A Study on Knowledge Gain, Adoption and Attitude towards Training of Farm Women in Port Blair, Andaman

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ABSTRACT

An *Ex Post Facto* study was conducted in four clusters of villages in South Andaman block, Port Blair of South Andaman district. The respondents comprising of 240 farm women who had undergone three days training from KVK-CARI, Port Blair and also untrained (30 each in both category) on the subjects / enterprises namely mushroom cultivation, kitchen gardening, layer farming and fresh water pisciculture were randomly selected to infer the knowledge gain, adoption and the attitude towards the training. The respondents in the trained category gained medium level of knowledge, adoption and attitude towards training, whereas those of untrained gained low level. Among the total respondents in the trained farm women category, more than half (63.34%) showed medium level of adoption followed by high (23.33%) and low (13.33%), whereas in the untrained farm women category a little more than half (50.84%) showed low level of adoption followed by medium (28.33%) and high (20.83%) in all enterprises. It could be noticed that among the total respondents in the trained women category, more than half (60.83%) showed medium level of attitude towards training followed by high (27.50%) and low (11.67%), whereas in the case of untrained farm women a little less than half (48.33%) showed low level of attitude towards training followed by medium (30.00%) and high (21.67%). The finding will be of immense help in modifying the training process and regulating the variables to make them effective. It will also help the trainers in planning and designing the programmes on scientific lines.

Key words: Knowledge gain, technological adoption, attitude, training, farm women

INTRODUCTION

In developing countries like India, agriculture and agro-based industries play a vital role in improving the economy where 70 per cent of the population depends on agriculture to earn their livelihood. Some vital issues like limited availability of land, unemployment and the aspiration to become self-reliant have made oneself to venture into new enterprises, particularly in the field of agriculture. Hence, there is a need to keep pace with the accelerating life involvement and the enlarging concept of farmers capabilities, for which training of the farmers in their vocations of interest are essential to convert them into an active force. Imparting of appropriate training programme will definitely contribute towards the development of knowledge, change in attitude and adoption of the technological intervention by farm women significantly. On the other hand mere providing of training will not help much in bringing desired changes in the farmers unless proper environment are created for the application of the knowledge and the skill gained by the participants through trainings. The three days training capsule of the KVK of CARI is designed in an interactive and participatory mode with 60:40 ratio of hands-on session and theory. In this study an effort has been made to assess the impact of selected training programmes conducted.

METHODOLOGY

The study was conducted in four villages namely Guptapara, Manpur, Manglutan and Wandoor in South Andaman block, Port Blair of South Andaman district in the year 2012. The respondents in this study comprising a total of 240 farm women both who had undergone three days training from KVK-CARI, Port Blair and also untrained (30 each in both category) on the subjects /enterprises namely mushroom cultivation, kitchen gardening, layer farming and fresh water pisciculture were selected for assessment of knowledge gain, adoption and change in attitude towards the training.

An Ex post facto design was used wherein the researcher evaluated the effect of satisfactorily occurring phenomenon after the occurrence. Relevant data on the knowledge gain, adoption and change in attitude of the respondents were collected through pre-tested interview schedule, analyzed and tabulated.

Measuring knowledge gain

Knowledge gain was operationalized as the quantum of information (or message) newly learnt by an individual trainee due to the exposure to the training. The questions were selected by applying both difficulty and discriminatory indexes. Thereafter, the knowledge test was developed to measure the knowledge level of trained and untrained respondents.

Measuring adoption

Adoption of scientific technologies for raising crop

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production was taken up as the dependent variable for the present study. It was measured with the help of Adoption Index (Anandaraja, 1999) by working out the percentage of number of practices applicable in this situation in assigning unit weightage to the number of the practices adopted.

$$\text{Adoption Index} = \frac{Ai}{N} \times 100$$

Where,

Ai = Number of practices adopted by i^{th} farmer
N = Total practices applicable

Measuring attitude towards training

Attitude was operationally defined as the degree of positive or negative disposition associated with the individual towards training. The scale developed by Sundararajan (1985) was taken into accord. The sum of the scores on individual items represented the attitude score for individual farm women. Finally based on mean and standard deviation they were classified into low, medium and high groups.

RESULTS AND DISCUSSION

Knowledge gain

The knowledge levels of the farm women, both trained and untrained in four different enterprises namely kitchen gardening, mushroom cultivation, layer farming and fresh water pisciculture were assessed in order to find out the knowledge gain in the respective fields.

From the Table 1, it could be observed that among the total respondents in the trained women category, little more than half (55.83%) gained medium level of knowledge followed by high (31.67%) and low (12.50%), whereas in untrained women category, a little less than half (45.84%) gained knowledge at low level followed by medium (29.16%) and high (25.00%) in all the enterprises.

It could be further inferred that most of the trained farm women in all the four enterprises namely, kitchen gardening (50.00%), mushroom cultivation (56.67%), layer farming (63.33%) and fresh water pisciculture (53.33%) showed medium level of knowledge gain, as they had previously underwent training, whereas in the untrained farm women category, it could be seen that in all the four enterprises namely kitchen gardening (43.34%), mushroom cultivation (36.67%), layer farming (53.34%) and fresh water pisciculture (50.00%) showed low level of knowledge gain as they had not undergone training in the respective fields.

The reason for the above knowledge gain by the trained farm women might be due to the fact that farm women belonging to medium age group coupled with better educational status, possessed the nature of venturesome and enthusiasm. Besides, voluntary participation with zeal to generate self-employment for meeting the expenditure of the family members would have lead to more gain in knowledge. Likewise, the reference materials in the form of leaflets / folders supplied during the training period and regular interaction thereafter with the visiting change agents of KVK CARI would have aided in gaining more knowledge among the trained farm women. Among the untrained farm women the above mentioned facilitation factor are apparently lacking. Besides, lack of interest and tendency to be orthodox have by them behind, resulting in low level of gain in the knowledge comparatively. This finding is in line with the findings of Kumar and Subramanian (1994), Murugesan (1996) and Sriram (2000).

Table 1: Distribution of the respondents according to their knowledge gain in different enterprises

n=240

| Category | Enterprises | | | | | | | | Overall | |
| | Kitchen gardening | | Mushroom cultivation | | Layer farming | | Fresh water pisciculture | | Trained No. | Untrained No. |
	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.		
Low	05 (16.67)	13 (43.34)	05 (16.66)	11 (36.67)	02 (6.67)	16 (53.34)	03 (10.00)	15 (50.00)	15 (12.50)	55 (45.84)
Medium	15 (50.00)	10 (33.33)	17 (56.67)	10 (33.33)	19 (63.33)	07 (23.33)	16 (53.33)	08 (26.67)	67 (55.83)	35 (29.16)
High	10 (33.33)	07 (23.33)	08 (26.67)	09 (30.00)	09 (30.00)	07 (23.33)	11 (36.67)	07 (23.33)	38 (31.67)	30 (25.00)
Total	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	120 (100.00)	120 (100.00)

Figures in parentheses indicate percentage

Adoption

The adoption behaviour of the farm women, both trained and untrained in the four enterprises namely kitchen gardening, mushroom cultivation, layer farming and fresh water pisciculture was assessed in terms of their adoption of the technologies.

Table 2 indicated that among the total respondents in the trained farm women category, more than half (63.34%) showed medium level of adoption followed by high (23.33%) and low (13.33%), whereas in the untrained farm women category, a little more than half (50.84%) showed low level of adoption followed by medium (28.33%) and high (20.83%) in all enterprises. It could be further inferred that most of the trained farm women in all the four enterprises namely kitchen gardening (53.34%), mushroom cultivation (63.34%),

layer farming (66.67%) and fresh water pisciculture (70.00%) showed medium level of adoption of technologies in the concerned fields, whereas in the untrained farm women category, it could be observed that in all the four enterprises namely kitchen gardening (50.00%), mushroom cultivation (40.00%), layer farming (56.67%) and fresh water pisciculture (56.67%) they showed low level of adoption of the technologies in the respective fields. The reason for medium level of adoption of technologies in different enterprises by the trained farm women and high percentage of low level of adoption of technologies by the untrained farm women may be either due to lack of proper knowledge or technical know-how and do-how in the enterprises chosen for obtaining sustainable income. This finding is in confirmation with the findings of Sriram (1997).

Table 2: Distribution of the respondents according to their adoption in different enterprises

n=240

| Category | Enterprises | | | | | | | | Overall | |
| | Kitchen gardening | | Mushroom cultivation | | Layer farming | | Fresh water pisciculture | | Trained No. | Untrained No. |
	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.		
Low	04 (13.33)	15 (50.00)	04 (13.33)	12 (40.00)	04 (13.33)	17 (56.67)	04 (13.33)	17 (56.67)	16 (13.33)	61 (50.84)
Medium	16 (53.34)	09 (30.00)	19 (63.34)	10 (33.33)	20 (66.67)	08 (26.67)	21 (70.00)	07 (23.33)	76 (63.34)	34 (28.33)
High	10 (33.33)	06 (20.00)	07 (23.33)	08 (26.67)	06 (20.00)	05 (16.66)	05 (16.67)	06 (20.00)	28 (23.33)	25 (20.83)
Total	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	120 (100.00)	120 (100.00)

Figures in parentheses indicate percentage

Adoption in kitchen gardening enterprise

On careful analysis of the adoption pattern as revealed in Table 3, in kitchen gardening enterprise, the following inferences could be drawn which is very distinctive between the trained and the untrained farm women who have taken up kitchen gardening as their main income generating enterprise.

Seven important technologies in the kitchen garden enterprise were the highlights of the adoption behaviour of both the trained and untrained farm women. It was found that, among the mentioned technologies the adoption percentage ranged from 76.66 per cent to cent per cent in the category of trained farm women which is rated as favourably good. Further, it could be inferred that, cent per cent adoption in the technology of harvesting technique was reported followed by technologies on

dilution and chemical spraying method (96.66%), mixing and application of fertilizer (93.33%), planting of solanaceous crops (90.00%), nursery bed preparation (86.66%), propagation of Coccinia (83.33%) and plant selection and planting (76.66%). The reason behind this range of adoption pattern in the technologies might be due to the practical exposure of the trained farm women, which have enabled them to choose and pick the most need based and desirable technology for their venture. In the category of the untrained farm women the adoption percentage of the mentioned technologies ranged from 16.66 per cent to a maximum of 56.66 per cent which is rated to be very low comparatively.

Further it could be inferred that the poor level of adoption may be due to lack of practical training exposure and the technologies which the untrained farm women has adopted is only due to their importance and learning from their peers.

Table 3: Distribution of the respondents according to their adoption of technologies in Kitchen gardening enterprise

Technologies	Trained (n=30)		Untrained (n=30)	
	No.	%	No.	%
Nursery bed preparation	26	86.66	07	23.33
Planting of Solanaceous crop	27	90.00	05	16.66
Propagation of *Coccinia*	25	83.33	10	33.33
Plant selection and planting	23	76.66	05	16.66
Mixing and application of fertilizer	28	93.33	15	50.00
Dilution and chemical spraying method	29	96.66	17	56.66
Harvesting technique	30	100.00	13	43.33

Adoption in Mushroom cultivation enterprise

From Table 4 it is clear that in the mushroom cultivation enterprise, both the trained and untrained farm women differed in their level of adoption towards the five important technologies for taking up a better crop and generating income.

In the category of trained farm women, the adoption level ranged from 83.33 per cent to cent per cent, which is again to be rated as good level of adoption. Cent per cent adoption was noticed in bed making using paddy straw followed by preparation and application of disinfectant (96.66%), harvesting technique (90.00%), packing of harvest (86.66%) and finally tearing bed (83.33%). The reason behind the high level of adoption might be due to the simple nature of mushroom technologies to follow and adopt. Besides, it required less space for cultivation in the homestead itself and was found to be affordable to all farm women because of its less cost of cultivation and high remuneration. In the category of untrained farm women, the adoption percentage of the mentioned technologies ranged from 23.33 per cent to 76.66 per cent, which also gives an indication of its preference for easy cultivation and fast money making enterprise.

Table 4: Distribution of the respondents according to their adoption of technologies in Mushroom cultivation enterprise

Technologies	Trained (n=30)		Untrained (n=30)	
	No.	%	No.	%
Bed making using paddy straw	30	100.00	15	50.00
Preparation and application of disinfectant	29	96.66	07	23.33
Tearing bed	25	83.33	20	66.66
Harvesting technique	27	90.00	10	33.33
Packing of harvest	26	86.66	23	76.66

Adoption in layer farming enterprise

The data in Table 5 indicated that a total of eight recommended technologies in layer farming enterprise were checked among the trained and untrained farm women for the level of adoption.

It could be inferred that in the category of trained farm women, the adoption level was very high, as the range reflected between 66.66 per cent to cent per cent. Three technologies namely preparation and making of feed mixture, debeaking technique and vaccination method shared equal adoption level of cent per cent followed by purification of water (96.66%), brooding (90.00%), litter material thickness and type (83.33%), culling of birds (76.66%) and diagnosing coccidiosis (66.66%). The high adoption level in this enterprise is due to the fact that assured availability of market value for the produce in absence of any other commodities and generation of self-employment. In untrained farm women category, adoption level ranged from 16.66 per cent to 56.66 per cent. Only two technologies namely brooding (56.66%) and preparation and mixing of feed mixture (50.00%) were adopted by most, whereas the rest had low level of adoption. The reason may be non-risk bearing nature of the farm women and also technically very weak to take up the layer farming enterprise in a small or big way.

Table 5: Distribution of the respondents according to their adoption of technologies in Layer farming enterprise

Technologies	Trained (n=30)		Untrained (n=30)	
	No.	%	No.	%
Brooding	27	90.00	17	56.66
Preparation and mixing of feed mixture	30	100.00	15	50.00
Litter material thickness and type	25	83.33	13	43.33
Purification of water	29	96.66	10	33.33
Diagnosing coccidiosis	20	66.66	05	16.66
Debeaking technique	30	100.00	09	30.00
Vaccination method	30	100.00	14	46.66
Culling of birds	23	76.66	08	26.66

iv. Adoption in fresh water pisciculture enterprise

Table 6 showed that among the six technologies recommended for successful venture of fresh water pisciculture, alarming result was manifested by both the trained and untrained farm women in adopting the technologies. In the category of trained farm women, the adoption level ranged from a minimum of 16.66 per cent to a maximum of cent per cent. The technologies like fish stocking and fertilizer application had cent per cent level of adoption followed by pond preparation (96.66%), pond stocking (90.00%), supplementary feed making (50.00%) and induced breeding (16.66%). In the category of untrained farm women, the adoption level ranged from zero per cent to a maximum of 23.33 per cent. This high percentage of low level of adoption was inferred due to fact that the enterprise needs sufficient area to start with, along with high initial cost of establishment. Further, it

also needed regular and periodical monitoring accompanied by specialized skill for undertaking the enterprise in a successful way.

Table 6: Distribution of the respondents according to their adoption of technologies in Fresh water pisciculture enterprise

Technologies	Trained (n=30)		Untrained (n=30)	
	No.	%	No.	%
Induced breeding	05	16.66	00	00.00
Pond stocking	27	90.00	03	10.00
Pond preparation	29	96.66	07	23.33
Fertilizer application	30	100.00	06	20.00
Supplementary feed making	15	50.00	01	03.33
Fish stocking	30	100.00	11	36.66

Attitude towards training

Attitude towards the training of the trained and untrained farm women in four different enterprises namely kitchen gardening, mushroom cultivation, layer farming and fresh water pisciculture were assessed and the result is depicted in Table 7. It could be noticed that

among the total respondents in the trained women category, more than half (60.83%) showed medium level of attitude towards training followed by high (27.50%) and low (11.67%), whereas in the case of untrained farm women a little less than half (48.33%) showed low level of attitude towards training followed by medium (30.00%) and high (21.67%). It could be further inferred that most of the trained farm women in all the four enterprises namely kitchen gardening (53.34%), mushroom cultivation (66.67%), layer farming (60.00%) and fresh water pisciculture (63.33%) showed medium level of attitude towards training. In the category of untrained farm women, in all the four enterprises namely kitchen gardening (46.67%), mushroom cultivation (43.33%), layer farming (50.00%) and fresh water pisciculture (53.33%) high percentage of low level of attitude towards the training was exhibited. This might be due to the fact that smaller land holdings with no crop and no employment for the respondents could have paved way for the attitudinal disposition of the above range in all the four enterprises. The finding is found to be in line with the findings of Soundararajan (1985).

Table 7: Distribution of respondents according to their attitude towards the training in different enterprises

n=240

Category	Enterprises								Overall	
	Kitchen gardening		Mushroom cultivation		Layer farming		Fresh water pisciculture		Trained No.	Untrained No.
	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.	Trained No.	Untrained No.		
Low	04 (13.33)	14 (46.67)	03 (10.00)	13 (43.33)	05 (16.67)	15 (50.00)	02 (6.67)	16 (53.33)	14 (11.67)	58 (48.33)
Medium	16 (53.34)	10 (33.33)	20 (66.67)	09 (30.00)	18 (60.00)	09 (30.00)	19 (63.33)	08 (26.67)	73 (60.83)	36 (30.00)
High	10 (33.33)	06 (20.00)	07 (23.33)	08 (26.67)	07 (23.33)	06 (20.00)	09 (30.00)	06 (20.00)	33 (27.50)	26 (21.67)
Total	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	30 (100.00)	120 (100.00)	120 (100.00)

Figures in parentheses indicate percentage

CONCLUSION

It can be concluded that the respondents in the trained category gained medium level of knowledge, adoption and attitude towards training when compared to untrained. Hence, considering the profile of the trainees, concerted efforts should be taken by the trainers to provide the latest 'know-how and do-how' besides sustaining their interest and motivation by intermittent counseling and guidance through effective follow up. Due emphasis should also be given for the significant variables by the trainer/change agents for improving the knowledge of farm women ushering towards change of

attitude leading to better adoption of the selected enterprise by the farm women. The present investigation will not only be of importance to the trainers and trainees, but also to the extension agency which has given theoretical formulation and forged the new vistas for further investigation.

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