.

It is observed that there was a 'significant' association between land holding and adoption level of the cashew growers. It might be due to the fact that the cashew growers having bigger size of land holding have better resources and can use those for adoption of critical crop management practices for the cashew crop. This indicated that the land holding plays a significant role in deciding the adoption level of the cashew growers.

Annual income and adoption level :

The data regarding annual income of the cashew growers and adoption level is presented in Table 5.

Table 2: Association between education of the respondents and adoption level

Education	Adoption level			Total
	Low	Medium	High	
Pre-primary	2 (16.67)	9 (75.00)	1 (8.33)	12 (100.00)
Primary	9 (20.45)	33 (75.00)	2 (4.56)	44 (100.00)
Secondary	7 (21.21)	21 (63.64)	5 (15.15)	33 (100.00)
High-secondary	-----	5 (45.45)	6 (54.55)	11 (100.00)
Total	18	68	14	100

X^2 = 19.6789 Significant at 1 % level d. f. = 4 (Figures in parentheses indicate percentages)

Table 3: Association between family size of the respondents and adoption level

Family size	Adoption level			Total
	Low	Medium	High	
Small	2 (7.14)	21 (75.00)	5 (17.86)	28 (100.00)
Medium	16 (22.54)	46 (64.79)	9 (12.67)	71 (100.00)
Big	-----	1 (100.00)	-----	1 (100.00)
Total	18	68	14	100

X^2 = 3.8114 Non-significant d.f. = 4 (Figures in parentheses indicate percentages)

Table 4: Association between land holding of the respondents and adoption level

Land holding	Adoption level			Total
	Low	Medium	High	
Marginal	10 (38.46)	16 (61.54)	-----	26 (100.00)
Small	8 (13.11)	46 (75.41)	7 (11.48)	61 (100.00)
Semi-medium	-----	6 (46.15)	7 (53.85)	13 (100.00)
Total	18	68	14	100

X^2 = 29.4216 Significant at 1 % level d.f. = 4 (Figures in parentheses indicate percentages)

It was noticed that the annual income and adoption level of the cashew growers had 'significant' association. These findings suggest that higher income helped the cashew growers to purchase the inputs and other materials, which tended to increase their adoption level. Thus, annual income played a vital role in deciding the adoption level of the cashew growers.

Area under cashew cultivation and adoption level :

The information regarding area under cashew cultivation and adoption level of cashew growers is presented in Table 6.

It was observed that area under cashew cultivation and adoption level were 'significantly' related with each other. It means, as the area under cashew cultivation increased, the adoption of critical crop management practices also increased.

Age of orchard and adoption level :

The observations regarding the age of orchard and adoption level were presented in Table 7.

It was observed that age of orchard and adoption level were 'significantly' related with each other. In other words as age of the orchard increased, the adoption level of the cashew growers also increased remarkably.

Table 5: Association between annual income of the respondents and adoption level

Annual income	Adoption level			Total
	Low	Medium	High	
Low	4 (50.00)	4 (50.00)	-----	8 (100.00)
Medium	14 (16.47)	62 (72.94)	9 (10.59)	85 (100.00)
High	-----	2 (28.57)	5 (71.43)	7 (100.00)
Total	18	68	14	100
$X^2 = 26.5252$	Significant at 1 % level	d.f. = 4	(Figures in parentheses indicate percentages)	

Table 6: Association between area under cashew cultivation of the respondents and adoption level

Area under cashew cultivation	Adoption level			Total
	Low	Medium	High	
Small	4 (44.44)	5 (55.56)	-----	9 (100.00)
Medium	13 (20.63)	48 (76.20)	2 (3.17)	63 (100.00)
Large	1 (3.57)	15 (53.57)	12 (42.86)	28 (100.00)
Total	18	68	14	100
$X^2 = 31.8498$	Significant at 1% level	d.f. = 4	(Figures in parentheses indicate percentages)	

Table 7: Association between age of orchard of the respondents and adoption level

Age of orchard	Adoption level			Total
	Low	Medium	High	
Young	-----	9 (64.29)	5 (35.71)	14 (100.00)
Middle	7 (11.48)	45 (73.77)	9 (14.75)	61 (100.00)
Old	11 (44.00)	14 (56.00)	----	25 (100.00)
Total	18	68	14	100
$X^2 = 22.44$	Significant at 1% level	d.f. = 4	(Figures in parentheses indicate percentages)	

Table 8: Association between production from cashewnut of the respondents and adoption level

Production from cashewnut	Adoption level			Total
	Low	Medium	High	
Low	4 (22.22)	6 (33.33)	8 (44.45)	18 (100.00)
Medium	14 (23.33)	42 (70.00)	4 (6.67)	60 (100.00)
High	-----	20 (90.90)	2 (9.10)	22 (100.00)
Total	18	68	14	100
$X^2 = 24.60$	Significant at 1 % level	d.f. = 4	(Figures in parentheses indicate percentages)	

Production from cashew nut and adoption level :

The data regarding production from cashew and adoption level are presented in Table 8.

It was revealed that production from cashewnut was significantly related with adoption level. It means, as the production from cashewnut increased, the adoption of recommended critical crop management practices also increased, substantially.

Number of bearing cashewnut trees and adoption level :

The data regarding number of bearing cashew trees and adoption level is presented in Table 9.

It was indicated that number of bearing cashewnut trees and adoption level was 'non-significantly' related with each other. Thus, it can be said that the number of bearing cashewnut trees owned by the farmers did not have any influence on the level of adoption of recommended critical crop management practices for cashew. The farmers having smaller or higher number of bearing trees were having almost same level of adoption.

Experience in cashew cultivation and adoption level:

The data regarding experience in cashew cultivation and adoption level is presented in Table 10.

It is observed that experience in cashew cultivation and adoption level of the respondents had 'significant' relationship with each other. It means, as experience in cashew cultivation increased, the adoption level of the cashew growers also increased notably. Higher the experience might have helped the cashew growers to overcome the constraints in adoption of critical crop management practices of cashew.

Market orientation and adoption level :

The data regarding market orientation and adoption level are presented in Table 11.

It was observed that market orientation and adoption behaviour were 'significantly' related with each other. Thus, the market orientation played an important role in deciding the adoption level of the cashew growers about recommended critical crop management practices. It means that with the increase in market orientation, the cashew growers had better adoption of critical crop

Table 9: Association between numbers of bearing cashewnut trees owned by the respondents and adoption level

Number of bearing cashewnut trees	Adoption level			Total
	Low	Medium	High	
Small	3 (27.27)	5 (45.45)	3 (27.28)	11 (100.00)
Medium	14 (17.72)	54 (68.35)	11 (13.93)	79 (100.00)
Large	1 (10.00)	9 (90.00)	-----	10 (100.00)
Total	18	68	14	100

$X^2 = 5.2043$ Non-significant d.f. = 4 (Figures in parentheses indicate percentages)

Table 10: Association between experience in cashew cultivation of the respondents and the adoption level

Experience in cashew cultivation	Adoption level			Total
	Low	Medium	High	
Low	5 (27.78)	12 (66.67)	1 (5.55)	18 (100.00)
Medium	13 (21.67)	42 (70.00)	5 (8.33)	60 (100.00)
High	-----	14 (63.63)	8 (36.37)	22 (100.00)
Total	18	68	14	100

$X^2 = 15.6180$ Significant at 1 % level d.f. = 4 (Figures in parentheses indicate percentages)

Table 11: Association between market orientation of the respondents and the adoption level

Market orientation	Adoption level			Total
	Low	Medium	High	
Low	5 (35.71)	8 (57.14)	1 (7.15)	14 (100.00)
Medium	12 (17.14)	54 (77.14)	4 (5.72)	70 (100.00)
High	1 (6.25)	6 (37.50)	9 (56.25)	16 (100.00)
Total	18	68	14	100

$X^2 = 31.2920$ Significant at 1 % level d.f. = 4 (Figures in parentheses indicate percentage)

management practices and *vice-a-versa.*

Conclusion:

It was established by the study that education and market orientation of the cashew growers had significant influence on adoption level in respect of recommended critical crop management practices for cashew. So, efforts should be made to increase the functional and resource literacy of the cashew growers by way of providing them the opportunities of participating in social activities and encouraging them to do so. Similarly, exposing them to maximum number of extension education activities, particularly to educational programmes could increase their adoption level. So also, few other variables namely land holding, area under cashew cultivation, annual income, experience in cashew cultivation and production from cashew tree exhibited significant impact on the adoption of critical crop management practices for cashew crop. The extension workers may manipulate these characteristics suitably to increase the adoption of recommended critical crop management practices for the cashew crop.

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