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Awareness of the farm women regarding selected drudgery reduction technologies in agriculture and animal husbandry

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Abstract

Technology utilized to produce farm equipment that aids in farming is referred to as agricultural technology. Almost every step of the agricultural process has been covered by agricultural machinery. Equipment for tilling the soil, sowing seeds, watering the land, growing crops, safeguarding them from pests and weeds, harvesting, threshing grain, feeding livestock, and sorting and packing the goods are among them. The development of the agriculture sector has been significantly influenced by technology. Additionally, women are heavily involved in farming, accounting for about 43% of the global agricultural work force—up to 70% in some nations. However, there is a lack of sufficient awareness and access to advanced technologies that could alleviate their workload and enhance productivity, in contrast to their male counterparts. Hence the present study has been conducted to make a positive impact by empowering them and bring awareness. The present study is an action research which aims to technologically empower the farm women in selected drudgery reducing technologies. The awareness of the respondents about any technology may initiate the sequence of later stages that leads to adoption or rejection of the technology. Consequently, a study was conducted to assess the awareness of farm women concerning specific technologies aimed at reducing drudgery. The farm women were asked whether they have heard, seen, knew the name, cost and power required to operate the technologies. There were 14 technologies related to agriculture i.e. wheel hoe, manual rice transplanter, manual seed drill, knapsack sprayer, serrated sickle, manual bund former, maize sheller, ground nut decorticator, pedal operated thresher, hanging type cleaner cum grader, ground nut striper, battery operated sprayer, fertilizer broadcaster and bhindi plucker and 5 technologies related to animal husbandry were rake, shovel, moving stool, wheel barrow and chaff cutter. Result of the study reveal that none of the respondents had heard and seen other technologies like maize sheller, manual seed drill, ground nut decorticator and hanging type cleaner cum grader. Other technologies namely rake, shovel, wheel hoe and moving stool were heard and seen by very few of the respondents (0.83 to 12.5%). It can be said that majority of the respondents were not aware of the selected drudgery reduction technologies in animal husbandry.

Keywords: Awareness, drudgery reduction technologies

Introduction

Agriculture in India is moving away from animal driven to machine driven. In addition to the tractors and power weeders employed by farmers, farm women can use certain tools and implements to boost output and lessen their work. Agriculture is the practice of growing specific plants to provide food, feed, fiber, and many other desired items. Agriculture is sometimes referred to as "farming." Technology utilized to produce farm equipment that aids in farming is referred to as agricultural technology. Almost every step of the agricultural process has been covered by agricultural machinery. Equipment for tilling the soil, sowing seeds, watering the land, growing crops, safeguarding them from pests and weeds, harvesting, threshing grain, feeding livestock, and sorting and packing the goods are among them. The development of the agriculture sector has been significantly influenced by technology. Additionally, women are heavily involved in farming, accounting for about 43% of the global agricultural work force—up to 70% in some nations. However, in contrast to males, they lack sufficient knowledge and access to better technologies that could lessen their tedium and increase productivity. Therefore, the goal of the current study is to empower them and raise awareness in order to have a good impact. Although some trends and patterns may be found in most regional contexts, the role that women play in the management of dairy cattle varies substantially throughout communities, nations, and regions. Women have historically been in charge of milking animals, processing milk, and gathering dairy products for both stationary and mobile dairy producers. Children often play a role in the management of dairy cattle by undertaking various responsibilities. Typically, girls are more engaged in caring for dairy animals, particularly when these animals are kept near the home, while young boys usually take on the role of livestock herders, transitioning from small ruminants to dairy cattle as they mature into young men. In many households, women are frequently at the heart of milk production; however, the responsibility for managing this production does not necessarily equate to ownership of the dairy animals. This absence of ownership and control over dairy livestock represents a significant challenge that women encounter in the dairy farming sector. In agriculture, women primarily employ antiquated and conventional

equipment and techniques. These tools are less effective and not gender-friendly. The majority of the tasks that these instruments complete are laborious and time-consuming. A variety of postures are used for several surgeries. Therefore, prolonged use of these equipment results in discomfort and physical agony. In the agricultural sector, women typically perform labor-intensive, repetitive, and boring tasks. Agricultural tasks such as sowing, transplanting, irrigation, weeding, applying fertilizers, protecting plants, and harvesting significantly contribute to the burden experienced by women in farming. While machinery is now available for tasks like threshing, winnowing, and milling, in certain regions, particularly in hilly areas, these activities are still performed manually by women. Consequently, these tasks also contribute to their overall workload.

In India, many women engaged in farming are either unaware of or possess limited knowledge about advancements in technology. Access to relevant information is often lacking. Gender-friendly tools are available across various sectors, including agriculture, horticulture, and animal husbandry. The primary objective of utilizing these gender-friendly or women-friendly tools is to alleviate labor intensity, save time, enhance productivity, improve work efficiency, provide leisure time for farm women, conserve energy, and elevate the quality of work. In this context, the study was designed to evaluate the awareness of farm women concerning technologies that reduce drudgery in agriculture and animal husbandry.

Methodology

The present paper was an action research which aims awareness of the farm women regarding selected drudgery reduction technologies in agriculture and animal husbandry. The respondents' awareness of various technologies can trigger a series of subsequent stages that ultimately result in either the adoption or rejection of those technologies. Therefore, a study was conducted to examine the awareness of farm women concerning specific technologies designed to reduce drudgery. The farm women were asked whether they have heard, seen, knew the name, cost and power required to operate the technologies. There were 14 technologies related to agriculture i.e. wheel hoe, manual rice transplanter, manual seed drill, knapsack sprayer, serrated sickle, manual bund former, maize sheller, ground nut decorticator, pedal operated thresher, hanging type cleaner cum grader, ground nut striper, battery operated sprayer, fertilizer broadcaster and bhindi plucker and 5 technologies related to animal husbandry were rake, shovel, moving stool, wheel barrow and chaff cutter.

Results and Discussion

Background information of the respondents

This table reveal the general information of the respondents like age, education, marital status, occupation, caste, family size and type, ownership of the fixed assets, household assets, live stock ownership and their socio-economic status.

Table 1: Distribution of respondents by their socio-economic status n=240

S. No.	Categories	f	%
1.	High socio-economic status	00	00
2.	Medium socio-economic status	10	4.16
3.	Low socio-economic status	230	95.83

Socio- economic status

Based on the scores achieved by the respondents across various dimensions of the socio-economic status scale, individuals were classified into high, medium, and low socio-economic categories. The data presented in Table 1 indicate that the majority of respondents (95.83%) fell within the low socio-economic status category. In contrast, only 1.1 percent of respondents were classified as having medium socio-economic status, and there were no respondents identified as having high socio-economic status.

Source of information used by the respondents

Table 2: Source of information used by the respondents regarding agriculture and animal husbandry n=240

S. No.	Source of information	%
1	KVK	83.33
2	Farmers fair	16.66
3	Training agency	0.0
4	Agriculture department	0.0
5	NGOs	0.0
6	Relatives	4.17
7	Neighbour	0.0
8	Mass media	0.0

Data in Table 2 depict that majority of the respondents (83.33%) reported Krishi Vigyan Kendra as the source of information related to agriculture and animal husbandry, whereas 16.60 per cent of the respondents reported that they got the information from the farmers fair which is organized once in a year by village panchayat. Very few respondents (4.17%) reported their relatives as a source of information.

General information of the respondents regarding drudgery reduction

Table 3: General information of the respondents about drudgery reduction n=240

S. No.	Items	%
1.	Drudgery reduction	0.0
2.	Any agency working for drudgery reduction	0.0
3.	Any programme for drudgery reduction	0.0
4.	Any input received	0.0
5.	Use of input	0.0
6.	Training received for drudgery reduction	0.0

It was disheartening to note that none of the respondents were aware about the concept of drudgery reduction (Table 3). They did not have information regarding any agency and programme working in the area of drudgery reduction. Also the farm women never attended any training and not received any input from any agency for drudgery reduction.

Awareness of the farm women regarding selected drudgery reduction technologies in agriculture and animal husbandry

The respondents' awareness of various technologies can trigger a series of subsequent stages that ultimately result in either the adoption or rejection of those technologies. Therefore, a study was conducted to assess the awareness of farm women concerning specific technologies designed to reduce labor. The farm women were inquired about their familiarity with these technologies, including whether they

had heard of them, seen them, knew their names, and understood the associated costs and power requirements for operation. Perusals of Table 4 reveal that awareness of respondents regarding the selected drudgery reduction technologies was very meager. Data in the table indicate that very few of the respondents (8.33%) had heard, seen, knew the name and type of power required for wheel hoe. Further 6.25 per cent respondents had heard, seen and knew the power required to operate technologies like manual rice transplanter and serrated sickle. The technologies like knapsack sprayer, manual bund former, pedal operated thresher, ground nut stripper, battery operated sprayer, fertilizer broadcaster and bhindi plucker were heard and seen only by very few respondents (1.25 to 5.0%). None of the respondents had heard and seen other technologies like maize sheller, manual seed drill, ground nut decorticator and hanging type cleaner cum grader.

Table 4: Awareness of the respondents regarding selected drudgery reduction technologies in agriculture n=240

S. No.	Technologies	Heard %	Seen %	Name of technologies %	Cost %	Types of power required %
1	Wheel hoe	8.33	8.33	8.33	4.17	8.33
2	Manual rice transplanter	6.25	6.25	6.25	5.0	6.25
3	Manual seed drill	0.0	0.0	0.0	0.0	0.0
4	Manual bund former	5.0	0.0	0.0	0.0	0.0
5	Fertilizer broadcaster	5.0	5.0	0.0	0.0	0.0
6	Knapsack sprayer	1.66	1.66	0.83	0.0	0.83
7	Battery operated sprayer	1.66	0.0	0.0	0.0	0.0
8	Serrated sickle	6.25	6.25	4.17	0.0	6.2
9	Maize sheller	0.0	0.0	0.0	0.0	0.0
10	Ground nut decorticator	0.0	0.0	0.0	0.0	0.0
11	Pedal operated thresher	2.08	2.08	0.0	0.0	0.0
12	Hanging type cleaner cum grader	0.0	0.0	0.0	0.0	0.0
13	Ground nut striper	1.66	1.66	0.0	0.0	0.0
14	Bhindi plucker	1.25	0.0	0.0	0.0	0.0

The reasons for poor awareness may be attributed to their low socio economic status (Table 4), lack of exposure to drudgery reducing technologies and also non-availability of these technologies in their village.

Tables 5: Awareness of the respondents regarding selected drudgery reduction technologies in animal husbandry n=240

S. No.	Technologies	Heard %	Seen %	Name of technologies %	Cost %	Types of power required %
1	Rake (A.H)	12.5	12.5	6.25	0	12.5
2	Shovel (A.H)	6.25	6.25	4.7	0	6.25
3	Wheel Barrow (A.H)	1.67	1.67	0.83	0	1.67
4	Chaff cutter (A.H)	25	25	18.75	0	25
5	Moving stool (A.H)	8.33	8.33	6.25	0	8.33

Table 5 The findings regarding the respondents' awareness of specific drudgery reduction technologies in animal husbandry indicate that only a 25 percent of the participants had heard of, seen, or understood the power requirements for operating the chaff cutter, while 18.75% were familiar with its name. This level of awareness may be attributed to the chaff cutter's widespread availability in the market and its usage among local residents. In contrast, other technologies such as the rake, shovel, wheel hoe, and moving stool were recognized by only a small percentage of respondents, ranging from 0.83% to 12.5%. Therefore, it can be concluded that the majority of respondents lacked awareness of the selected drudgery reduction technologies in animal husbandry.

Conclusion

It can be concluded from the study that awareness regarding selected drudgery reduction technology was very poor. It can be concluded that the vast majority of those surveyed were ignorant about the chosen technology for reducing drudgery in animal husbandry. Only 8.33% of those surveyed had heard of, seen, or recognized the name and kind of power needed for a wheel hoe. Other technologies such as the ground nut decorticator, manual seed drill, maize sheller, and hanging type cleaner/grader were unknown to all of the respondents.

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