

Awareness about Drudgery Reducing Farm Tools and Implements by Women Farm Workers in Gujarat, India

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ABSTRACT

The present study investigates awareness towards improved farm tools and implements by the women farmers/farm workers in Vadodara, Kheda, Godhara, Dahov and Dahod districts of Gujarat. Data was gathered from 150 women farmers through a well-structured questionnaire, focused group discussion and personal interview. Findings revealed that women farmers use traditional tools and implements since a long time but most of the women farmers felt immense drudgery in their use. It was also found that most of the farmers were unaware of improved farm tools and implements which reduce drudgery. The results also suggested that the respondents were willing to accept the information and subsequent use the improved tools and implements. This study can provide scope for promotion of technology in gender perspective towards the challenges of farm women would help in reducing drudgery and occupational health problems of women workers in agriculture.

Key words: Awareness; Farm tools; Implements; Drudgery; Farm women;

Agriculture is a primary unorganized sector in which women farm workers perform the majority of the drudgery prone work (Rani, 2007; Nag and Nag, 2004; Mukherjee 2004). Women as farmer or farm workers, participate in several activities such as seeding, transplanting, weeding, fertilizer application, plant protection, thinning, harvesting, processing, selling, winnowing, storing, etc. (Sudharani and Raju, 1991). These works which lead to “drudgery” is conceived as physical and mental strain, agony, monotony and hardship experienced by human beings while all of the women in the is regard is alarming as they continue to be constrained by illiteracy, malnutrition, and unemployment (Nag and Nag, 2004) . Many believe that women’s involvement in agricultural tasks and large is a source of heavy burden of drudgery on them (Verma and Sinha, 1991). The farm women perform agricultural tasks with the age old traditional tools since gender friendly appropriate tools are either not available or are insufficient in number or unawareness. Unsafe,

hazardous, unhealthy and long hours of work with age old traditional and cumbersome tools accelerate health related problems, especially among women farmers (Nag and Nag, 2004).

Farmers/ farm women are not always aware of the improvements they could make by using scientific and technological knowledge. Thus, the attention of farm women was directed towards the women friendly improved farm tools (Patel et al., 2015). Farm women from the unorganized sector are vulnerable as new and improved technologies are inaccessible for them. It is imperative that they are exposed to these technologies and encouraged and motivated to adopt the new technologies which would help them to improve their quality of life.

METHODOLOGY

The present study investigates awareness towards improved farm tools and implements by the women farmers/farm workers in Vadodara, Kheda, Godhara,

Dahov and Dahod districts of Gujarat. Data was gathered from 150 women farmers through a well-structured questionnaire, focused group discussion, and personal interview. In the study, various types of primary as well secondary data have been analyzed. The main objective of the study was to assess the awareness about drudgery reducing tools and implements and preparedness of the community to accept the intervention regarding improved tools.

RESULTS AND DISCUSSION

Profile of respondents: The study depicted (Table 1) that 45 per cent of the respondents were from middle age group (31-40 years), and the age range of the sample farmers were 20-70 years with an average of 39.71 years. The education profiles showed that 33.3per cent of respondents were illiterate whereas approx 20per cent were having education at matriculate level. The average family size was approx four members per family. Most of the respondents were either farmer (56 %) or agricultural worker (42.7 %). Farming was major livelihood of sample farmers. 42.7 per cent of farmers were involved in farming for five years with an average of 6.7 years. More than 50 per cent of respondents own their farm with an average land holding of 5.2 bighas (2.08 acres). The study area was diversified in crop cultivation. The major crops grown in the sample area were lentil, cotton, rose, marigold, tobacco, rice, gram, vegetables, wheat, castor, millets. Most of the sample respondents do the farm operations by themselves (98 %) whereas rest of them either hire labors or take help from male family members to perform various agricultural activities. Major farm operation carried out by respondents were tillage and seedbed preparation, sowing, planting, weeding, harvesting, threshing, cleaning, shelling, etc.

Awareness and practices about farm tools and implements: Most of the respondents (93.3%) used traditional tools and implements at the farm to perform various intercultural activities. The major tasks carried out by respondent farm women (Table 2) are tillage and seedbed preparation (68%); Sowing and planting (69.3%); Weeding and intercultural operations (43.3%); Harvesting, threshing, grading (18.7); Cleaning/grading /separation (20.7%); Shelling/dehulling/peeling (36.0%); livestock management (33.3%). The most of the tedious and drudgery prone activities were done manually by

Table 1: Respondent profile (N=150)

Particulars	No.	%
<i>Age group (in year)</i>		
Less than 20	2	1.33
21-30	32	21
31-40	68	45
41-50	29	19
51-60	17	11
More than 60	5	3
<i>No. of years since farming is done</i>		
Less than 5 years	47	31.4
5-10 years	81	54.0
More than 10 years	22	14.6
<i>Who does the farm operations in the field</i>		
Self	147	98.0
Family members (especially male)	2	1.2
Hire labour	1	0.8
<i>Educational profile</i>		
Illiterate	50	33.3
Literate but without formal schooling	1	0.7
Less than primary	5	3.3
Primary	17	11.3
Middle	29	19.3
Matriculate	31	20.7
Intermediate	12	8.0
B.A./B.Sc.	3	2.0
M.A./M.Sc.	2	1.3
<i>Major profession</i>		
A farmer	84	56
An agricultural worker	64	42.7
Others	2	1.3
<i>Landholding (acre)</i>		
Less than 2 acre	67	44.6
2 – 4 acre	80	53.4
More than 4 acre	3	2
<i>Land ownership</i>		
Yes	104	69.3
No	46	30.7

local traditional tools such as hand hoe, sickles, etc.

It was depicted from data that although respondents use tools and implements since a long time but still most of the respondents considered that their farms are not mechanized, and they are using traditional tools. The results also showed that 60.0 per cent of respondents faced difficulties & problem in using traditional tools and implements. This result implies that the respondents were least known about improved drudgery reducing tools. It also reflected that there was the wide scope of utilization of improved tools and implements amongst

Table 2: Information and practice about farm activities and tools & implements

Particulars	No.	%
<i>Which farm operations do you perform at Farm</i>		
Tillage and seedbed preparation	102	68.0
Sowing and planting	104	69.3
Weeding and intercultural operations	65	43.3
Harvesting, threshing, grading	28	18.7
Cleaning/grading /separation	31	20.7
Shelling/dehulling/peeling	54	36.0
livestock management	50	33.3
<i>Do you use any tools/machinery at farm</i>		
Yes	140	93.3
No	10	6.7
<i>Do you face any problems in using these tools</i>		
Yes	90	60.0
No	60	40.0
<i>What do you consider your major problem</i>		
Availability of tools	31	20.7
Availability of cash/credit	91	60.7
Skill	40	26.7
Availability of information about tools	42	28.0

sample area. Some of the physical problems cited by respondents in using traditional tools were the pain in joints, waist, forearms, shoulder, knee and feet, back or neck pain, swelling or inflammation, numbness in hands are common among them. Other risk factors were static posture, forceful exertion, repetitive movement, extreme range of motion, awkward posture, etc. Availability of cash/credit (60.7%) was considered as major general problem in using tools / improved tools by respondents whereas availability of tools (20.7%), skill (26.7%) and availability of information about tools (28.0%) was also cited as major problem associated with the use of tools by respondent women farmers. (Table 2)

The development of improved tools and implements for farm women is now a thrust area with scientists working with equipment developers to change the age old situation of drudgery encountered by women working at farms. R&D institutions located in different parts of the country such as Central Institute of Agricultural Engineering (CIAE), Bhopal, ICAR-Central Institute for Women in Agriculture, Bhubaneswar, and All India coordinated research project on Ergonomics & Safety in Agriculture have taken a lead in this direction, and developed drudgery reducing farm tools and equipment suitable for women workers. Awareness about ergonomically designed drudgery reducing improved

farm tools and implements were inquired. Data (Table 3) showed that respondents heard about few drudgery reducing tools such as groundnut stripper, paddy drum seeder, paddy winnower, cook stoves, wheel barrow, vegetable transplanter, tubular maize sheller.

Technologies adoption and access to information: Mode of information sharing and access to information was discussed with respondents (Table 4). Respondents received information from multiple sources which include fellow farmers, radio, television, extension officers and NGOs. It was found that 86 per cent of the sample respondents received farm activities related information or advice including improved farm tools and implements from fellow farmers whereas other sources were radio/

Table 3: Respondent having information about drudgery reducing improved farm tools & implements

Name of the improved tools % implements	Responses			
	Yes		No	
	No.	%	No.	%
Seed treatment drum	17	11.3	133	88.7
Seed drill	24	16	126	84
Paddy drum seeder	70	46.7	80	53.3
Rice transplanter	9	6	141	94
Fertilizer broadcaster	12	8	138	92
Cono weeder	11	7.3	139	92.7
Groundnut stripper	71	47.3	79	52.7
Cotton stalk puller (jaw type)	39	26	111	74
Sugarcane stripper	10	6.7	140	93.3
Fruit harvester	8	5.3	142	94.7
Bhindi plucker	11	7.3	139	92.7
Tea plucker (scissor type)	39	26	111	74
Pedal operated paddy thresher	7	4.7	143	95.3
Paddy winnower	77	51.3	73	48.7
Rotary arecanut dehusker	8	5.3	142	94.7
Rotary maize sheller	10	6.7	140	93.3
Grain / dal mill	21	14	129	86
Cook stove	77	51.3	73	48.7
Hand operated chaff cutter with safety devices	12	8	138	92
Wheel barrow	62	41.3	88	58.7
Hand ridger	10	6.7	140	93.3
Manual dibbler	12	8	138	92
Twin wheel hoe weeder	7	4.7	143	95.3
Improved sickle	45	30	105	70
Vegetable transplanter	68	45.3	82	54.7
Manual double screen grain cleaner with sack holder	9	6	141	94
Tubular maize sheller	38	25.3	112	74.7
Potato peeler/slicer	102	68	48	32

Table 4: Technologies adoption and access to information

Particulars	No.	%
<i>Major source of information</i>		
Fellow farmer	129	86.0
Radio/ TV	124	82.7
Farmer associations	11	7.3
Family member	53	35.3
Governmental extension worker	5	3.3
Newspaper/ magazines/ newsletters	5	3.3
NGO extension worker	2	1.3
Agricultural publications/books	1	0.7
<i>How relevant was the information</i>		
Highly relevant	11	7.4
Relevant	84	56.0
Not relevant	29	19.3
Don't know	26	17.3
<i>What mode of information you will prefer?</i>		
Poster	14	9.3
Pamphlets	14	9.3
Radio	91	60.7
Video	12	8.0
Demonstration	18	12.0

TV (82.7%), family members (35.3%), farmers associations (7.3%) and rest from extension officer or newsletters/publications. In focus group discussion it was found that mostly women attend the training programs on agricultural technologies and are the primary recipient of information. Most of the respondent found information was relevant (56%) from the respective sources to the decision-making. Most of the respondents (59.3%) attended training on farm tools and implements whereas

other farmers attended training on soil health & fertility managements (35.3%), cultivation practices (5.3%), disease and pest management (4%) and post harvest management (2.7%). Awareness about improved farm tools was also enquired. In general it was found that 66 per cent of respondents heard about improved tools and implements for crop cultivation. 94.7 per cent respondents that they were willing to use improved tools if made available to them.

CONCLUSION

The present study also revealed most respondents use traditional tools and implements since a long time and subsequently 60.0 % of respondents also faced difficulties & problem in using traditional tools and implements. They are however subsequently exposed to prone drudgery activities. This result implies that the respondents were least aware about improved drudgery reducing tools. The result of present study also suggests the importance of mode of information sharing and access to information. Respondents received information from multiple sources which include fellow farmers, radio, television, extension officers, and NGOs. Radio / TV were major source of information. The encouraging result was that 66% of respondents heard about improved tools and implements for crop cultivation and most of the respondents (94.7%) were willing to use improved tools if made available to them. The need of the day is to empower women through technology so that they can have higher efficiency with work output and reduced drudgery and health problems.

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