

**RESEARCH ARTICLE :**

# Gender dimensions and training needs of farm women in system of rice intensification in selected districts of Bihar state

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**SUMMARY :** The system of rice intensification (SRI) has been introduced as an alternative system for growing rice with lesser inputs and water. Labour is one of the most crucial concerns in the adoption of SRI by farmers. SRI requires intensive labour inputs for land preparation, crop care, and water management, especially at the early phase of adoption. According to the latest census of Government of India (2011) 53 per cent of all male workers but 75 per cent of all female workers, and 85 per cent of all rural female workers, are in agriculture. The present study was, therefore, undertaken, to identify training needs of farm women in SRI cultivation and to analyze the drudgery perceived by farm women in traditional and SRI cultivation methods. Line sowing was felt as a new skill to be acquired and rated as highly skilful as farm women had to be careful and systematically plant within the square. There is immense scope of harnessing the potential of training members of women's self-help groups (SHG) to form a SRI task force to help in the wide spread adoption of SRI by farmers.

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**KEY WORDS :**

Women labour,  
System of rice  
intensification,  
Training, Self-help  
groups

## **BACKGROUND AND OBJECTIVES**

The system of rice intensification (SRI) is a set of good practices of growing rice by using less seed, land and water. The SRI has often been pitched as a pro-poor technology as it reduces the farmer's expenditure on external inputs such as seed, water, and fertilizer (Berkhout and Glover, 2011). It significantly increases yields in most cases with intensification of work at two critical stages of transplanting and weeding which are

majorly carried out by farm women. According to the latest census (2011) 53 per cent of all male workers but 75 per cent of all female workers, and 85 per cent of all rural female workers, are in agriculture. Women constitute 40 per cent of the agricultural work force and this percentage is rising. Labour requirements for adopting SRI are very critical as it requires a lot of precision in terms of the timing and type of labour at different stages of the crop. Enhancement of skills of labourers for two critical operations namely

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transplantation of one seedling of rice per hill at early age, and inter-culture through manual / mechanical weeder offers an immense potential for creating a skilled labor force of farm women to promote SRI cultivation.

Labour is one of the most crucial concerns in the adoption of SRI by farmers. SRI requires intensive labour inputs for land preparation, crop care, and water management, especially at the early phase of adoption (Moser and Barrett, 2002 and 2006; Barrett *et al.*, 2004 and Berkhout and Glover, 2011). The opportunity cost of labour was very high for farmers to adopt SRI methods. Adoption constraints range from opportunity costs due to heavier labor inputs in weeding and unreliable skills in water and soil management. The present study was therefore undertaken, to identify training needs of farm women in SRI cultivation and to analyze the drudgery perceived by farm women in traditional and SRI cultivation methods.

## RESOURCES AND METHODS

The study was conducted in three selected districts, Muzzafarpur, Samastipur and Begusarai of Bihar state with a sample of 120 farm women from two villages in each district. A comprehensive list of SRI cultivation practices was prepared. The training needs of farm women for carrying out these activities were assessed using a structured schedule. The farm women were asked to rate the training needs on a three point continuum of greatly needed, somewhat needed and not needed with a score of 3, 2 and 1, respectively. The comparative drudgery rating of SRI and traditional rice cultivation method as faced by farm women was analysed using matrix ranking by farm women.

## OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads:

### Training needs of farm women in SRI cultivation:

Based on the training needs identified (Table 1) it is highly imperative to train farm women in different aspects of SRI technology to build their knowledge and skills to ensure widespread adoption of SRI. There is immense scope of harnessing the potential of training members of women's self-help groups (SHG) to form a SRI task force

**Table 1 : Training needs perceived by farm women in SRI cultivation**

Sr. No.	Training need	Percentage
1.	line sowing	63.00
2.	Planting one seedling per hill	59.00
3.	Ttransplanting young seedlings	71.00
4.	Use of cono -weeder	48.00

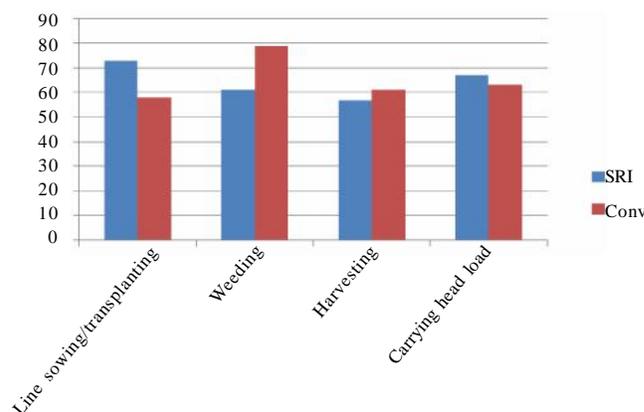


Fig. 1 : Comparative drudgery rating by farm women

which could be easily achieved through providing long-term and comprehensive skill based training in the following specific SRI activities (Fig. 1).

### Seed preparation :

Success in SRI depends on the use of quality seed, and only using healthy, full seeds. Farm women need to be trained for seed selection using the duck egg test. Salt water is used to separate the heavy, healthy seeds from the lighter immature seed and empty seed. The concentration of salt is at an appropriate level when a raw duck egg will float to the top of the water. The seed which floats to the top is discarded, while the seed that sinks is washed and placed kept moist to promote germination.

### Learning to prepare seedlings :

SRI uses seedlings which are 5-7 days old while the traditional method uses large seedlings which are about 21 days old. Under SRI, seedlings are planted in trays, while in regular system they are planted in beds in rice fields. Because only one seedling is planted in each planting hole and the planting holes are widely spaced (minimum 30 cm x 30 cm), SRI uses much less seed.

### Planting :

For SRI, a single seedling is planted per planting

hole at wide spacing - 30 cm plus (upto 50 cm). A rake with teeth set at the desired spacing is used to mark the location for planting seedlings.

### **Farmers learning from farmers :**

The women farmers adopting SRI can pass their knowledge on to other farmers and specially women farmers through cross-visits through farmers' field schools and personal interaction.

### **Comparative drudgery rating :**

The comparative drudgery rating by farm women between conventional and SRI method indicated that line sowing in SRI method was rated as highly skilful and drudgery prone (73.00%) compared to normal transplanting (58.00%). Line sowing was felt as a new skill to be acquired and rated as highly skilful as farm women had to be careful and systematically plant within the square. Weeding (61%) and harvesting (57%) in SRI were rated as less drudgery prone due to wide planting and more drudgery prone in traditional planting 79 per cent and 67 per cent, respectively. Rakotomalala (1997) reported that 62 per cent of the extra labour for SRI is needed for weeding, and 17 per cent for transplanting.

### **Opportunities for skilled labour force :**

- SRI can require more labor - about 26 per cent in one Madagascar evaluation,
- 11 per cent in a Sri Lankan survey
- Depending on the cost of labour, the value of increased production increases the returns to labour by at least 50 per cent and often several hundred per cent.
- Once the methods have been mastered, the labour requirements for SRI decline.
- Also, implements are being developed that save labour.
- Due to smaller seedlings and fewer seedlings to transplant the drudgery of women's work is dramatically reduced.

### **Training of farm women –skilled SRI task force :**

There are several constraints for farmers to shift to SRI. Some of these constraints can be overcome with training support. Subhashini *et al.* (2013) opined that training a cadre of women labourers in every village can help spread SRI and also provide good income for the women. The training institutions like, Krishi Vigyan

Kendra, Farmers Training Centre and other research institutes need to design skill based training programs for labour to develop their expertise in pulling out and transplanting young seedlings. The following steps may help in creating a trained work force.

- There is immense scope of harnessing the potential of training members of women's self-help groups (SHG) to form a SRI task force by
  - Providing long-term and comprehensive skill based training especially in line sowing and uprooting very young seedlings.
  - Training a cadre of women laborers in every village can help spread SRI and also provide good income for the women.

### **Collective action for faster adoption of SRI practices :**

- Self help groups (SHGs) are playing a major role in poverty reduction and women's empowerment through financial inclusion.
- SRI can help them in meeting their food grain requirements along with the conservation of resources
  - SHG monthly cluster meetings are an important avenue to train farm women in SRI practices
  - Training of selected members from each SHG in batches
  - Farm women can be trained to supply skilled labor for seed preparation, nursery, transplanting and also using cono weeder through the formation of SRI-SHG

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