Transforming drudgery of women farmers to comfort through technology interventions.

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1. Introduction

India is mainly an agricultural country and farming is one of the main occupations accounting for 33% of the GDP (Gross Domestic Product). 78% of the economically productive women in the country are engaged in agricultural activities. However, current farming practices used by women farmers has considerable degree of ergonomic/health impact on their body causing them immense pain and hardship. A project on “Mitigating Hardship of Indian women farmers through Technology Intervention” was implemented in Railmagra Gram Panchayat, District Rajsamand, Rajasthan, India and supported by John Deere Foundation and was implemented by MPUAT, Udaipur. This project in an attempt to address these issues uses technology to make these women’s jobs easier and significantly reduce the ergonomic/health impact on their bodies. By using simple agricultural tools through this intervention at the end of 2 years the project endeavours to increase the agricultural productivity and efficiency of these women farmers and thereby increase their household level income allowing them to have better access to health and education facilities.

2. Methodology

The project was implemented in one district of Rajasthan covering three villages covering 500 women farmers. A data collection tool was designed for conducting the benchmark/baseline survey. The tool composed of different sections to elicit the demographic and general profile of the respondents, the cropping pattern, participation of women in agriculture, drudgery from agriculture and animal husbandry, awareness, knowledge and attitude about improved agricultural technologies etc with following objectives: (1) To identify and promote need based hardship reducing technologies in agriculture, animal husbandry and homestead activities. (2) To assess the impact of technologies on hardship reduction, efficiency and quality of life of women farmers. A Technology Resource Centre (TRC) was established which housed need based agri tools which were available on custom hiring basis to women. This centre acted as a single window for various project activities.

3. Results and Discussion

22 trainings for capacity building on usage of different tools and equipment were successfully completed reaching out to 500 women. Impact assessment of trainings depicted an increase in awareness and knowledge score about tools among women (baseline awareness-24.44, post awareness-68.07, baseline knowledge-8.08, post knowledge-25.65). There was a 178.52% gain in awareness and 217.45% gain in knowledge about tools/technologies as compared to baseline data. Regular demonstrations on the usage of tools were conducted in all three villages based on seasonal requirements. These demonstrations were instrumental in making the farmers realize the benefit of using these modern tools and have encouraged many farmers to hire these tools. Over two years, the impact of the tools on the women farmers was analysed based on which the following was assessed: The drudgery reduction ranged from 18% to 74%. It was elicited that the baseline drudgery score (25.45/30) in project villages was similar to that of control village i.e. 25.65/30. The percent reduction in drudgery in project villages post intervention was 41.28%. Reduction in health disorder ranged from 27% to 59% with use of improved technology. Overall average reduction in health disorders was 42%. The overall average saving in money with use of technologies was
52%; Overall average saving in time was up to 120%. Percent satisfaction with use of technology was very high exceeding 100% for most of the technologies. Overall average percent satisfaction was 128%. The output/ outcome are presented in table1.

Awareness and knowledge of women about tools and technologies has increased as a result of intensive capacity building trainings and regular field demonstrations conducted. Along with women farmers, male farmers also started taking keen interest in using drudgery reducing new technologies. Tools given in tool kit viz; improved sickle, rake and tubular maize sheller were extensively used. Rental of tools collected was satisfactory in the short span of two years. Savings bank account in name of TRC Sustainability Fund was opened. Some activities performed pre-dominantly by women were replaced by men after introduction of technology, hence reducing drudgery of women in a way. Farm families have started showing interest in hiring and purchasing tools. Male farmers were also coming forward and were keen to get training in various new agricultural technologies, and also demand to procure high end farm machinery at TRC. Active participation of farm families in convergence activities and exposure visits, and good linkages developed with certain agencies have benefitted families in the selected villages in various ways.

Table 1: Outputs/Outcomes of Project.

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<thead>
<tr>
<th>Outputs/Outcomes</th>
<th>Baseline</th>
<th>Change Over Period</th>
<th>Change Total</th>
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<tr>
<td>One Technology Resource Center (TRC) established.</td>
<td>No TRC existed</td>
<td>One Main TRC at Madara village</td>
<td>Provided Women an easy access to information and technology support.</td>
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<td>Two sub – TRCs at villages, Morra &amp; Sakrawas were established.</td>
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<td>TRC served as single window for various activities.</td>
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<td>After long official procedure, procurement of land for TRC construction was</td>
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<td>successful.</td>
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<td>Hardship reduction of 500 women farmers from 20% - 60% in various agricultural activities was anticipated over the project period.</td>
<td>Overall baseline drudgery/hardship score was 25.45/30</td>
<td>Reduction in drudgery/hardship score was 14.95/30</td>
<td>41.28 percent average reduction in drudgery*</td>
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Increased efficiency of women farmers in terms of work output from 20% – 200% in various agricultural activities

It varied from tool to tool.

Increase in output varied from 5 kg to 35 kg/hr

Output ranged from 25% (Wheel hoe weeder) to 2150% (Groundnut decorticator which is exceptional)

Reduction in time varied from 30 min to 960 min /ha

Overall increase in efficiency by 120%

Increased income due to usage of improved technology by Rs. 10,000/- ($222) – Rs. 30,000/- ($666) over the project period.

Rs.4260/- in one season (Income spent by farmers on agriculture)

Rs. 2222/- in one season (Income spent by farmers on agriculture)

47.84 percent reduction in money expenditure due to technology use.

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References

Annual Report of project on, Mitigating Hardship of Indian Women Farmers Through Technology Intervention in Railmagra Gram Panchayat, District Rajsamand, Rajasthan, India. Annual Update (June 2011 to August 2013)