SKILLED LABOUR BANK FOR FARM MECHANIZATION AS MEANS OF WOMEN EMPOWERMENT IN KERALA

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Abstract: Agricultural sector in Kerala state struggling to retain the status as an important primary production part with considerable contribution to the GDP. But shortage of labour, fragmentation of holdings and conversion to cash crops deviating from food crop production systems are the major challenges faced. Consequently, the state has become dependent on neighbouring states for the major food items like rice ,vegetables and fruits, egg, milk and meat, which poses serious threat to the food consumption pattern and household income of marginal holders, who constitute about three fourth of the farming population of the state. In this context, several efforts were made by the governmental agencies and local initiatives. One important strategy adopted is to organize human resource as labour banks and capacitating them by skill oriented trainings particularly in farm mechanization so as to help them find out income and employment generation options in farm mechanization. In Thrissur district, located in central part of Kerala state, Kerala Agricultural University as well as local service cooperative banks spear headed formation and training of such labour banks, mainly focusing on women. A research study was undertaken to analyse the contribution of a women oriented trained labour bank mainly focusing on farm mechanization in rice fields in terms of its contribution to income and employment generation as well as women empowerment. The study covered 45 women members of Green Army, a trained labour group organised by Perigandoor Service Cooperative Bank of Thrissur district. The data were collected through personal interview with the help of structured schedule, and key informants' interviews. The analysis of data revealed that women respondents after obtaining trainings were engaged mainly in mechanised paddy transplanting, coconut climbing and do some extent of vegetable cultivation. They were given initial skill development trainings and organised into small groups depending on the vocations they engaged in and made functional with specific organisational structure. The study further revealed that there was significant improvement in the empowerment status at statistically significant levels after involving in such activities as measured by a seven indicator empowerment index. It was found that the monthly personal income, mobility, thrift habits, social participation, participation in household decision making, control over resources and self esteem recorded substantial improvements. Based on the findings of the study, recommendations were made to scale up and scale out the intervention along with strengthening the training component.

Introduction: Agriculture in Kerala is one of the major sectors of the economy of the state since it contributes around 50 percent of the gross income of the state. Kerala is no exception where the contribution of agriculture and allied services to the overall Gross State Domestic Product (GSDP) has fallen from about 30 percent in 1990 – 1991 to 10.6 percent in 2010-11 (GOK, 2013). The major challenges faced by Kerala agriculture is the acute labour shortage , fragmentation of holdings, change in cropping pattern, which reflects decline in area under traditional crops and commercial presence of new cash crops, an ongoing process of overexploitation and conversion of land into other uses resulting in a degradation and depletion of the agricultural land.

The Green Army, a skilled labour bank, was formed by Wadakkanchery block panchayat of Thrissur district as a solution to the acute labour shortage in the farm sector. Groups of farmers consisting of substantial proportion of women were imparted with training at Agricultural University on various subjects ranging from scientific cultivation practices and operation and maintenance of machines to leadership, group management and conflict resolution. About 150 persons, of whom 102 were women, were trained and formally organised into a group, the 'Green Army'. It was linked with the local body for support and to help them make an income out of their skills. The labourers of the Green Army were trained in operating and maintaining a wide range of farm machines. The manufacturers and service providers of the machines purchased by the group provide advanced training on maintenance to the task force. The trained members have been organized into teams of five to six members, led by a team leader. Five teams constitute a group, led by a group leader. Out of a total of 204 members of the Green Army, about 51% are female and 49%are male. It is remarkable that although men outnumber women in holding major responsibilities, those women who have shown expertise in dealing with machines and other managerial functions enjoy the same status as men with respect to the types of responsibilities entrusted them. Women in the group are equally adept in handling the machines as their male counterparts, as testified by the participants of the focus group discussion. Women members are also consulted by other farmers in the locality at the

occurrence of any technical failure in machinery. The lives of women, earlier confined to the kitchens of households became more social so that they feel empowered. Women enjoy the same wages as male workers. They also serve as group leaders and team leaders. There is also a group of women responsible for maintaining machines. So far no studies have been taken up related to this area which plays a key role in women empowerment. It is necessary to analyse the activities undertaken by the green army related to farm mechanisation and also the role of green army in women empowerment. In this background, a research study was undertaken to analyse the activities undertaken by the Green Army related to farm mechanisation and to assess the role of Green Army in women empowerment.

Brief review of literature: Alex (2013) claimed that Women-led farm mechanisation could be used as a tool for reviving agricultural production systems and for ensuring food and livelihood security. The case highlights the need for evolving context specific organisations to address emerging socio-economic and environmental issues. Agugliaro *et al*. (2013) analysed differences in productivity by worker's gender in greenhouse agricultural work, using time-study techniques applied to indoor tomato cultivation in Spain. The results showed that women had on average a 107.5% greater efficiency compared with men, and that this was evident across all tasks subject to evaluation. Although they were rarely assigned to them due to gender stereotyping, the performance of female workers in tasks involving machinery operation, such as a motorized elevated platform, was shown to be superior to that of men. If the labour were exclusively female for the tasks studied, it would result in net time savings of 44.8%, or 1,286 hours of work per hectare for tomato cultivation. Rockenbach *et al* (1997) reported that as mechanization increased, women became more involved in the non-mechanized activities of the enterprises**.**

In another study conducted by Badiger *et al* (2006) to identify and promote need-based drudgery-reducing technologies for weeding and to assess the impact of these technologies on the physiological workload of farm women and their efficiency showed that the improved weeders reduced the drudgery of farm women while performing the weeding activity. The improved technologies have significantly higher work output than the traditional technology. Maximum increased work output was observed with grubber weeder, followed by twin hoe weeder. The weeder twin wheel hoe has proven to be very light even when used to perform moderately heavy activity. It is concluded that the introduction of improved technologies for weeding increased their efficiency and work output, and reduced the drudgery.

Methodology: The study was conducted by surveying randomly selected 45 women members of Green Army, a trained labour group organised by Perigandoor Service Cooperative Bank of Thrissur district. The data were collected through personal interview with the help of structured schedule. Additional qualitative data were also gathered by conducting key informants' interviews. Frequencies and percentages were used for processing the data. Women empowerment was measured with an index of seven indicators and composite scores are worked out. Narrations and interpretations were used for analyzing the qualitative data.

Results and discussions: The results of analysis of data gathered for the study are presented here with necessary inferences and discussions.

From the analysis of survey data, it was seen that 44.44% women respondents are working since five to seven years, while 37.77% women are working for the last two to four years. The share of new comers with less than one year experience was only 15.55%.

Table 1 Activities undertaken by Green Army members (n=45)

Sl No	Activities undertaken	Frequency	Percentage
1	Preparation of nursery and seed sowing	16	35.5
2	Machine transplanting	43	95.5
3	Vegetable cultivation and grow bag preparation	18	40.0
4	Weed control using cono weeder	7	15.5
5	Impart training within and outside the district	2	4.44
6	Bio pesticide and bio fertilizer preparation	6	13.33
7	Coconut climbing	12	26.6
8	Mechanical/Garage works	1	2.22

The above Table clearly states that 95.5% of the women respondents working in Green Army were engaged in machine transplanting, 40% were engaged in vegetable cultivation and growbag preparation. Preparations of seed bed as well as the sowing of seeds were undertaken by 35.5% of the women respondents. The data further revealed that 26.6%t were engaged in coconut climbing. A few people were engaged in imparting training within and outside the district on farm mechanisation. A small section (2.22% of the respondents), who passed

ITI, were involved in doing mechanical or garage works. This group will do the entire mechanical works in the field as well as in the garage go downs.

Table 2 Empowerment status of respondents before and after joining Green Army (n=45)

Sl No	Empowerment indicators	Before joining Green Army	After joined Green Army	T test	Sig
1	Mobility of the respondents	82	132	-9.582**	0.000
2	Thrift habits	80	130		
3	Social participation	80	110		
4	Participation in Decision making a) Household	90	121		
5	b) Community/Social	83	114		
6	Control over resources	84	114		
7	Self esteem	82	134		
	Total	581	855		

**Significant at less than 1% level r = 0.000

Table 2 The T-Test revealed that there is statistically significant difference in the empowerment status of women at 1% level before and after involving in green army.The total empowerment score obtained before joining Green Army is 581 and it increased to 855 after working in it. In case of empowerment indicators, the total score obtained for mobility of the women respondents were 82 and now it became 132 indicating that after joined the Green Army there is a great increase in travelling outside the home for the works which is not near to home. When compared there is a substantial improvement in the saving habits of women after joined Green Army. The involvement in social activities score has also enhanced from 80 to 110. Participation in decision making, which is an important indicator, had also shown very drastic enhancement. The involvement in decision making at house hold level has increased from 90 to 121 and 83 to 114, whereas participation in community level decision making also improved. Another major indicator, control over resources, has also increased from 84 to 114.The analysis further revealed that the self esteem, which is the main indicator of women empowerment, has increased from 82 to 13. The results obtained from all the mentioned indicators, it is concluded that there is significant improvement in the empowerment status of women and also enhanced standard of living after involving in such activities of Green Army.

Based on the study ,it is recommended that more women labourers can be included in the Green Army which will enhance their standard of living , self esteem and also the problem of acute labour shortage can be vanished , which will enhance agricultural production in Kerala. The main drawback faced by Green Army is the season oriented activities. Every year, they will be getting very less work ,in which they cannot fetch income from that alone. Hence, it is recommended that Green Army should expand its functional umbrella to engage in other activities, which empower women and help to have better earnings and employment.

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