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Different Modes of Information Sharing for Cashew Nut Production Technologies in Ariyalur District of Tamil Nadu

A Rajkala, G Alagukannan, Y Rajajoslin and S Shobana

ICAR Krishi Vigyan Kendra (CREED)
Ariyalur - 612 902 (TamilNadu)

ABSTRACT

Ariyalur is the second largest district of Tamil Nadu in terms of cashew nut area and production. The level of technological know – how and adoption of advanced technologies in cashew nut cultivation and value addition is low resulting in low productivity (520 kg/ha) of cashew nut in the district in comparison to state productivity (850 kg/ha). To enhance the knowledge of farmers different technology dissemination approaches has been used. Present study has been conducted to assess the effectiveness of different technology delivery mechanisms viz., distribution of literatures, delivering SMS and voice messages. Three groups of 25 farmers each were selected to deliver message using different message delivery mechanisms. Pre test and post test were conducted to assess the gain in knowledge and impact on adoption of different technologies. Pre test revealed that in all the three groups only 16% of the farmers were having high level of knowledge, while the post test results indicated that information sharing through mobile text message in time to time was effective as 64% of the farmers acquired high level of knowledge. Similarly, high level of adoption by 72% of the respondent was observed for the technology of spraying of panchagavya. Technology delivery through mobile text message was adjudged as good ICT mode to transfer technologies to the farmers.

Key Words: Adoption, Cashew nut, Knowledge level, Technology.

INTRODUCTION

Cashew nut is being cultivated by around 52 thousand farmers on an area of 29,000 ha in Ariyalur. The cultivation of cashew nut is practiced mainly as rainfed crop. Most of the farmers use traditional varieties of cashew nut. Farmers get low yield due to maintenance of sub optimal plant population, lack of awareness regarding pruning practices, attack of various insect pest *viz;* incidence of tea mosquito bug, cashew stem and root borer and lack of moisture conservation measures etc. Attack of anthracnose and mildew during rainy season causes flowering abortion and fruit drop thus low yields. More than eighty percent of the cashew nut growing farmers are small and marginal and their knowledge in scientific cashew cultivation practices is low to medium only. Adoption level of different cashew nut production technologies is also low leading to low productivity (520kg/ha). Delivery of appropriate information can play an important role including technology delivery, improved access to advice, research, markets, credit, infrastructure, farmer organization development and business development services (Sulaiman, 2003).

The farmers usually dependent on their large social network and took advice from fellow farmers' relatives or commission agents, pesticide dealers and friends (Sharma *et al*, 2012). The access to technical information from research systems is usually slow and delayed. Earlier approaches of technology dissemination through *viz.,* trainings, method and result demonstration are now supplemented by information and communication technologies (ICT). Now, ICT as mobiles and computers provide timely, cost effective and relevant information leading to changing agricultural scenario. As the

Corresponding Author's Email: gakannan@rediffmail.com

technological advances emerges in the arena of ICT, it is imperative to study the effectiveness of different delivery mechanisms. Hence the Krishi Vigyan Kendra, Ariyalur studied during the year 2017-18 the effectiveness of different modes of information delivery pertaining to cashew nut cultivation.

MATERIALS AND METHODS

The study was conducted in Ponparappi village of Sendurai block of Ariylur district. Seventy five cashew nut growing farmers were randomly selected and they were formed into three matching groups (25 members in each group) in terms of age, education, land holding, knowledge and adoption of cashew nut production technologies. Based on the problems faced by farmers with respect to cashew nut production, information related to seven cashew nut production technologies were selected to disseminate through three different extension modes. The seven different technologies selected were pruning, soil and water conservation, application of manure and fertilizers, spraying of panchagavya, control of tea mosquito bug, management of stem borer and value addition. Pre-test was administered to study the knowledge level and adoption status *vis-a-vis* cashew nut production. The information regarding selected cashew nut production technologies was delivered through three different mode of communication.

Three technological options were tried to deliver information regarding cashew nut production technologies as T1= information delivery through printed literature, T2= through mobile SMS and T3= through voice message. First group was provided with information on cashew nut production technologies through published literature, second group through mobile SMS and third group through voice message. The content of the message was same for three different modes of information sharing.

Pre-test and post-test were administered for these groups to identify the knowledge level before and after information sharing using three different modes. The scores gained in knowledge test were categorised as low (1-5 mark), medium (6-10 mark) and high (11-15 mark). Similarly, adoption level of cashew nut production technologies was also studied for three groups of farmers.

RESULTS AND DISCUSSIONS

It was (Table 1) that majority farmers (76%) of Group I where information was shared using extension literature *viz;* booklets, folders or pamphlets were having low level of knowledge (1-5 score) prior to treatment. This was followed by medium level (6-10 score) of knowledge (16%) and high level (11-15 score) of knowledge (8%). After the treatment (sharing of information using extension literature), the percentage of farmers in high knowledge level category increased to 20.0. Similarly, in case of Group III (information sharing though voice message) the percentage of farmers with high knowledge level increased from 16.0 to 36.0 percent.

The data (Table 1) showed that maximum gain in knowledge was in case of mobile text message (Group II). The numbers of farmers having high knowledge level with knowledge score between 11-15 were 16.0 per cent before the information sharing using mobile text message, and it increased by four times to 64.0 per cent after the dissemination of information trough mobile text message. In case of voice message percentage of farmers with high knowledge level increased from four per cent to 36.0 per cent. The minimum change was observed in case of extension literature where eight percent of farmers were in high knowledge level category before the information sharing and increased to 20.0 per cent after treatment (i.e. information sharing via extension literature). The advantage of mobile text message over other extension modes may be due to timeliness, completeness and conciseness of the message content. Sandhu *et al* (2012) also reported that farmers found mobile text message as useful, comprehensible and timely. The results indicate that the gain in knowledge is prominent

Table 1. Effect of different modes of information sharing on knowledge gain in cashew nut production technologies.

Knowledge level	Information sharing modes											
	Extension literature				Mobile text message				Voice message			
	Group-I (n_1=25)				Group-II (n_2=25)				Group-III (n_3=25)			
	Before		After		Before		After		Before		After	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Low (1-5)	19	76	12	48	17	68	3	12	17	68	8	32
Medium (6-10)	4	16	8	32	4	16	6	24	4	16	8	32
High (11-15)	2	8	5	20	4	16	16	64	4	16	9	36

among the responding farmers irrespective of the technology delivery mechanisms taken for this study. However, the knowledge gain was highest in the case of farmers who received text messages as 64 per cent of the farmers in this group showed high level of knowledge and it was followed by 36 per cent in the case of voice messages.

Technology Adoption

The comparative analysis of different modes of communication showed that adoption level of recommended cashew nut production technologies was maximum among farmers (GroupII) who received information through text message. A great majority of farmers (72%) of GroupII had high adoption level of spraying of *panchgavya*, followed by 64 per cent farmers with high adoption level of application of fertilizers and manures, management of stem borer (60%), pruning practices (52%), control of mosquito bug (52%), soil and water conservation practices (52%) and value addition (8%) differential adoption of cashew nut production technologies. Respondent from GroupII also reported ease in preparing *panchgavya*. The percentage of farmers who had high adoption level of *panchgavya* in GroupI were 44 per cent and 32.0 per cent cent in GroupIII.

The comparative analysis of different modes of information sharing showed that GroupII (text messages) scored highest in adoption percentage for all the seven technologies of cashew nut production and the averaged at 46.30 percent. It was followed by distribution GroupI (44.5%) and voice messages (36.0%). Badaye *et al* (2018) also reported that the text messages delivered in local language were highly understandable and could be conveyed to other farmers to improve the knowledge and adoption level. The high adoption percentage in case of mobile text message was due to the fact that the farmers could retain the text messages in their mobiles and could re-read while practicing the same in their field. The extension literatures distributed to the clients were also useful but some farmers misplaced the papers and thereby could not use the information in actual field situation. Whereas in case of recorded voice message the adoption percentage was low (36%) as the farmers could not recall the information properly when required and thus faced difficulty in adopting the technologies.

CONCLUSION

To reduce the technology gap and extension gap the suitable technologies have to reach the farmers at earliest. The findings of the study clearly indicated

Table 2. Effect of different modes of information sharing on adoption level of cashew nut production technologies .

Technology	Category	Information sharing mode					
		Extension literature (GroupI)		Text message (GroupII)		Voice message (GroupIII)	
		No.	%	No.	%	No.	%
Pruning practices	L	4	16	1	4	3	12
	M	8	32	11	44	12	48
	H	13	52	13	52	10	40
Soil & water conservation	L	3	12	3	12	3	12
	M	10	40	9	36	12	48
	H	12	48	13	52	10	40
Application of manures and fertilizers	L	4	16	2	8	3	12
	M	12	48	7	28	12	48
	H	9	36	16	64	10	40
Spraying of *panchgavya*	L	6	24	2	8	3	12
	M	8	32	5	20	14	56
	H	11	44	18	72	8	32
Control of tea mosquito bug	L	4	16	5	20	2	8
	M	8	32	9	36	12	48
	H	11	44	13	52	11	44
Management of stem borer	L	6	24	2	8	3	12
	M	8	32	8	32	13	52
	H	15	60	15	60	9	36
Value addition	L	15	60	20	80	19	76
	M	9	36	3	12	4	16
	H	1	4	2	8	2	8

L=Low;M=Medium and H=High

Table 3. Adoption rate of cashew nut production technologies in different in different information sharing modes.

Technology delivery mechanism	Adoption percentage of different cashew nut production technologies							Average adoption %
	1	2	3	4	5	6	7	
Extension literature	52	40	36	72	44	60	8	44.5
Text message	52	48	64	44	52	60	4	46.3
Voice message	40	52	40	32	44	36	8	36.0

that mobile text message were effective in bridging the extension gap. Thus, information sharing through mobile text message has the potential of empowering the cashew nut growers of Ariyalur district of Tamil Nadu by transfer of technologies related to its production and value addition. The conventional methods of extension and modes of information sharing need to be supplemented with recent communication technologies. Hence, delivering the technologies through the recent ICTs *viz,* mobile SMS would be of immense utility in this context.

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