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RESEARCH ARTICLE

Attitude of the Farm Women Towards Farm Science Centre Scientists in India

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ABSTRACT

Attitude is an important component of human being which is influence the acceptability or rejection of the any new technology or information. Scientific agricultural technology dissemination in the grassroots level might be failed due to negative attitude of the farmers or farm women on extension workers or organization. In this study farm women attitude on farm science centre scientist were identified and a further study was conducted on influence of the predictors' variables of the respondents on their attitude on farm science centre scientist. Ex-post facto research design and both purposive and random sampling method were used for selection of sample respondents. It is found from the study that the variable educational level, size of family, house type, annual income, type of land, irrigated area, livestock possession, material possession, association of the respondents with different organization, social participation, scientific orientation, economic orientation, communication skill, mass media exposure, farm science centre exposure, sources of information, information seeking behavior, information exchange, decision making ability and agricultural knowledge had positively and significantly correlated with the attitude of the farm women towards farm science centre scientist. It is concluded from the study that the predictor variables agricultural knowledge, scientific orientation, information seeking behavior and farm science centre exposure had positively and significantly influenced on attitude of the farm women towards farm science centre scientist.

Key words : *Attitude of farm women; Scientific orientation; Information seeking behavior.*

Attitude is a way of response or feelings toward a person, objects or situation. In psychology, a mentality alludes to a lot of feelings, convictions, and practices toward a specific article, individual, thing, or occasion. In this study attitude of the farm women refers to the level of positive or negative feelings on farm science centre scientist. *Singh (1982)* and *Chippa (1987)* found that majority of farmers had positive attitude towards the activities of KVK. *Nanda and Tantry (1990)* found that attitudes of male participation were positive and women participation found negative attitude towards training programmes of farm science centre. *Chandra (1991)* found that the majority of the farmers had their attitude in positive direction towards the activities carried out by farm science centre. He found that education, size of land holding and social participations were associated significantly with attitude of the farmers towards activities of farm science centre. *Soni (1992)* found that the majority of farmers had their attitude in positive direction towards vocational training programmes of farm science centre. *Khan (1997)* and *Nainawat (2000*) found from their study that most of the beneficiaries were fall in the categories most favourable and favourable, while most of the non-beneficiary was having least favourable and favourable attitude towards the activities being carried out by farm science centre. *Khan (1997)* found that education, social participation was positively and associated significantly with attitude, while occupation and size of land holding were not associated with attitude of farmers towards in transfer of technology by farm science centre. *Nainawat (2000*) found that the level of education, size of land holding and

social participation were associated significantly with attitude of farmers towards various activities of farm science centre. *Sharma (1998)* found that the majority of farmers had their attitude in positive direction towards the extension programme of farm science centre in term of improved agricultural technology. He found that education, social participation were associated significantly with the farmers attitude, while size of land holding were not associated with attitude of farmers towards extension programme of farm science centre. *Sharma and Sharma (1999)* concluded that education, size of land holding and socio-economic status were positively and associated significantly with the attitude of farmers towards important extension programmes carried out by farm science centre. *Tara Chand (2001)* found that the majority of farmers had their attitude in positive direction towards the extension programmes of farm science centre. He found that education, social participation, extension participation, farm mechanization index and economic motivation were associated significantly with attitude of farmers while occupation and family size were associated non-significantly with attitude of farmers towards various activities of farm science centre. *Chandawat et al. (2004)* in their study of farmers attitude about farm science centre trainings observed that majority of the participating farmers have communicated that the time of the training courses were adequate, followed by partly adequate and inadequate and with respect to the contents of training program majority of the farmers were satisfied followed by though partly satisfied, mostly satisfied and not satisfied. *Jadhav (2011)* revealed that most of the farmers and farm women possessed favourable attitude towards farm science centre activities followed by less favourable and more favourable attitude. *Patidar (2006)*, *Singh et al. (2009), Sahare et al. (2017)* found that majority of the farmers had medium level of favourableness towards training programmes conducted by Krishi Vigyan Kendra. Ministry of Agriculture and Farmers Welfare (2020) reported that that Indian farm women attitudes on agricultural technology were progressively change after contacting with the farm science centre scientist. It was also found from the various study that majority farmers and farm women attitude were negative on public agricultural extension services (*Qtaishat and Sharafat, 2012*; *Ansari and Jantwal, 2019*). *Rebecca (2012)* found that that age and farming experience had negative and non significant relationship with attitude of farm women towards extension service. *Jiyawan et al. (2012)* found that attitudes of the farmers towards activities of KVK were somewhat favourable. *Adesiji et al. (2013)* found that land holding size had a positive and significant relationship with attitude of farm women. It was also found from their study that age, education and farming experience were not significantly related to attitude of farm women towards extension services. It was shown from the study of *Theerthalingam (2008)* that women had reduced access to information for socio-cultural attitudes and preconceptions about women's interaction with technology to resource constraints. Agricultural development of an area depends on the positive activities of the extension organization. Farm science centre is one largest agricultural extension organization under Indian Council of Agricultural Research (ICAR) in India and the farm women one of the largest agricultural workforces in India. It is necessary to find out the attitude of the farm women on farm science centre scientist for agricultural information network output development. But very limited study was found on the farm women attitude towards the scientist of farm science centre in India. Keeping this in view the present study was undertaken to find out the attitudes of the farm women towards the farm science centre scientist and the factors associated with this attitude.

METHODOLOGY

The study was conducted on the farm women of Cooch Behar District, West Bengal during 2017-2020. Ex-post facto research design was followed and five-stage sampling procedure (both non-probabilistic sampling and probabilistic sampling) were used to select the sample respondents. In the first stage Cooch Behar district was selected purposively. In the second stage three number of subdivision were selected randomly. In the third stage one block from each subdivision were selected randomly. In the fourth stage 4 number of village from each block were selected randomly. In the fifth stage 25 numbers of respondents from each village were selected randomly. In this way a total 12 village, 3 blocks, 3 subdivisions and of 300 respondents (n) in the sample were selected for the study. The important statistical measures that were used to analyses the research data included frequency, percentage, pair wise ranking,

mean, correlation coefficient and stepwise regression,. Correlation and stepwise regression analysis was done through SPSS 17. In this study attitude was indicated as the degree of positive or negative attitude of farm women towards the scientist of farm science centre. It was measured by scale developed by *Mathew and Reddy (1989)*. Attitude of the farm women towards the scientist of Cooch Behar farm science centre scientist were investigated in this research work.

RESULTS AND DISCUSSION

Attitude of the farm women towards farm science center scientist : It is observed from the Table 1 that the attitude of the farm women towards farm science centre scientist was highest in the statement no. 5 "To bring about significant improvement in agricultural production, it is a necessary to retain frequent contact with farm science centre scientist" followed by statement no. 7 "farm science centre scientist are more exposed to new technologies", statement no. 4 "New agricultural skill can be acquired with contact with farm science centre ", statement no. 8 "I think it is very useful use to discuss the agricultural practices with farm science centre scientist, because they are interested on women farmers", statement no. 12 Information provided by farm science centre is different from other govt./pvt. agricultural departments", statement no. 2 "Discussing the agricultural matters with farm science centre scientist is very important", statement no. 13 "There will be a definite change in the knowledge and skill of trainees by participating farm science centre training programmes", statement no. 9 "farm science centre scientist give special consideration to farm women", statement no. 11 "farm science centre information are very useful to the farm women" and the statement no. 3 "farm science centre scientist recognize the farm

Table 1. Extent of attitude of the farm women towards farm science centre scientist (N=300)

Statements	SA	A	UD	DA	SDA	WMS	Rank
	No.	No.	No.	No.	No.		
I am proud that, help and co-operation from farm science centre scientist is plentiful	400	564	156	50	2	3.91	XII
Discussing the agricultural matters with farm science centre scientist is very important	660	508	84	0	13	4.22	VI
Farm science centre scientist recognize the farm women	155	960	81	4	0	4.00	X
New agricultural skill can be acquired with contact with farm science centre	635	564	84	8	0	4.30	III
To bring about significant improvement in agricultural production, it is a necessary to retain frequent contact with farm science centre scientist	830	480	42	0	0	4.51	I
Farm science centre scientist brings the agricultural technology to the doorsteps of the farm women.	65	844	168	32	4	3.71	XIV
Farm science centre scientist are more exposed to new technologies	745	420	126	8	0	4.33	II
I think it is very useful use to discuss the agricultural practices with farm science centre scientist, because they are interested on women farmers	555	660	60	8	0	4.28	IV
Farm science centre scientist give special consideration to farm women	355	792	81	8	0	4.12	VIII
Farm women becomes more progressive after contact with farm science centre	325	700	138	24	2	3.96	XI
Farm science centre information are very useful to the farm women	390	628	168	16	1	4.01	IX
Information provided by farm science centre is different from other govt./pvt. agricultural departments	755	332	174	16	0	4.26	V
There will be a definite change in the knowledge and skill of trainees by participating farm science centre training programmes	475	672	108	2	0	4.19	VII
Farm science centre given timely information which suits the local situation	175	820	147	22	0	3.88	XIII

Minimum score: 5, Maximum score: 25, SA= Strongly agree (5), A= Agree (4), UD= Undecided (3), DA= Disagree (2), SDA= Strongly Disagree (1)

women". The findings of the study are line with the results found by *Singh (1982)*, *Chippa (1987), Chandra (1991), Soni (1992), Sharma (1998)* and *Tara Chand (2001).*

Association between some selected traits of the respondents with their attitude towards farm science centre scientist : Table 2 presents the association between some selected traits of the farm women with their attitude towards farm science centre scientist. It is revealed from the study that there exist a positive and significant association between the attitude of the farm women towards farm science centre scientist and the variables educational level, size of family, house type, annual income, type of land, irrigated area, livestock possession, material possession, association of the respondents with different organization, social participation, scientific orientation, economic orientation, communication skill, mass media exposure, farm science centre exposure, sources of information, information seeking behavior, information exchange, decision making ability and agricultural knowledge. The rest of the variables i.e. age, type of family, marital status, occupation, land holding, crop grown, cropping intensity, water resources, farming experience, cosmopoliteness, mode of information preservation, sharing of agricultural information and constraints had no significant association with the attitude of the farm women towards farm science centre scientist. The findings of this study are line with the results found by *Chandra (1991), Khan (1997)* and *Sharma (1998).*

Table 2. Association between some selected traits of the respondents with their attitude towards Farm Science Centre (KVK) scientist

Variables	Attitude
Age	-.071
Educational Level	.119*
Type of family	.108
Size of family	.152**
Marital status	-.077
House type	.150**
Annual Income	.136*
Occupation	-.082
Land holding	-.034
Type of land	.510**
crop grown	.109
cropping intensity	.033
water resources	-.045
Farming experience	.025
Irrigated area	.437**
Livestock possession	.414**
Material possession	.331**
Association of the respondents with different organisation	.178**
Social Participation	.209**
Cosmopoliteness	.067
Scientific orientation	.371**
Economic orientation	.131*
Communication skill	.206**
Mode of information preservation	-.091
Mass media Exposure	.423**
Farm Science Centre Exposure	.418**
Sources of Information	.315**
Sharing of agricultural information	.008
Information seeking behaviour	.451**
Information Exchange	.344**
Decision making ability	.306**
Constraints	-.102
Agricultural Knowledge	.515**

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Model 1. The model 1 (Table 3) of the coefficient above can be written as:

$$Y= a+ b_1x_1+ \text{----------} b_px_p$$

Where,

Y= Predictors for attitude of the farm women towards farm science centre scientist

a = 39.310, b_1 = 0.515, Model R-square= 0.265

x_1 = Agricultural Knowledge

The results revealed that as agricultural Knowledge of respondent increased by 1 unit, positive attitude of the farm women towards farm science centre scientist increased by 0.515 units. The model can further be explained that 26.50% of the total variability of the dependent variable is explained by independent variable x_1 (agricultural knowledge).

*Model 2***.** The model 2 (Table 3) of the coefficient above can be written as:

$$Y= a+ b_1x_1+b_2x_2 \text{----------} b_px_p$$

Where,

Y= Predictors for attitude of the farm women towards farm science centre scientist

a = 13.519, b_1 = 0.512, b_2= 0.366,

Model R-square= .395

x_1 = Agricultural Knowledge,

x_2= Scientific orientation.

The results revealed that as scientific orientation of the respondent increased by 1 unit, positive attitude of the farm women towards farm science centre

Table 3. Regression analysis between some selected traits of the respondents with the attitude of the farm women towards farm science centre Scientist.

Model Summary				
Model	R	R Square	Adjusted R Square	SE of the Estimate
1	.515[a]	.265	.263	5.40272
2	.632[b]	.399	.395	4.89250
3	.712[c]	.507	.502	4.44125
4	.747[d]	.558	.552	4.21045

a. Predictors: (Constant), x1

b. Predictors: (Constant), x1, x2

c. Predictors: (Constant), x1, x2, x3

d. Predictors: (Constant), x1, x2, x3, x4

Dependent variable: Y

(*X_1 =Agricultural Knowledge, X_2 =Scientific orientation, X_3 =Information seeking behavior, X_4, Farm science centre exposure, Y=Attitude of the farm women towards farm science centre scientist)

scientist increased by 0.366 units. The model can further be explained that 39.50% of the total variability of the dependent variable is explained by independent variable x_1 (agricultural knowledge) and x_2 (scientific orientation).

Model 3: The model 3 (Table 3) of the coefficient above can be written as:

$$Y= a+ b_1x_1+ b_2x_2+ b_3x_3 \text{ ---------- } b_px_p$$

Where,

Y= Predictors for attitude of the farm women towards farm science centre scientist

a = 8.208, b_1 = 0.425, b_2= 0.363, b3= 0.339,

Model R-square= .502

x_1 = Agricultural Knowledge,

x_2= Scientific orientation,

x3= Information seeking behavior

The results revealed that as Information seeking behavior of the respondent increased by 1 unit, positive attitude of the farm women towards farm science centre scientist increased by 0.399 units. The model can further be explained that 50.20 % of the total variability of the dependent variable is explained by independent variable x_1 (agricultural knowledge), x_2 (scientific orientation) and x_3 (information seeking behavior)

Model 4. The model 4 (Table 3) of the coefficient above can be written as:

$$Y= a+ b_1x_1+ b_2x_2+ b_3x_3 + b_4x_4 \text{ ---------- } b_px_p$$

Where,

Y= Predictors for attitude of the farm women towards farm science centre scientist

a = 11.008, b_1 = 0.259, b_2=0.378, b3= 0.318, b4= 0.286, Model R-square= .558

x_1 = Agricultural Knowledge,

x_2= Scientific orientation,

x_3=Information seeking behavior,

x_4= Farm science centre exposure

The results revealed that as farm science centre exposure of the respondent increased by 1 unit, positive attitude of the farm women towards farm science centre scientist by 0.286 units. The model can further be explained that 55.80% of the total variability

ANOVA

Model		Sum of Sq.	Df	Mean Sq.	F	Sig.
1	Regression	3135.906	1	3135.906	107.433	.000[a]
	Residual	8698.424	298	29.189		
	Total	11834.330	299			
2	Regression	4725.170	2	2362.585	98.702	.000[b]
	Residual	7109.160	297	23.937		
	Total	11834.330	299			
3	Regression	5995.824	3	1998.608	101.325	.000[c]
	Residual	5838.506	296	19.725		
	Total	11834.330	299			
4	Regression	6604.613	4	1651.153	93.139	.000[d]
	Residual	5229.717	295	17.728		
	Total	11834.330	299			

Coefficients

Model		Unstandardized Coefficients		SC	t	Sig.
		B	SE	Beta		
1	(Constant)	39.310	1.799		21.855	.000
	X_1	.423	.041	.515	10.365	.000
2	(Constant)	13.519	3.560		3.798	.000
	X_1	.420	.037	.512	11.380	.000
	X_2	1.398	.172	.366	8.148	.000
3	(Constant)	8.208	3.298		2.489	.013
	X_1	.349	.035	.425	10.074	.000
	X_2	1.387	.156	.363	8.902	.000
	X_3	.308	.038	.339	8.026	.000
4	(Constant)	11.008	3.163		3.480	.001
	X_1	.212	.040	.259	5.266	.000
	X_2	1.444	.148	.378	9.755	.000
	X_3	.289	.037	.318	7.919	.000
	X_4	1.075	.183	.286	5.860	.000

a. Dependent Variable: Y

SC=Standardized Coefficients

of the dependent variable is explained by independent variable x_1 (agricultural knowledge), x_2 (scientific orientation), x_3 (information seeking behavior) and x_4 (farm science centre exposure).

From summery of stepwise selection (Table 3, model summery) shows that, 4 factors found to be significantly influencing on attitude of the farm women towards farm science centre scientist at 0.05 levels of significance (Table 3, ANOVA). These variable includes x_1 (agricultural knowledge), x_2 (scientific orientation), x_3 (information seeking behavior) and x_4 (farm science centre exposure). The multiple correlation coefficient (R=0.747) indicated the (Table 3, Model summary: Model 4) relationship between attitude of the farm women towards farm science centre scientist and continuous independent variable is quite strong and positive.

CONCLUSION

It is concluded from the study that the attitude of the farm women towards farm science centre scientist were highest in case of bring about significant improvement in agricultural production followed by the scientist are more exposed to new technologies, new agricultural skill development of the farm women, important and useful agricultural practices discussion, information provided by farm science centre is different from others extension organization, knowledge and skill of the farm women were change after participating farm science center training programmes, the scientist give special consideration to the farm women, farm science centre information are very useful to the farm women and farm science centre scientist recognize the farm women. It is revealed from the study that variables educational level, size of family, house type, annual income, type of land, irrigated area, livestock possession, material possession, association of the respondents with different organization, social participation, scientific orientation, economic orientation, communication skill, mass media exposure, farm science centre exposure, sources of information, information seeking behavior, information exchange, decision making ability and agricultural knowledge had positively and significantly correlated with the attitude of the farm women towards farm science centre scientist. It is further revealed from the regression analysis that only four predictor variables agricultural knowledge, scientific orientation, information seeking behavior and farm science centre exposure had positively and significantly influenced on attitude of the farm women towards farm science centre scientist.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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