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Empowerment of Women Smallholder Farmers through Rice based Eco-Entrepreneurship Development-Prospects and Potential

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Abstract

Empowerment of the women small holder farmers is essential for development of the country. The importance of gender as an issue in developing countries was re-emphasized at the World Conference on Women in Beijing in 1995 (United Nations, 1995). Women's empowerment is defined as "the capacity of women to be economically self-sufficient and self-reliant with control over decisions affecting their life options and freedom from violence". Women suffer from different types of powerlessness in social and economic sphere of life. The lack of power or disempowerment reflects in their less education level, less income, less control over their own income, less bargaining power in selling their own produce and labour, less participation in decision making body, less access to production inputs and resources and employment opportunity than men. This vulnerable situation resulted in an overall dependency of women on their male kin through their life cycle all over the world, particularly in developing countries. Women in India in earlier days hardly participate in agricultural activities outside home. Women's economic activities were confined to homestead production and post-harvest operations. A number of studies were conducted on women's activities and their role in rice based entrepreneurship had been brought in this paper There is a need to transform the traditional roles of women in society that economic development program could automatically increase the economic status of women and thereby their overall status in community and family. The long-term comprehensive training to rural women to set up rice based entrepreneurship through Self-Help Groups will help in providing substantial income to the families thereby improving their livelihood status. The forward and backward linkages for the successful entrepreneurship development need to be provided by the technical institutions for the upliftment of women.

Key words: Women empowerment, rice based eco-entrepreneurship, small holder farmers

Introduction

Skills development is key to improving rural productivity, employability and income - earning opportunities, enhancing food security and promoting environmentally sustainable rural development and livelihoods. Women in rural areas are not only the major contributors to family income but also responsible for house hold and family maintenance. Moreover, they play an important role (60-70%) in rice cultivation especially in field preparation, transplanting, weeding, harvesting, threshing, drying and storage. Skills development is particularly important to rural women who are more likely to be contributing family workers, subsistence farmers or home-based micro-entrepreneurs in the informal sector, or performing low-paid, unskilled work as seasonal workers. (ILO, 2009). The Government of India has also introduced National Skill Development Policy and National Skill Development Mission in 2009 in order to provide skill training, vocational education and entrepreneurship development to the emerging work force. Farm women play an important role in agricultural entrepreneurship. Farm women are, in many cases, the ones who initiate and develop new onfarm business activities (Bock 2004).

Skill development of rural women in rice based entrepreneurship development

The promotion of women's entrepreneurship through the formation of women's cooperatives in the niche area of organic paddy farming can be an effective means of helping to alleviate rural poverty. Micro, small and medium-sized enterprises have been recognized as a crucial way to promote women's economic empowerment. By providing a source of income and increasing access to and control over resources such as land, women can obtain more control of their own lives. In order to transform women farmers' into entrepreneurs, it is important to provide them with access to credit, product and market information, technology, and training in management skills and enterprise development.

The following are the specific areas under which women farmers can be provided technical knowledge and skills for taking up entrepreneurship, Organic rice farming, Quality seed rice production, Mat Type Nursery Production,

Vermicompost units ,Custom hiring of implements, Skilled labour force and Value added products.

Organic Rice Cultivation

The technical knowledge of eco-friendly package of technologies to grow rice organically can be imparted to farm women to set up an organic rice enterprise. The cost of cultivation of producing it is substantially reduced and the organic rice fetches a premium price in the market. No synthetic or artificial chemical pesticides and fertilizers have to be used; Soil fertility is maintained through "natural" processes such as growing cover crops and/or the application of composted manure and plant wastes and non- chemical forms of pest control are used to manage insects, diseases and weeds. Knowledge to follow the strict standards for production and processing as set by the certifying body would also be provided to the women entrepreneurs.

Employment generation through hybrid rice seed production

Hybrid rice technology is becoming popular in the country. Hybrid rice seed production is a labour intensive activity and socio-economists have estimated that additional employment of about 45-60 person days is created through this activity mostly for the rural women. Additional labour is required for specialised activities such as rouging, leaf clipping, supplementary pollination and careful harvesting. The area under hybrid rice seed production is expected to increase in the coming years which would create additional employment for women. Since the seed growers get higher profits, the wages for women working in hybrid rice seed production fields are likely to be higher. With subsequent increase in seed production area, the rural farm women have tremendous employment opportunities in the coming years.

In a village, a group of farmers/farm women can be trained in the production of quality seeds to cater to their own needs and of fellow farmers of the village and fanners of neighbouring villages in appropriate time and at affordable cost. The following advantages can be reaped along with earning a steady income through setting up this enterprise unit.

- Seed is available at the door steps of farms at an appropriate time
- Seed availability at affordable cost even lesser than market price
- Increased confidence among the farmers about the quality because of known source of production
- Producer and consumer are mutually benefited Facilitates fast spread of new cultivars of different kinds

Mat Type Nursery Production

The mass production of mat nurseries for mechanical rice transplanting can be a good business for entrepreneurial farm women. In this method seedlings are ready for planting within 15-20 days after seeding. The seedlings are raised in a layer of soil mix, arranged on a firm surface and while transplanting seedlings are uprooted like a mat. As a result, root damage is minimal while separating seedlings. The mat nursery uses less land, can be installed closer to the house than traditional field nurseries. It helps in reduction in use of labor and transportation cost.

Materials Required

- Good quality seeds
- Nursery bed for one acre seeding: 1.2 m wide x 20 m long
- Plastic sheet size: 1.2 m width and 20 m length
- Soil cleaning sieve
- Mixture of soil and Farm Yard Manure at the ratio of 4:1
- Gunny bag and water container for seed soaking
- Angle iron half inch frame

Advantages

- Production of robust seedlings in 15 days
- 18-20 cm tall seedlings with 4-5 leaves
- Mat nursery reduces the cost on fertilizer by 90%, labour by 34% and water use by 55% in nursery raising
- It reduces the cost of seedling production by about Rs.1600 per hectare which represents a saving of 50% in contrast to conventional wet bed nursery

Vermi-compost from organic wastes

Vermicompost plays important role in integrated nutrient management (INM). This will improve physical and chemical properties of soils, water and air movement in soils and provides all essential nutrients to plants.


This helps in increasing the crop productivity as well as quality of the produce. Vermicomposting refers to the use of earth worms for the production of compost. The process is faster than traditional composting.


Earth worms feed on any organic waste and any kind of waste material such as crop residues, agricultural wastes, leaf litter, house hold waste from kitchen etc. can be used. Also, partially decomposed dung/poultry manure/ coir pith waste/biogas waste etc. can be used. At present, vermicompost has lot of demand and this manure will give good remuneration to the farm women.

Green manure seed production:

Green manures (GM) play major role especially if they are grown in off season utilizing either early monsoon showers or where cheap irrigation source is available. Sunnhemp, dhaincha, cluster beans, cowpea, moong, fodder legumes etc. are used as green manuring crops. Depending on the species and growth period, phytomass and N contribution vary very widely. Short duration, dual purpose grain legumes like green gram and cow pea are most promising as they offer immediate economic benefit through their grain (4-5 q/ha) in addition to 15-25 t/ha of phytomass with 35-40 kg N/ha. These can be incorporated in to the soil before taking *kharif* rice. Among the sole green manure crops, dhaincha and sunnhemp are most suitable as they put up sufficient biomass (30-40 t/ha) in a minimum required period of 55-60 days. They add nutrients and also recycle sub soil nutrients due to their deeper root system and improve soil physical condition. Green manuring is also one of the best options of INM but due to non availability of seed, most of the farmers could not adopt this practice. Hence, the green manure seed production can become a very good source of income to the farm women.


Multi variety seed mixture (Dabholkar method):

This method has been developed by a mathematician, Dabholkar who did a lot of experiments on soil fertility and organic farming. This method is similar to green manuring. But, in this method, 20-30 diverse, short duration crops involving cereals (jowar, bajra, ragi, korra etc.), pulses (black gram, green gram, Bengal gram, cowpea etc.), oil seeds (sesame, sunflower, groundnut, castor etc.), legumes (pillipesara, dhaincha, sunnhemp, subabul etc.), and spices (coriander, jeera, mustard, fenugreek etc.) will be grown *in situ* and incorporated into the soil after 30-40 days. The seed rate recommended is 50-60 kg/ha. For normal soils, this process is recommended once in between two main crops. If the soil fertility is very poor and in case of problem soils, same process has to be repeated for a period of 60 days and then the crops have to be incorporated. This process has to be repeated for the third time for a period of four months (120 days) and then the crops have to be incorporated. By this way, the degraded soil will regain its fertility and sustain the productivity of the main crop.

The seeds of cheaper cost can be taken in large quantities and costlier ones can be taken in lesser quantities. This can be considered as an income generation activity by making packets of seed mixtures and selling them directly to the farmers.

Botanicals, organic amendments/solutions

Rural women can be trained in the preparation and sale of organic solutions for use as bio-pesticides. Panchagavya and Amruthajalam are organic solutions and alternatives to chemical fertilizers and pesticides. These solutions can be bottled and sold to the farmers.

Panchagavya: The ingredients required for preparation are: 5 kg cow dung + 5 litres cow urine + 2 lit res cow milk + 2 litres cow butter milk + 500 g cow ghee + 500 g jaggery. Initially, dung and ghee are mixed and kept in a pot for 4 days and on the 5th day, the remaining ingredients are added and allowed to ferment for 15 days. The contents are stirred three times daily in the morning, afternoon and evening.

Method of application: 250 ml panchagavya mixed with 10 lt water and can be sprayed on the crop. Depending on the crop growth, 200-300 lt can be sprayed per acre.

Amruthajalam: 1 lt cow urine + 1 kg cow dung+250 g jaggery + 10 lt water are required for this. All these contents are mixed and allowed to ferment for one day.

Method of application: To 1 lt of amruthajalam, 10 lt water is mixed, filtered and the filtered solution can be sprayed on the crop.

Value added products from rice

Women play a major role in value addition to rice produce and by-products. Some of them are milling, grading, processing, parboiling etc. Rice based products (Phil Rice, 1997) like flakes, puffed rice and extruded products like sevai, idiappam, murukku (chakli) and vadagam can be prepared in bulk by rural women and sold in the urban markets where the demand for these products is high. People are willing to pay a premium price for brown rice and these products could be made from brown rice to serve the select buyers.

Custom hiring of agricultural machinery

A women's SHG Can be trained to set up a custom hiring centre utilising the benefits of the various schemes of the government. Under the Sub-Mission on Agricultural Mechanisation (SMAM 2014) proposed for the 12th Plan, financial assistance would be provided to self-help groups or farmers' co-operatives to purchase high end machinery (multi-crop thresher, power tiller, seed drills and paddy reaper) for running custom hiring centres. The custom hiring centres will provide farm machinery on rental basis to farmers who cannot afford to purchase high-end

agricultural machinery and equipment apart from servicing old machinery (Murthy *et al.*, 2004). Small farm implements like sprayers and cultivators will be supplied on 50 per cent subsidy. The high-end machinery can service an area of 500 acres in a village and regular income can be earned by hiring the machines.

Strategies for entrepreneurship development

There is a strong need to Support women's self-employment and encourage linkages between national training systems and socio-professional networks (Kiranjot and Kaur, 2006).

- Combine technical and entrepreneurship training, for example through community-based initiatives, as many rural women make a living through self-employment.
- Strengthen the capacity of entrepreneurship service providers to better address the needs and capabilities of rural female entrepreneurs.
- Provide post-training services such as access to credit or savings programmes, business development services, training in product design and marketing and linkages to new markets. New markets, especially value chains, can also provide women opportunities to adopt new technologies and production practices.
- Support rural women's networks and groups, such as cooperatives. Groups can lead to informal learning of skills and provide the collective power that may be required to reach new markets.

Conclusion

In order to develop women's entrepreneurship in rice-based enterprises they could be motivated to form Farmer's Interest Groups (FIG's) as the SHG's and FIG's have emerged as major strategies in the development of women. The collective strength will enable members of group's to source for inputs; share inputs costs and also help in marketing of produce. Therefore, providing long-term comprehensive training to rural women to set up rice based entrepreneurship through Self-Help Groups will help in providing substantial income to the families thereby improving their livelihood status. The forward and backward linkages for the successful entrepreneurship development need to be provided by the technical institutions.

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