The Impact of Modern Technology on Farm Women

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1. Introduction

Inspite of their significant contribution in agriculture and animal care, farm women, who play a pivotal role in agro- sectors, continue to remain as "invisible hands" and are not usually recognized in terms of their actual share to family income through their work outside the home. This results in paucity of specific programme for agricultural development to improve the efficiency and output of farm women.

Farm women constitute 50 per cent of the work force and do more than 90 per cent of the animal husbandry and dairy related tasks. Most of the field operations for rice farming are done by women. They even take care of crop production, dairy products, fishing etc. Despite their immense contribution to agriculture they are still treated as farm labour rather than partners and decision makers.

With the increased mechanization of farm, men drive tractors and use threshers and women continue to apply manure manually, carry head loads of cowdung, fuel and fodder. They continue to work in smoky kitchens and in insanitory conditions.

Researches show that where technology has benefited the male farmers, the burden of women has increased because of increased yields and increased cultivation areas and thus the women continue to be over burdened.

Illiteracy is another great handicap for farm women who are not in a position to absorb the scientific information to improve their skills and efficiency and remain trapped in the vicious cycle of ignorance, low wages, poor food intake and poor health.

With this background in view, the present study was undertaken with the following objectives:

To study nature and extent of involvement of rural women in farming and home activities.

To study the impact of improved technology adopted in farm and home activities on women in particular.

To investigate the extent of women's participation in decision making regarding selection and use of improved technologies.

To study the mechanism for transfer of technology to rural women.

2. Methodology

The study was conducted in the Shilarpur village of Najafgrah Block, Delhi. A sample of 200 farm women representing marginal, small and big farm families were selected at random. Data were collected by personal interviews using a pre-tested questionnaire. The areas covered in the questionnaire pertained to the background information; time spent in different agricultural and animal husbandry, house hold activities; technologies in use and decision making patterns related to these activities. The data was analyzed using appropriate statistical methods.

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3. Results and Discussion

3.1. Women Participation in Different Activities

The data in the Table 1 below on the average time spent by women on different activities revealed that on an average, women spent about 2.43 hours on cooking of food, 2.86 hours on care of milk animals, 3.1 hours at the farm, 2.2 hours for taking meals to the farm, one hour in fetching water and more than half an hour for collection of fuel wood, another for shaping of cowdung cakes, 1-2 hours in washing of clothes, 1 hours in grinding of flour/week, 45 minutes in washing utensils and 45-50 minutes in sweeping and mopping. With all these activities, the women had hardly 1.42 hours for care of children, their family members and personal care of themselves. The average daily workload of women clearly reveals that they are involved for 15-16 hours per day in different house hold, farm and animal husbandry activities. In terms of average man-days of work, the workload is much higher for women than men from high and medium socio-economic status.

Table 1 Average Number of Hours Spent on Different Activities by Women Per Day

Activities	No. of women	Average time spent (in hours)
Farm activities	109	3.10
Care of animal	177	2.86
Taking meals to farm	42	2.20
Cowdung collection and shaping of dung cakes	174	0.68
Cooking	200	2.43
Fetching water	66	1.09
Fetching fuel wood	43	1.34
Washing of clothes	200	1.18
Grinding of flour (hours/week)	200	1.00
Child care	147	1.42
Sweeping and moping	200	0.48
Sewing/knitting/embroidery etc.	121	0.48
Washing of utensils	200	0.45

Inspite of the heavy involvement of women in agricultural operations and animal care, the farm women have no exposure from trained personnel. Data in Table 2 revealed that hardly 1-2 women had any contacts with the VLWs and block level officers. However, the frequency of contacts with the scientists was slightly better which was probably due to the Kisan Mela and the Women's Programme of this annual event.

Table2 Frequency of Contact with the Extension Personnel

Extension personnel	Never	Once in a while	Regu-larly
VLW (Female)	197	2	1
VLW (Male)	183	16	1
B.L.W	173	25	2
Scientist	179	16	5

Data in Table 3 revealed the frequency of exposure of farm women through training, group meeting, field day, Kisan Mela and visit to IARI farms/KVK etc. It is disappointing to note that out of 200 farm

farm activities/food preservation and 10 women reported to have attended the Kisan Mela. Thus, despite putting in so many hours of work both in the farm and home activities, women are not encouraged to improve their knowledge and skill for better efficiency of work and reduction of drudgery.

Table3 : Educational Programmes Attended During the Last Five Year

Programme	Frequency
Training	6
Group meeting	5
Field day	3
Kisan mela	10
Visit to IARI/ Research Farm/KVK etc.	2

3.2. Impact of Improved Technology

As regards the effect of improved technology on work efficiency, majority of women (101) expressed that the tractor had simplified their work. Similarly for chaff cutter, 83 women expressed an increase in their work efficiency and reduction of drudgery. Women using L.G.P. and mini grain mill felt that these gadgets had increased their work efficiency. 65 families expressed that the tractor had given them some additional employment. Similarly, 15 families felt that the use of pumpset had generated extra employment for them. However, majority of the families (50) expressed that the use of new and improved technologies such as tractor, chaff cutter, mini grain mill and pumpset had displaced labour. The study clearly revealed that women from different socio-economic status were affected differently by the improved technologies.

Improved household technologies have reached majority of the well to do families but has yet to reach the rural women who are putting in many long hours of work in the farm and household activities. The data further revealed Table 4 that occupation and land holding size were directly related to the adoption of improved technology such as, H.Y.Vs., multiple cropping, use of fertilizer/pesticides, improved vegetable crop/ fruit and improved farm implements. TV viewing had a significant relation with improved poultry.

Table 4 Adoption of Technologies as Related to Different Variables

Variable	Technology	Coefficient of correlation
Occupation	Multiple cropping	-0.2083*
Educational level of male heads	Pressure cookers	0.1837*
Educational level of male heads	Improved poultry	-0.2215**
Educational level of female heads	Nutan stove	0.1806*
Land size	Use of fertilizer/HYV/pesticide	0.1991*
Land size	Multiple cropping	0.3583**
Land size	Improved vegetables/ orchard crops	0.2404**
Land size	Improved farm implements	0.2698**
TV viewing	Improved poultry	0.1949

* Significant at 0.01 level of probability, ** Significant at 0.001 level of probability

4. Conclusion

In nutshell, a although modernization of agriculture has undoubtedly increased the average income of the family as a unit, the women folk have not received the corresponding access to the production benefits. Thus, there is a need for identifying new income generating enterprises such as setting up of small oil mills etc. for providing employment for the displaced labour. This diversification of employment opportunities need to be based on locally grown crops so that mechanization of agriculture will not displace the local female labourers.

Also, special training need to be organized for training women for effective participation in specialized farm trades such as hybrid seed production, fruit and vegetable processing, agriculture, sericulture, mushroom cultivation etc. These activities can provide gainful employment to women. Based upon the experience with mechanization in Japan it has been brought out that women can also effectively handle the power operated equipment, provide relevant modification are made in the design of equipments and proper training is imparted to the women. This much needed education and training will help them save precious time for vital issues such as the care of young children and their own health to improve their quality of life.

5. Bibliography

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