

Study on Adoption Behaviour of Tribal Cashew Growers of Bastar District in Bastar Plateau of Chhattisgarh State

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ABSTRACT

Cashew (*Anacardium occidentale* L.) is a native of Eastern Brazil and its' cultivation was introduced in India just as a commercial crops by the Portuguese in 16th century and its plantation was started in Bastar Plateau in 1960s including Bastar, Dantewada, Kanker, Raigarh, Sarguja and Jashpur districts. Now, Cashew became one of the important plantation crops with its significant contribution to the country's foreign exchange through export of processed cashew kernels and Cashew Nut Shell Liquid (CNSL). The study was confined purposively in Bastar Plateau of Chhattisgarh in 2016 with the objective to analyse the adoption behavior of tribal cashew growers likely to explore the factors influencing their decision to adopt recommended cashew cultivation practices for which a random proportionate sampling method applied to make study sample size of 150 respondents. Data were recorded with the help of well-structured questionnaire through personal interview. The data were analyzed, tabulated & computed with the use of suitable statistical tools. The study revealed that the majority of the tribal cashew growers (67.33%) in the study area exhibited high level of adoption of practices of cashew cultivation taught in various training programmes conducted in the study areas while about one fifth of population of tribal cashew growers (23.33%) were with low adoption level and about one tenth population of the tribal cashew growers (9.33%) with medium level of adoption of practices of cashew cultivation. The reasons might be for non-adoption or less adoption of the practices viz. Irrigation time & fertigation, Pesticide application, Weedicide application, Mulching and Hormones application by the majority of respondents was high cost factor, more skill requirement and extended time duration and poor availability of resources.

Key Words: Tribal Cashew Growers, Adoption, Cashew Cultivation, Bastar Plateau

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INTRODUCTION

Cashew (*Anacardium occidentale* L.) is a native of Eastern Brazil and belongs to the Anacardiaceae family. Its' cultivation was introduced in India just as other commercial crops like Rubber, Coffee, Tea etc. by the Portuguese in 16th century. In India, Cashew was initially introduced in Goa and further expanded to other states. Now, Cashew became one of the important plantation crops with its significant contribution to the country's foreign exchange through export of processed cashew kernels and Cashew Nut Shell Liquid (CNSL). According to Indian Trade Portal, India is among the largest Cashew producing countries in the world. The Cashew ranks the 2nd position among the Agri-Horticultural Commodities (AHCs) getting exported from India. The adoption of improved technologies like grafts had enhanced productivity and profitability of cashew and investments in processing and Cashew nut Shell Liquid has also been financially viable in some of the cashew emergent States, viz., Kerala,

Orissa and Tamil Nadu examined during the issues related to production, processing and marketing of cashew [1].

In Chhattisgarh, Cashew plantation was started in Bastar around the 1960s. Now, it is being cultivated in Bastar, Dantewada. Kanker, Raigarh, Sarguja and Jashpur district occupying an area of 8000 ha with a production of 3.0 thousand metric tons and productivity of 460 kg/ha (raw nut). In concern to quality planting material production approximately 70,000 cashew grafts were sold to the farmers of the region as well as other parts of the state. Plantation of recommended cashew cultivar (V-4) and other cultivars were completed in more than 325 ha in Blocks-Bakawand, Jagdalpur, Tokapal and Bastanar under different schemes of the Directorate of Cashew & Cocoa Development, Kochi, Kerala, DPAP-Hariyali and Mahatma Gandhi National Rural Employment Guaranty Act (MGNREGA). A two-days cashew workshop (sponsored by NHM), three cashew days, four campaign workshops at farmer's level for cashew stem and root borer management and seven farmers' training were organized for successful plantation by adopting effective transfer of production and protection technologies under technical guidance of the Directorate of Cashew Research, Puttur, Karnataka with financial assistance from the Directorate of Cashew & Cocoa Development, Kochi, Kerala and NHM [2-4].

The adoption behavior of cashew growers would likely explore factors influencing farmers' decision to adopt recommended cashew cultivation practices. This might include examining the extent of knowledge and awareness of these practices, the level of adoption, and the reasons for non-adoption. The research could also investigate the socio-economic characteristics of cashew growers and how these influence their adoption decisions in adoption. It is, therefore, the present study is confined to reveal the adoption behaviour of tribal cashew growers with regards to the cashew production in Bastar District keeping in view the above facts.

MATERIAL AND METHODS

The present investigation was carried out in the year 2016. To conduct the present investigation, the Bastar district of Chhattisgarh, was purposively selected as the study area on the basis of leading cashew growing area in the state. The district comprises with 7 blocks, two blocks namely Bakawand and Bastar were selected purposively based on the criteria of more area and production under the cashew cultivation in the district. Further, 5 villages from each selected block were selected randomly by applying the proportionate sampling method. Thus, total 10 villages were selected to confine the area for the present study. After that, the 15 tribal cashew growers from each selected village were selected randomly by applying the proportionate sampling method to make the study sample size of 150 respondents. The adoption behaviour attributes *viz.* Preparation of Field, Pit forming, Improved Varieties, Planting material, Treatment of seedling with bio-fertilizer, Planting space, Inter-cultural operation, Irrigation time intervals, Fertilizer application & fertigation, Pesticide application, Fungicide Application, Weedicide application, Hormones Application, Mulching, Pruning, Inter cropping, Time & stage of harvesting, Processing technique application, Post-harvest management applications, Transportation etc. of tribal cashew growers were included for the present study. A well- structured pre-tested questionnaire was used to collect the data and multiple response of the respondents were recorded through personal interview method. Collected data were compiled, tabulated, analysed with the help of suitable statistical tools and the results were interpreted accordingly.

RESULTS AND DISCUSSION

The extent of adoption is the degree to which a farmer accepts and adopts a new technology. Extent of adoption of different cultural practices of cashew cultivation was taught in training programmes, though various technologies were introduced and taught to the farmers, it is important that those technologies were fully accepted and adopted by the farmers in their field characterized by continuous adoption of those technologies [5-7]. The extent of adoption of different cultural practices of cashew cultivation is taught under different schemes of the Directorate of Cashew & Cocoa Development, Kochi, Kerala, DPAP-Hariyali and Mahatma Gandhi National Rural Employment Guaranty Act (MGNREGA) were studied through a teacher made test and the compiled results are tabulated in Table 1.

Table 1: Distribution of the respondents according to their extent of adoption levels.

(N=150)

Sl. No.	Category of Adoption	Frequency	Percentage
1.	High level of adoption	101	67.33
2.	Medium level of adoption	14	9.33
3.	Low level of adoption	35	23.33
Total		150	100.00

It is apparent from the Table 1 that the majority of the respondents (67.33%) having high level of adoption of practices of cashew cultivation taught in the different training programmes, followed by 23.33 per cent of the respondents were having low level of adoption while only 9.33 per cent respondents having medium level of adoption of practices of cashew cultivation. Hence, it can be inferred from the results that the trainings influenced the respondents to develop the positive and significant attitude towards innovativeness, scientific orientation and risk orientation [8].

Practice wise Adoption Level

It could be observed from the Table 2 that the most of practices and technologies of cashew cultivation namely Pit forming, Selection of improved varieties, Planting material, Inter-cultural operations, Irrigation Time & intervals, Fertilizer application & fertigation, Pruning, Time and stage of harvest, Processing techniques application, Post-harvest techniques application and Transportation were adopted by the 92.00, 83.33, 64.67, 73.33, 72.67, 66.00, 90.67, 84.67, 90.00, 85.33 and 92.00 per cent respondents respectively.

Table 2. Distribution of respondents based on their Practice wise Adoption Level

(n=150)

S. No.	Technologies	Adoption		Non-adoption	
		Number	Percentage	Number	Percentage
1.	Preparation of Field	3	2.00	147	98.00
2.	Pit forming	138	92.00	12	8.00
3.	Selection of Improved Varieties	125	83.33	25	16.67
4.	Planting material	97	64.67	53	35.33
5.	Treatment of seedling with bio-fertilizer	13	8.67	137	91.33
6.	Planting space	19	12.67	131	87.33
7.	Inter-cultural operation	110	73.33	40	26.67
8.	Irrigation time & intervals	109	72.67	41	27.33
9.	Fertilizer application & fertigation	99	66.00	51	34.00
10.	Pesticide application	83	55.33	67	44.67
11.	Fungicide Application	85	56.67	65	43.33
12.	Weedicide application	77	51.33	73	48.67
13.	Hormones Application	54	36.00	96	64.00
14.	Mulching	7	4.67	143	95.33
15.	Pruning	136	90.67	14	9.33
16.	Inter cropping	31	20.67	119	79.33
17.	Time and stage of harvesting	127	84.67	23	15.33
18.	Processing techniques application	135	90.00	15	10.00
19.	Post-harvest techniques application	128	85.33	22	14.67
20.	Transportation	138	92.00	12	8.00

* Multiple response obtained

Further, it is revealed from the Table 2 that the most of practices and technologies of cashew cultivation namely Field preparation, Treatment of seedling with bio fertilizer, Planting space, Hormone application, Mulching and Inter-cropping were not adopted by the 98.00, 91.33, 87.33, 64.00, 95.33 and 79.33 per cent of the respondents. The little bit more than half of the respondents adopted the practices and technologies of cashew cultivation *viz.* Pesticide

application, Fungicide application and Weedicide application while little bit less than half of the respondents were not adopted these practices.

The adoption of these major practices of cashew cultivation is due to the fact that tribal farmers experienced and frequently exposure with the programmes conducted in the study area. The training programmes of NHM is another important factor for influencing the adoption of above mentioned practices of cashew cultivation which stood as the basic production technologies in cashew production. The reasons for non-adoption or less adoption of the practices viz. Irrigation time & fertigation, Pesticide application, Weedicide application, Mulching and Hormones application by the majority of respondents was high cost factor, more skill requirement and extended time duration and poor availability of resources [9-11].

CONCLUSION

The study revealed that the majority of the tribal cashew growers in the study area exhibited high level of adoption of practices of cashew cultivation taught in various training programmes conducted in the study areas while about one fifth of population of tribal cashew growers were with low adoption level and about one tenth population of the tribal cashew growers with medium level of adoption of practices of cashew cultivation. The reasons for non-adoption or less adoption of the practices viz. Irrigation time & fertigation, Pesticide application, Weedicide application, Mulching and Hormones application by the majority of respondents was high cost factor, more skill requirement and extended time duration and poor availability of resources.

AUTHOR'S CONTRIBUTION

Conceptualization and designing of the research work (PKT); Execution of field/lab experiments and data collection (PKT); Analysis of data and interpretation (PKT; DT; GPN); Preparation of manuscript (PKT:DT:GPN).

DECLARATION

The authors have no conflicts of interest to declare that all concern authors have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

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