

Attitude of Stakeholders Towards IARI-Post Office Linkage Extension Model

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ABSTRACT

Agricultural extension eventually evolves to cater a diverse need of a large number of farmers in India. Complementing and supplementing public extension system, IARI-Post Office Linkage Extension Model initiated as an alternate extension approach during 2009 in collaboration with KVKs for transfer of improved critical inputs (crop varieties) to the remote rural farmers. To capture the subjective pattern of preference towards the model and to express their qualitative preference in quantitative way attitude was measured towards the model. Out of the sample beneficiaries, most of the farmers of Sitapur (Mean Score = 4.17) and Buxar (Mean Score = 4.03) expressed favourable attitude towards seeds quality. Majority expressed favourable attitude towards seed sources credibility than other sources, interaction with fellow farmers, willingness to pay the seed and postage cost, and willingness for model continuity. Around one-tenth of farmers had neutral attitude as they were more cosmopolite having more exposure, contact with other extension agencies. Some beneficiaries expressed negative attitude due to less seeds availability, lack of clarity in regular seed supply to the same person by the model. There should be regular sensitization by ICAR-IARI, KVK to the Branch Post Masters and fellow farmers for understanding the concept of model and execution of the same to make it sustainable. Branch Post Masters and KVK scientists' highly favourable attitude could further expand and replicate the model in different locations by different ICAR organizations.

Keywords: Attitude, IARI-Post Office Linkage, Model, Stakeholders

INTRODUCTION

The goals of agricultural extension include transferring information from global knowledge base and from local research to farmers. Though public extension system being major extension agency in India, it is unable to cater the needs of a larger farming communities i.e. small and marginal farmers having limitations like meager ratio of extension workers to farmers, multiple role of extension agency, poor accountability, difficulty in providing limited critical inputs. However, there is no single effective extension approach is practiced in a

particular country. Presently, a pluralism of models such as private extension, NGO based extension, cyber extension, is being used in most of the countries in Asia and Africa (Davis 2006, Anderson and Federd, 2007 and Birner *et al.*, 2006).

Utilising postal department which exist in grassroots level or rural panchayat level across the nation, ICAR-IARI has initiated IARI-Post Office Linkage Extension Model in *rabi* 2009 in Sitapur district of Uttar Pradesh state in collaboration with KVK and Postal department to reach out the remote and diverse farming communities

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with improved IARI crop varieties (Burman *et al.*, 2016). The branch postmaster (BPM) was responsible to act as *para*-extension worker among fellow farmers with knowledge of local farming situation and farmer's trust in villages under jurisdiction of Branch Post Office. The model was then expanded in four districts viz., Sirohi (Rajasthan), Sheopur (Madhya Pradesh), Buxar (Bihar) and Jammu (Jammu & Kashmir) (Burman *et al.*, 2016). Demonstration of improved IARI varieties on the postmaster's field became a place of learning for other farmers. KVK act as bridging ICAR partner in technological backstopping through training, exposure visit to the BPM and farmers in the district. This kind of alternate extension model strengthening Front line extension methods in an innovative way need to be analysed by addressing the stakeholder's preference for its validation and further replication of model. To capture the subjective pattern of preference towards the model, attitude measurement is the best way to express their qualitative preference in quantitative way. Many researchers tried to develop different scales meant for objective measurement of subjective variable i.e. attitude illustrated by Mueller (1986). Thurstone (1946) defined attitude as a degree of positive or negative affect associated with some psychological object that may be any symbol, phrase, slogan, person, institutions and idea. Attitude is the covert action or factor or motivation which provides a meaningful background for individual's overt behavior (Ray, 2013). Attitude plays a vital role in behavior leading into social action. (Sahoo *et al.*, 2019). Though there is no similar instrument to measure the new conceptual model, attitude scale development was imperative to analyse the model's acceptance and effectiveness by stakeholders' preference mainly farmers, Branch Postmasters and KVK scientists.

METHODOLOGY

To devise the attitude scale the Likert type summated rating (Likert, 1932) methodology was followed as it is considered extremely popular for measuring attitude, most effective and efficient method in developing highly reliable scales (Dwyer, 1993). After initial screening of statements item analysis was done with initial non sample area pilot survey at Sheopur

district of Madhya Pradesh for calculating "t" value. Final scale was developed with "t" value (> 1.75) of 18 statements. Reliability of scale developed was measured by Split half test among 40 non-sampled respondents and Cronbach alpha test. The reliability was found to be 0.72 and significant at one percent level of significance ($p < 0.01$). Since the reliability value was more than 0.7, the scale was considered to be highly reliable. The attitude scale was administered to 100 beneficiary farmers sampled from both Sitapur and Buxar district (10 farmers from each post office out of 10 post office linked with model). The scale with a little modification was tested for reliability and validity by expert's opinion which was further administered in 20 sampled extension agent respondents (10 Branch Post Masters of 10 Post office and 10 Scientists of Sitapur KVK & Buxar KVK). The respondents were asked to put their mark as level of agreement, on a five-point scale (i.e. Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree). The respondent score to each item leads to the total score obtained by summing the subject's response to each item hence termed as summated rating scale which measures the favourableness-unfavourableness continuum as highest score by any respondent to all the items considered as highly favourable and lowest score by any respondent as highly unfavourable. The maximum obtainable score was 90 and the minimum was 18. These scores were further converted into T scores considering range score for categorization of farmers in to highly favourable, favourable, neutral, unfavourable and highly unfavourable categories as described below:

$$T = 50 + 10 [(X-x) / s]$$

Where,

T = T score, X = Score of a given subject, x = Arithmetic mean of the distribution, s = Standard deviation of the distribution of the scores

The attitude of farmers was measured by mean score of total number of respondents per item. Respondents were classified into five categories as highly favorable, favorable, neutral, unfavorable, and highly unfavorable with the help of mean ± 2 standard deviation formula.

RESULTS AND DISCUSSION

Attitude of farmers towards the model

The attitude test explored in Table 1 that most of the farmers of Sitapur (Mean Score = 4.17) and Buxar (Mean Score = 4.03) expressed favorable attitude towards item “seeds were of very good quality”. Most of the farmers of Sitapur (Mean Score = 4.24) and Buxar (Mean Score = 4.43) showed favorable attitude

towards statement “seed sources were credible than other sources”. Majority of farmers expressed highly favorable attitude towards items on “model helped in interaction with fellow farmers”, “willingness to pay the seed and postage cost”, “willingness for model continuity”. Table 2 depicts around 49 per cent farmers in Sitapur and 45 per cent farmers in Buxar had highly favorable attitude. Majority of farmers had highly favorable attitude because of the quality of seeds,

Table 1: Attitude towards IARI-Post office linkage extension model

S.No.	Statements	Mean Score of farmers in two districts		Mean score of branch post master (n=10)	Mean score of KVK Scientists (n=10)
		Sitapur (n=70)	Buxar (n=30)		
1.	Seeds supplied through IARI-Post office model are of good quality.	4.17	4.03	4.9	4.5
2.	Seeds are not supplied at right time through the model.	3.37	2.97	4.3	4.5
3.	Required amount of seeds are not available through the model.	2.86	2.57	1.9	1.6
4.	The seeds, received through the model, do not help in increasing the yield.	2.93	2.50	4.8	4.0
5.	The model helped to reduce transaction cost in getting quality seeds	3.33	3.00	4.3	3.7
6.	Technologies given through this model is not suitable to local area.	3.33	2.93	4.4	4.4
7.	Seeds supplied through this model are more credible (reliable) than purchased from other sources	4.24	4.43	4.8	4.5
8.	Participation in the model has improved my interaction with fellow farmers.	4.31	4.37	4.7	NA
9.	I feel happy in participating in the model.	3.31	2.97	4.5	4.7
10.	I am willing to pay the cost for the technologies to sustain the model.	4.17	4.03	4.5	NA
11.	The model has inspired the farmers to participate in demonstration of improved technologies.	3.37	2.97	4.2	4.2
12.	The model has inspired the farmers in participating in the training program.	2.86	2.57	4.6	3.6
13.	Branch postmaster is biased in selecting farmers for distribution of technology.	2.93	2.50	NA	NA
14.	The model helps us to know about modern agricultural practices	3.33	3.00	3.6	3.8
15.	Branch postmaster is not interested in collecting feedback from farmers.	3.33	2.93	NA	NA
16.	This model should continue in future.	4.24	4.43	4.6	4.4
17.	This model should be replicated for other technologies also.	4.31	4.37	4.4	4.5
18.	The model reduced uncertainty of seed availability.	3.31	2.97	4.6	2.9

NA: Not Available (NA denotes the absence of item in attitude scale for different stakeholders than farmers)

credibility of seed sources, participation with fellow farmers, and sensitization through regular advisory and periodical training provided through the model. This finding is also supported by strength study of this model by method of ranking as perceived by stakeholders showed that “reaching distant farmers” was major strength followed by “timely delivery of seeds”, “Branch postmaster as local extension agents”, “Cost effectiveness” respectively can be substantial factors for highly favorable positive attitude development (Sahoo *et al.*, 2017).

In some aspects of model the respondents of both Sitapur and Buxar had unfavorable attitude for “quantity of seeds received”, “training received”, “participation in modern technologies” *etc.* Around 28 per cent farmers in Sitapur and 33 per cent farmers in Buxar were highly unfavorable towards this model (Table 2). The probable factors behind unfavorable attitude may be that the amount of seeds disseminated to each farmer was less compared to their requirement, irregularity of seed availability, biasness of branch post masters in selection of farmers, information gap regarding seed availability *etc.* Selection of farmers was also not done in consultation with the farmers and KVK Scientists. This is well supported by limitation study of model expressing selection criteria of beneficiary not clear to farmers and lack of prior information of seed availability were major limitations (Sahoo *et al.*, 2017).

Respondents had neutral attitude towards other aspects of model like “participation in demonstration of improved technologies”, “model reducing unsustainability of seed availability”, “and branch postmaster interest in collecting feedback”. Around 13 per cent of respondents of both Sitapur and Buxar had neutral attitude towards

Table 2: Farmers classification based on attitude categories

Attitude categories	Sitapur (n=70)		Buxar (n=30)	
	<i>f</i>	%	<i>f</i>	%
Highly unfavorable	20	28.57	9	33.33
Unfavourable	3	4.29	2	12.86
Neutral	9	12.86	4	13.33
Favorable	3	4.29	2	12.86
Highly favorable	34	48.57	13	43.33

the model (Table 2). Around one-tenth of farmers had neutral attitude as they were more cosmopolite having more exposure, contact with other extension agencies and did not find any significant contribution of the model in their farming activities. The farmers with negative and neutral attitude towards model can be changed into favourable attitude through awareness program and training by Branch Post Masters and KVK Scientists in collaboration with IARI. This strategies were supported by findings of attitude of farmers towards Farmer Producer Company (Mukherjee, *et al.*, 2018). The result shown in (Table 3) indicates that the attitude of farmers’ in Sitapur was significantly different ($p < 0.05$) from the farmers of Buxar. Over all attitude of Sitapur farmers was found to be significantly more favourable than Buxar due to lack of sensitization among BPMs and farmers in Buxar. The BPMs and progressive farmers of Sitapur were trained several times since 2009 but in case of Buxar they had less opportunity for sensitization regarding model due to less period of project involvement.

Table 3: Mann Whitney U test for comparison of attitude in Sitapur and Buxar

Statistics	Value	
	Sitapur	Buxar
Mean Rank	59.92	28.52
Mann Whitney U	390.52	
Z	-4.964	
Asymp.sig.(2-tailed)	.000	

Attitude of Branch Postmaster and KVK scientists towards the model

The Attitude of BPMs of ten post offices of both the districts was interpreted. They had highly favourable attitude towards the model as mean scores for most of the statements were found to be above 4 except in case of quantity of input (Table 1). The branch post masters also affirmed that good quality seeds were disseminated through this model (Mean Score 4.9), the source of seeds made it credible and quality seeds increased the yield (Mean Score 4.8). Attitude of BPMs were highly favourable towards the model as their involvement in the model had direct impact on their community development

and social prestige. Similar results were found in the study by Dubey *et al.* (2014).

The mean score of most of the items for KVK Scientists being above 3.5 showed that the attitude of KVK scientists towards the model was highly favorable. The scientists endorsed the items of being satisfied to be associated with such innovative model (Mean Score 4.7), good quality seeds were supplied and the source made the seed more credible (Mean score 4.5). However they felt that the seed quantity supplied was too less (Mean Score 1.6).

CONCLUSION

Majority of farmers had highly favourable attitude because of the quality of seeds, credibility of seed sources, participation with fellow farmers, and sensitization through regular advisory and periodical training. This may be due to the fact that some of the beneficiary farmers continuously getting benefits every year developing highly favourable attitude. Some of the farmers having unfavourable attitude because of less quantity of seeds available compared to their requirement, irregularity of seed availability, biasness of branch post masters in selection of farmers, information gap regarding seed availability etc. As there is always a huge demand of quality seeds by farmers, the gap in understanding the model need to be bridged through regular capacity building and monitoring of BPM and progressive farmers by KVK Staff for making it self-sustainable by seed sharing after multiplication of the same through farmer to farmer extension as the core principle of model The use of ICT could accelerate the model's effectiveness converting negative attitude to positive one by the mobile-based delivery status of inputs from the institute to the stakeholders. Besides farmers other partners as BPMs and KVK scientists exhibit highly favourable attitude which can be instrumental to further expansion and replication of the model in different locations by different ICAR organizations for reaching out to the remote farmers with required solution.

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