Success Story

DEMONSTRATION MODEL BASED ON WOMEN FRIENDLY IMPROVED TECHNOLOGIES: A WAY FOR DRUDGERY REDUCTION AND LIVELIHOOD ENHANCEMENT

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ABSTRACT

The agricultural operations especially, weeding and harvesting are drudgerious and generally done by farm women in bending and squatting posture. The study comprises of introduction of drudgery reducing technology using Self Help Groups (SHGs) approach in the two villages viz. Kacchi-berkheda and Dhamarra of Bhopal district, Madhya Pradesh. About, 225 farm women were selected based on their involvement in various agricultural operations. Training and demonstration on improved technologies were provided at the institute and on the farmer's field. The identified women friendly technologies were distributed to the SHGs formed in the villages. The performance and drudgery related data on various farm operations were recorded. Based on the data, a model village for demonstrating drudgery reduction and livelihood enhancement through women friendly technology was established in the two villages. A model village was established with the help of SHGs approach and convergence of different government scheme related to agriculture. The similar model was replicated in other villages of Madhya Pradesh through Krishi Vigyan Kendra, Bhopal.

INTRODUCTION

Women in agriculture play a major role in shaping the economy of the country. The women work force in agriculture is estimated to be around 109 million which amounts to about 45% of the total agricultural workers in the country. They participate in different production and post-production agricultural operations including storage, packing, transport and marketing. Besides household management, most of the work related to management of cattle/ other farm animals is done by women. Though, considerable work has been done to develop agriculture with major emphasis on technical and economic achievement, very little attention has been given to gender issues. The technology development and transfer programmes are generally carried out on the assumption that the technologies are either gender- neutral or that the men are the main users and decision makers. This is often incorrect because women have different technological needs than men due to their different ergonomical characteristics, level of education, experiences, skills, etc. therefore, many of these programmes prove to be ineffective as the technologies introduced are not relevant to the needs of women users, and the transfer programmes do not reach to them.

It is important to ensure greater access for farm women to improve farm tools and equipment needed by them to carry out their work more efficiently and with minimal drudgery. Farm women have little access to non- formal education and training. It is a fact that the agricultural extension services are mainly composed of male agents and as such they tend to channelize knowledge and training on improved technology to male farmers/ workers only. There is also lack of infrastructural facilities for women in relation to technical training, accommodation and transport provisions. It is imperative for state government departments and other organizations involved in promotion of women friendly tools and equipment to have trained resource persons with them for effective transfer of women specific technologies of farm women.

INSTITUTIONAL INVOLVEMENT

The work is part of collaborative research project between ICAR-Central Institute of Agricultural Engineering, Bhopal and National Mission for Empowerment of Women (NMEW), Minsitry of women and child development, Govt. of India, New Delhi which was carried out in two villages in Bhopal district. In this project apart from research scientist,

KVK located at the institute was also actively involved. The institute facility was used during the project period. Based on the baseline survery carried in two villages, drudgery reducing improved technology was introduced and performance data were collected. Demonstration and training on women friendly technologies were provided to the beneficiary women at the institute as well as on farmer's field with the help of experts from KVK. The Institute had provided necessary training on various technologies to the resource persons from different states. Thereby, these trained resource persons further propagate the improved technologies in their states. Also, it will help to enhance work capacity of farm women and reduce drudgery involved in various agricultural activities.

SUCCESS POINTS/RESULTS

Preliminary survey of selected villages: The two project villages namely Dhamara and Kachhibarkheda were selected and socio-demographic data and information on agriculture and other allied activities in the villages and involvement of women in these activities were collected.

Identification of women participants: On the basis of preliminary survey, 225 women participants from both villages were identified based on their active participation and involvement in various farming operations.

Formation of groups of identified women participants: The identified women participants were divided in nine groups of 25 women participant in each group. Each group has one Leader and one associate to carry out the group activities. These groups will work as Self Help Groups and identified technologies will be given to these groups.

Identification and training on improved technologies: In order to reduce drudgery, 13 improved technologies were identified and distributed to the beneficiary women. The identified technologies are viz. seed treatment drum, hand ridger, naveen dibbler, wheel hoe, improved sickle, groundnut stripper, pedal operated paddy thresher, tubular maize sheller, pedal operated maize dehusker-cum-sheller, hanging type grain cleaner, sitting type groundnut decorticator, direct paddy seeder (8 row) and manual seed drills. The trainings on these technologies were provided in groups. Due to these trainings, the awareness level of the participants on improved technologies was raised from 3% to 100%.

Adoption level of improved technologies: The overall adoption level of improved tools/ equipment among farm women increased from 1.6 to 17%. Among the improved technologies, the adoption level was highest for improved sickle (49.3%) followd by twin wheel hoe/wheel hoe (30%), maize sheller (16.7%), naveen dibbler (14.3%), hand ridger (13.8%), grubber weeder (10.8%), and seed treatment drum (9.4%). Also, the adoption level was found higher among yonger aged farm women.

Drudgery reduction and income generation: Use of women friendly technologies resulted in reduction in drudgery from 15 to 47%. About, 61% income was enhanced by using twin wheel hoe weeder and in case of serrated sickle, income raised by 6%.

Comparative performance of improved tool with traditional practices: On the basis of surveyed data, identified tools are distributed to beneficiary women for its use. Performance of some improved tools was done and data were recorded (Table 1 & 2).

Table 1. Comparative field performance of traditional practice with improved technologies for crop production

Name of equipment	Field capacity (m^2/h)	Time (h/ha)	Per cent saving in time with traditional practice	Cost of operation (Rs./ha)	Total area covered (ha)
Ridge forming equipment					
Spade	80	125	-	2813	-
Hand ridger	280	35.7	71.2	804	1.8
Planting equipment					
Manual	42	238.1	-	5357	-
Naveen dibbler	105	95.2	60.0	2143	1.3
Weeding operation					
Khurpi	46	217.4	-	4891	-
Twin wheel hoe	120	83.3	61.7	1875	43.9
Grubber	105	95.2	56.2	2143	4.1
Harvesting					
Local Sickle	75	138.9	-	3125	-
Improved Sickle	78	128.2	7.7	2885	102

Fig. 1. Baseline survey of women participants in Kacchi-berkheda and Dhamarra village

Groundnut decorticator

Seed treatment drum

Tubular maize sheller

Groundnut stripper



Twin wheel hoe Cono weeder Paddy thresher

Fig. 2. Training and field demonstration of improved technologies


Fig. 3. Training to women participants from Kachhi-berkheda and Dhammara village

Fig. 4. Distribution and demonstration of improved sickles to women participants

Table 2. Comparative field performance of traditional practice with improved technologies for post-harvest technology and value addition

Name of equipment	Capacity (kg/h)	Cleaning time (h/100) kg	Cost of operation	
			Rs./100 kg	Saving (%)
Seed treatment				
Plastic bag	42	2.38	53.57	-
Seed treatment drum	58	1.72	38.79	27.59
Cleaning and grading of farm produce				
Supa & sieving	60	1.67	37.5	-
Double serene grain cleaner	90	1.11	25.0	33.3
Pedal cum power operated grain cleaner	350	0.29	6.42	74.28
Shelling of groundnut				
Manual (Splitting)	4	25.0	562.5	-
Groundnut decorticator (sitting type)	22	4.55	102.27	450
Maize shelling				
Manual (sickle)	89	11.11	250	-
Tubular maize Sheller	16	6.25	140.6	43.8

A model village based on drudgery reducing technologies for crop production and livelihood enhancement: The use of improved technologies not only reduce drudgery but also resulted in saving time. This saved time was utilized for income generation by working on other fields on the area basis. Also, the time was utlized in sewing/stiching of cloths and making quality products like pickles, ladoos, etc. Based on this result, a model village for drudgery reduction and livelihood enhancement was developed and same was replicated in the other villages for the women empowerment through agricultural engineering technologies.

OUTCOME

The developed model on drudgery reduction based on women friendly improved technologies was replicated with the help of KVK in other villages namely Bhanpur Gari and Amrawat of Raisen district; Harda, Umarda, Virodha and Chapura of Bhurhanpur district; and Sandavata, Bharakhedi, Cinpuriya, Khatakhedi and Barkheda of Rajgadh district in Madhya Pradesh. Women friendly hand tools/equipment viz. twin wheel hoe, improved sickle, maize sheller, etc. are very much popularized in other districts of Madhya Pradesh to reduce drudgery of agricultural women worker.

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