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## ASSESSMENT OF KNOWLEDGE AND SKILL GAINED BY FARM WOMEN THROUGH INSTITUTIONAL TRAINING

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### ABSTRACT

A study was conducted to know the impact of training on knowledge and skill in paddy cultivation of farm women who had undergone a training on Farmers Training Institute, Hebbal, Bangalore. The mean knowledge score difference was observed to be 2.92 from before and after training conducted. The knowledge gain was observed as high in case of 47.17 per cent trainees. The factors like education, land holding, mass media participation and innovativeness were found significant relationship with the knowledge gain. Whereas skill acquired due to training, it was observed that 41.51 per cent had high skill acquired and the characteristics like social participation, land holding, decision-making and innovativeness were found significant relationship with their skill acquired.

**KEY WORDS :** Knowledge, skill gain, institutional training, farm women, pre training, post training

Women play a vital role in agriculture but there is lack of focus on farm women. It was felt that there is a need for training farm women. Consequently, the training programmes were started in Karnataka during the year 1982 under Women and Youth Training Extension Project (WYTEP) specially to impart training to farm women and youth. The huge costs and efforts involved in these training programmes call for periodic evaluation to determine the effectiveness of the training. It is not precisely known whether the training imparted to farm women is effective or not. If so, what extent trainees acquire knowledge and skill about improved practices. Thus, the present study was an attempt to study the impact of

training on knowledge and skill in paddy cultivation on farm women with a view of its performance in the field as well as to know the strong and weak points in the programme and pave the direction to continued improvement among farm women which influence on the use pattern in their fields.

### MATERIALS AND METHODS

The present study was conducted in one of the Farmers Training Centres in Bangalore District of Karnataka State. This institute is purposely selected with a view that all the facilities and resources available to the institute to cater the needs of training. Fifty-three farm women trainees who

attended the two training programmes at Farmers Training Institute, Hebbal, Bangalore were constituted the sample size for the study. To assess the knowledge and skill gain in farm women, a teacher made test as suggested by Anastasi (1961) was employed. The list of knowledge and skill items on paddy cultivation practices was prepared and 13 and 11 items respectively were finally selected in consultation with the trainers for inclusion in the knowledge and skill test. Each item was credited with one score for correct answer. The maximum score one could obtain was 13 and 11 respectively. An interview schedule was developed taking into consideration of the objectives of the study and data were collected by personal interview method. The knowledge and skill scale were administered at two stages i.e., one at pre and another at post-training session. Thus, the data collected were analysed by using 't' test and correlation coefficient test.

## RESULTS AND DISCUSSION

The knowledge and skill with respect to paddy cultivation acquired due to training were analysed by pre and post evaluation method and the results are presented hereunder.

### Knowledge gain by the farm women

The results pertaining to the knowledge level of farm women on paddy cultivation both at pre and post training period were collected and presented in Table 1. Farm women had low level of knowledge (88.63%) on paddy cultivation which was observed before the training whereas 11.32 per cent had knowledge on paddy cultivation upto medium level. The mean knowledge score before training was worked out to be 2.92. After the training, the respondents gained knowledge on

Table 1. Impact of institutional training on knowledge level of farm women on paddy cultivation

Knowledge level	Pre-training		Post-training	
	No.	%	No.	%
Low (0 to 4 score)	47	88.68	2	3.77
Medium (5 to 9 score)	6	11.32	26	49.06
High (above 9 score)	0	0.00	25	47.17
Total	53	100.00	53	100.00
Mean score	2.96		8.69	
Difference in mean score	5.73			
't' value	13.795**			

\*\* Significant at 1 per cent level

paddy cultivation substantially which ranged from medium to high level, their percentages being 49.06 and 47.17. Only 3.77 per cent of respondents had remained at low knowledge level after the training. The mean score of 8.69 was observed after the training among the farm women. The difference in mean score was worked out to 5.73 which indicates that almost 6 practices were learnt by the participants during the training.

The 't' test was employed and found that it was 13.795 which was significant at 1 per cent level. This indicated that there was significant differences in the mean knowledge scores of farm women before and after the training. Thus, the training had higher impact on the knowledge on paddy cultivation. Similar results were also reported by Jamunarani (1989) and Rudhihal *et al.* (1994).

Further, the knowledge gain was correlated with the socio-psychological characteristics of farm women trainees. The factors which influence on the variation in knowledge gain of farm women were analysed. The calculated 'r' and 't' values were presented in Table 2. It is observed that certain characteristics like education, land holding, mass media participation and innovativeness of farm women have shown the significant relation with the knowledge gain in paddy cultivation due to training. The characteristics like land holding and innovativeness have found highly significant relationship at 1 per cent level whereas education and mass media participation have found to be significant at 5 per cent level. It can be inferred that

Table 2. Relationship of knowledge gain with personal and psychological characteristics of farm women

Variables	'r' value	't' value
Age	-0.2063	1.5058
Marital status	-0.1684	1.2202*
Education	0.2952	2.2063*
Caste	0.0112	0.0800
Social participation	0.1692	1.2261
Nature of family	0.0921	0.6607
Family size	0.0269	0.1921
Land holding	0.3834	2.9652**
Mass media participation	0.2850	2.1237*
Decision-making	0.2417	1.7785
Innovativeness	0.3892	3.0171**
Attitude	0.1397	1.0072

\* - Significant at 5 per cent level, \*\* - Significant at 1 per cent level

land holding and innovativeness have greater role in gaining the knowledge level. These factors have the capacity to build the confidence in the minds of trainees, so that the trainees can have the information in the training. Whereas the education has eventually have the intention and have prone to learn more when compared to other categories. Finally the mass media participation have the relevant experience before the training which influence the trainees to learn more. The results are in conformity with the results reported by Reddy and Rathnakar (1994).

### Skill acquired by farm women

A teacher made scale containing 11 statement were administered at pre and post training period. The results are presented in Table 3. It is seen that almost all the farm women had low skill level before the training, the percentage of this category being 96.23. Only 3.77 per cent of respondents had skills upto medium level. However, none have the high level of skill observed before the training conducted. Whereas after the training it is observed that an equal percentage of farm women had acquired the skill level on paddy cultivation to the medium and high level. Out of which 49.06 per cent had acquired medium level of skills and 41.51 per cent had acquired high level of skill in paddy cultivation. However, a few i.e., 9.43 per cent had remained in the low group who have not gained substantially. On an average the farm women have gained considerable skill in paddy cultivation. It is seen that the mean score difference was observed as 6.63. It could be understood that majority of farm women acquired 6 to 7 items of skill aspects due to training. The impact of training on the skill acquisition in farm women was highly significant in confirmation with the 't' value which is found to

Table 3. Skill level of farm women with respect of paddy cultivation

Skill level	Pre-training		Post-training	
	No.	%	No.	%
Low (0 to 3 score)	51	96.23	5	9.43
Medium (4 to 7 score)	2	3.77	26	49.06
High (above 7 score)	-	-	22	41.51
Total	53	100.00	53	100.00
Mean score	0.73		7.36	
Difference in mean score	6.63			
't' value	15.662**			

\*\* Significant at 1 per cent level

Table 4. Relationship of skill acquired with the personal and psychological characteristics of farm women

Variables	'r' value	't' value
Age	0.0197	0.1407
Marital status	0.0575	0.4113
Education	0.0990	0.7107
Caste	0.1367	0.9856
Social participation	0.2847	2.1215*
Nature of family	0.1002	0.7193
Family size	0.0584	0.4177
Land holding	0.3669	2.8159**
Mass media participation	0.0774	0.5544
Decision-making	0.4211	3.3155**
Innovativeness	0.2853	2.1259*
Attitude	0.1583	1.1461

\* - Significant at 5 per cent level ; \*\* - Significant at 1 per cent level

be 15.662. Verma *et al.*, (1984) found similar results.

With intention of finding out the association between the skill acquired and personal and psychological characteristics of farm women, the correlation was worked out and the results are presented in Table 4. It can be seen that majority of the characteristics were found non significant association with the skill acquired by the farm women in paddy cultivation. Only four characteristics out of 12 characteristics studied found significant relationship with the skill gained during the training period. Out of which land holding and the decision-making pattern of the farm women trainees were found highly significant relation with their knowledge gain. Whereas social participation and innovativeness have shown the significant relationship at 5 per cent level with the skill acquisition. The results of Mehta *et al.* (1990) indicated that the skill of the trainees have increased due to the training which is in conformity with the above results.

The findings of this study implied that the training programme for farm women had greater influence on acquiring knowledge and skill and useful as the farm women engaged in almost all the operations at the field level during the paddy cultivation. It could be a great deal of attempt for transferring the technologies as well as to improve the human resources at large.

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## AMMONIA VOLATILIZATION LOSSES FROM APPLIED UREA IN FLOODED ALKALI SOILS

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### ABSTRACT

A laboratory study was conducted to evaluate the effect of different factors on ammonia volatilization losses in flooded alkali soils (ESP 26 & 82). Incubation studies in these soils showed that the losses were largely governed by pH/alkalinity of the system. The duration of presubmergence decreased the cumulative ammonia volatilization losses from 19.2 to 13.5 per cent in ESP 26 soil and 22.5 to 16.0 per cent in ESP 82 soil at 0.5 and 10 cm floodwater depths, respectively. Flooding of the soil decreased the soil pH resulting in lower losses from 23.9 to 16.9 per cent in ESP 26 soil and 27.8 to 19.3 per cent in ESP 82 soil and 27.8 to 19.3 per cent in ESP 82 soil. The cumulative ammonia losses were maximum in the control treatment followed by Dhaincha straw, FYM, Rice husk and Wheat straw, varied from 8.1 to 16.9 per cent in ESP 26 soil and 9.0 to 20.5 per cent in ESP 82 soil, respectively. The floodwater  $\text{NH}_4^+$ , pH and  $\text{CO}_3^{2-} + \text{HCO}_3^-$  in all the experiments followed the same trend in which the losses occurred.

**KEY WORDS :** Ammonia volatilization losses, floodwater  $\text{NH}_4^+$ -N, pH and  $\text{CO}_3^{2-} + \text{HCO}_3^-$ , incubation studies, sodic soils, urea

Urea is gaining an important place among the solid nitrogenous fertilizers in world markets. In India, about 85 per cent of total N consumed is only in the form of urea. When urea or urea containing fertilizer is applied on soil surface, it gets hydrolyzed through enzymatic conversion from amide to ammonium and one or more inorganic carbon forms. In alkali soils, the soil pH is high due to the presence of  $\text{Na}^+$  on the exchange complex and urea further increases the alkalinity during the hydrolysis due to formation of  $\text{NH}_4^+$  ions. During their reclamation, they are cropped to rice and wheat in the initial years (Ponnampereuma, 1978 ; Swarup, 1987, 1988).

Ammonia volatilization losses may occur whenever free ammonia is present near the soil surface. The quantities of ammonia lost are highly variable depending on such factors as rate, type and method of nitrogen fertilizer application, organic matter and environmental factors including

temperature, moisture and wind. Studies in highly alkali soils are limited and indicate extensive losses in them. Information on these aspects in sodic soils is meagre. Therefore, the present experiments were conducted in the laboratory to study the influence of various soil factors on ammonia volatilization losses from applied urea under submerged conditions at two levels of sodicity (ESP 26 and 82).

### MATERIALS AND METHODS

The soils used in this study were collected from experimental farm and Gudha Research Farm of the Central Soil Salinity Research Institute, Karnal. The important physico-chemical properties are given in Table 1.

The method of measuring the ammonia volatilization losses consisted of device similar to that used by Fenn and Kissel (1973). Two hundred