

Study on rural women empowerment through vegetable production

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Abstract

Women have become an indispensable part of all the agricultural activities starting from sowing/transplantation, inter-cultivation, harvesting, grading, processing, marketing and cooking tasty vegetable dishes. They also maintain kitchen gardens for sustainable vegetable production for home consumption and thus, maintain the nutritional security of the family. Women are also engaged in small- to large-scale vegetable processing and seed production. In rural areas, women perform marketing activities in vegetables. Women immensely contribute in maintaining the country's food and nutritional security, though their contribution is unrecognized and underweighted. Vegetable production has shorter duration and can provide early economic returns to the farmers. Therefore, it has immense potential to be one of the best suitable, remunerative and affordable enterprises which can be taken up by farm women paving the way for their socio-economic empowerment. A sample of 54 women vegetable growers were selected and the analysis of the data revealed that cent per cent of the women in the sample were all illiterates and around 76% of the sample respondents were below poverty line. The average number of mandays they worked was around 22.5 per month employed for 6 months in a year. Men earned around 12% of higher wages than women. The annual average wage income earned by the women workers was Rs. 23214 and they saved around Rs. 5040 (21.7%) per year. The only focus required is to provide them access to credit needs, suitable vegetable production training programmes, low cost technologies, market access, and extension awareness services.

Keywords: Women empowerment, vegetable enterprise, Socio-economic status, decision making

Introduction

Women produce more than half of the world's food, yet

own only 2% of titled land and receive less than 10% of credit available for small businesses. Farm women manage to do most tedious work in agriculture and animal husbandry along with household work. Around 80% of farm labour is provided by women in Asia and Africa. Apart from that, women also play a crucial role in nurturing children and shaping their future. In spite of their laudable roles in performing several multi task activities; women have been neglected since generations. Unfortunately, we often assume a farmer to a man, though the fact that woman is also equally involved in agriculture in all phases starting from crop planning at the pre-sowing stage to planting, Growth and development stage of the crop, harvesting, post-harvest stage and selling/marketing of the crop (Figure 1).

To realize the contribution of women farmers in agriculture and give them a sense of empowerment, the Women's Farmer's Entitlement Bill, 2011 (Private Members' Bill), tabled by Prof M S Swaminathan in the Rajya Sabha which aims to confer legal entitlement to women farmers was proposed. The bill is expected to enable national food security, and to make possible sustainable livelihood opportunities for women in agriculture. The Bill basically intended to ensure women's legal right to land and in case of joint titles, the property should be made legally partitionable, inalienable and non-transferable. It also emphasises on the enforcement of equal remuneration for women and men in agriculture. It is believed that when women are given economic opportunities, they make investments that benefit not just themselves but their families and their communities. On average, women achieve much higher values of output per hectare than men, on much smaller plots given by Alderman et al. (2003). A study from ICRISAT shows that about 100 million people could escape poverty if women achieve gender parity. The Bill gives a comprehensive definition of 'women farmer' and recognizes that women are significant contributor to Indian agriculture. According to this Bill, any woman who is a farmer as defined in subsection (c) of section 2 and includes

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Figure 1: Women involvement at various stages of crop cycle

- any woman living in rural area and primarily engaged in agricultural activity, though occasionally engaged in non-agricultural activity; or
- any woman living in urban or semi-urban areas and engaged in agriculture; or
- any tribal woman directly or indirectly engaged in agriculture or shifting cultivation or in the collection, use and sale of minor or non-timber forest produce by virtue of usufructuary rights.

In pursuance of this definition of ‘women farmer’, Table 1 presented the trends in gender participation in primary sector which comprises mainly of agriculture and allied activities. It shows the declining contribution of rural males in the primary sector. However, the table displays that the work participation of rural females has also been declining but the decline is less as compared to

that of rural males. In the year 2010, the work participation of rural females in the primary sector was higher by 10 percentage points to that of rural males, presenting an increasing gender gap. This decline in the rural male workers has largely been a result of their shifting to more lucrative non- agricultural work, migrating from rural to urban areas while women mainly stayed back in agriculture. The NSSO figures clearly shows that women are the leading contributors to Indian agriculture as compared to men leading towards feminization of agriculture. In the light of this background, the main objective of the study was to analyze the challenges and opportunities for farm women involved in vegetable production using primary and secondary data.

Vegetable production is known for its short duration, high and quick returns and fulfilling the nutritional requirements of the household. Meanwhile vegetable crop production is labour intensive and most of the farm operations are carried out by women. Many farm women also have a small kitchen garden where she grows all types of vegetables required for home consumption in small piece of land. Women also manage small-scale vegetable and fruit producing kitchen gardens for home consumption (Saxena 2012). This not only provides labour but also enhance nutritional security of the farm household. Vegetable seed production and vegetable nursery rising of vegetable seedlings is also a profitable venture best suited for farm women who can fetch good price in the market and also reduce drudgery for women (Venkateswarlu and Labowitz 2007). Farm operations starting from the selection of the crop to be grown, sowing/transplanting, weeding, fertilizer application, intercultivation, harvesting, post harvesting operations and marketing of the produce are all carried out by women in many of the households (Chayal et al. 2010). Most of the vegetable vendors and vegetable

Table 1: Feminization of agriculture–sector wise distribution of gender based rural employment (%)

NSS Round	Rural Males			Rural Females		
	Primary (Agriculture & allied)	Secondary (Industry sector)	Tertiary (Service sector)	Primary (Agriculture & allied)	Secondary (Industry sector)	Tertiary (Service sector)
32 (July'77-June'78)	80.6	8.50	10.5	88.1	6.70	5.10
38 (Jan-Dec' 83)	77.5	10.0	12.2	87.5	7.40	4.80
43 (July'87-June'88)	74.5	12.1	13.4	84.7	10.0	5.30
50 (July'93-June-94)	74.1	11.2	14.7	86.2	8.30	5.50
55 (July'99-Jun'00)	71.4	12.6	16.0	85.4	8.90	5.70
61 (July'04-June'05)	66.5	15.5	18.0	83.3	10.2	6.60
64 (July'07-Jun'08)	66.5	16.2	17.3	83.5	9.70	6.80
66 (July'09-June'10)	62.8	19.3	17.8	79.3	13.0	7.60

Source: Binswanger (2012)

sellers in village and urban markets are women. The ease of farm operations and shorter duration of this vegetable production has attracted many women farmers into this field. Hence an attempt was made in this study to know the opportunities and challenges for taking up the vegetable production enterprise for farm women. This enterprise also best fits in any cropping system followed along with cereals, pulses and oilseeds production also. This also provides a synergistic effect with animal husbandry such as cattle rearing, poultry, small ruminants etc.

Data and Methodology

This study is based on a comprehensive women farmers' survey using a pre-tested structured questionnaire, administered personally during the year 2013. A random sampling approach was adopted to select a total 54 vegetable growers from 5 villages (Khelawela, Sultanpur, Adhalpur, Surshi and Belwa) of Sikhad block of Mirzapur district. It is one of the backward districts in the state of Uttar Pradesh (India). Focus Group Discussion (FGD) was also conducted by farm women groups to understand the emerging challenges and opportunities for vegetable enterprise development. The data analysis was made using SPSS 16.0. software. A study on the status of women farmers in Uttar Pradesh by Oxfam International shows that only 6 per cent of women own land, less than 1% has participated in government training programmes, 4% have access to institutional credit and only 8% have control over agricultural income.

Results and Discussion

Socio-economic status of farm women households:

Majority of the women belong to middle age group with an average age of 39.80 years. Most of the families were nucleus with the average family size of 5 members. The situation of farm women labourers in this part of the state was pathetic as 100% of the sample respondents were illiterate with no education. Around 76% of the sample respondents were below poverty line (BPL). All the respondents were married. They mainly depended on agriculture as farm labour to earn their livelihood as they had only few acres of land which they cultivated with few crops for home consumption. The animal husbandry and livestock rearing was observed as their secondary occupation with one cow or one buffalo, two to three goats and hen. All the respondents belonged to scheduled class and other backward classes which is the lowest strata in the social caste system. Similar results were shown by Saxena (2012) on caste categories and educational status of farm women households in his study.

Table 2: Socio-economic status of the sample respondent households

Particulars	Unit	Value
Average age	years	39.80
Education	years	0 (literate)
Average family size	number	5.40
Marital status	Percentage	100 % married (included widow 11%)
Caste	Percentage	OBC (78 %) and Scheduled class (22%)
BPL families	Percentage	76%
Average land holding size	Acres	0.15 (irrigated) 0.075 (rainfed)
Crops grown		Pigeon pea, wheat, garden pea for home consumption
Average livestock per household	Number	Buffalo (1) Cow (1) Goat (2) Hen (3)
Average per capita annual income	Rupees	23214
Employment	Man days	22.5 man days per month 6.1 months per year
Average wage rate	Rs. per day	170 (Women) 190 (Men)
Average annual wage income	Rs. per year	23214
Average annual savings	Rs. per year	5040

The average number of man-days they worked was around 22.5 per month employed for 6 months in a year. The market wage rate was Rs. 170 per day for women workers and Rs. 190 per day for men. Men earned around 12 per cent of higher wage than women. The annual average wage income earned by the women workers was Rs. 23214 and they saved around Rs. 5040 per year which accounted to around 21.7 per cent of the returns they earned.

Division of labour and decision making: More than 90% of the respondents were involved in vegetable enterprise from sowing till harvesting and marketing covering the whole crop cycle (Table 3). Only some works like ploughing, land preparation and application or spraying of plant protection chemicals were mostly undertaken by men workers and rest of the works like sowing, transplanting, weeding, application of manures and fertilizers, harvesting and even crossing and pollination work in some of the vegetable crops were done by farm women labourers. Women carry out the hybridization, weeding, harvesting and post-harvest activities that represent 70 to 75% of the total labor days for different crops.

Table 3: Division of labour in vegetable enterprises

Nature of work	Major role played by
Land preparation/ploughing	Male
Nursery rising	Both
Sowing/transplanting	Female
Application of manures & fertilizers	Female
Weeding	Female
Intercultivation	Both
Threading/wiring/staking	Female
Crossing or pollination	Female
Application of plant protection chemicals	Male
Harvesting/pickings	Female
Cleaning and grading	Female
Loading & transportation	Both
Marketing/selling of the produce	Both

The pattern of decision making is presented in Table 4. The household level decisions were taken up by the women herself in the family (59%) and jointly (39%). More than half of the respondent families took financial decisions jointly (52%) and by women (44%). Education and children concerned decisions were taken up jointly by both husband and wife (69%) and by women (31%) in the family and interestingly husband had no role to play. Whereas husbands had a leading role in decisions concerned to farm management (43%) and social participation in the village or other community (56%) and also jointly (39% and 26% of the respondent households respectively). As far as various decisions relating to vegetable cultivation are concerned, the role of women in majority of the cases was supportive in nature. Men performed the dominating role in most of the cases, so it has been suggested to provide education and extension facilities to female that can enhance their participation in decision-making (Baba et al. 2010).

Table 4: Decision making by farm women (%)

Particulars	Herself	Jointly	Husband only
Household management	59	39	2
Financial management	44	52	4
Upbringing & Education of children	31	69	0
Farm management	18	39	43
Social participation	18	26	56

Closing the gender gap based differences in agriculture: One of the main reasons that agriculture sector is underperforming in India is the gender inequality. As men and women do not have equal access to the resources and opportunities. Women have consistently less access than men to agricultural assets, inputs extension services and credit facilities. The findings of the gender analysis based on observations from FGD are very similar to the World Bank findings

which are presented in Table 5. It can be concluded from this analysis that the women farmers face significant barriers in agriculture, especially in access to land, control over crucial resources and inputs such as land, labor, fertilizer and credit needs in vegetable cultivation.

Increasing women's access to land, farm education, technology, financial services, and training will boost their productivity and generate gains in agricultural output, food security, economic growth and social welfare. In order to empower farm women engaged in vegetable enterprises, it is essential to minimize the gender gap by providing farm training and capacity building programmes which has focus on vegetable based enterprises.

Challenges and opportunities- exploring the Areas of Interventions: Rural women represent major portion of the agricultural workforce in India. However, there is wide gender gap that exists which pose significant challenges to the women farmers. Table 6 summarizes the possible areas of interventions needed along with solutions and opportunities that exist for rural farm women.

Conclusion

Major part of the operations involved in vegetable cultivation is being taken up by women. Vegetable enterprises being labour and capital intensive, are best suited for rural farm women groups to take up as a small scale enterprise with the help of credit facility provided by NABARD and other nationalized banks. Nursery cultivation of vegetable saplings, Polyhouse or shade net cultivation, open cultivation of hybrids and high yielding varieties of seasonal vegetable crops can be a better option for women to earn easy and early returns. Smaller land holdings in which they can go for mixed vegetable farming and integrating with animal husbandry for synergistic benefits. Women may also earn a small income for themselves by selling vegetables from home gardens. They can also avail the subsidy and farm loans provided at very low interest rates under different schemes by Government of India. Since they are illiterates and unaware of these schemes and programmes they have to be made aware and educate them by conducting extension programmes and imparting training to them. The co-operative approach should be inculcated in them for getting better bargaining power. Long term constraints faced by rural women in terms of limited access to productive resources (Land, Credit, Inputs, Transport, Extension Services, Storage and Technical Assistance) prevent them from adopting new technologies.

Table 5: Closing the Gender gap based on differences in agriculture

Land	Ownership of land is vested with men from many years, either by legal or by socio-cultural norms. Land reform and resettlement have tended to reinforce this bias against tenure for women. Women possess much smaller and marginal sized dispersed plots than men and are less likely to hold the title deeds, secure tenure, or the same rights to use, improve, or dispose of land.
Extension	Women farmers have less contact with extension services than men, especially where male-female contact is culturally restricted. Agricultural extension is often provided by men agents to men farmers on the erroneous assumption that the message will trickle “across” to women. In fact, agricultural knowledge is transferred inefficiently or not at all from husband to wife. Also, the agriculture extension services tend to ignore the unique workload, responsibilities, and constraints faced by women farmers.
Technology	Women generally adopt traditional technologies in farming because of lack of updating of new technologies and face difficulties in their access, cultural restrictions on use, or lesser access to resources and inputs compared to that of men.
Finance	Women have less access to formal financial services because of high transaction costs, limited education and mobility, social and cultural barriers, the nature of their businesses, and collateral requirements, such as land title, which they can't meet.
Time	Women face more time bound constraints than men. They may spend less time on farm work but work longer on productive and household works which are mostly unpaid, mainly due to gender-based division of labour in child care and household responsibilities.
Mobility	Women are less mobile than men, both because of their Children and household responsibilities and because of socio-cultural norms that limit their mobility.
Education & Training	Women are less educated as compared to men. Illiteracy hampers their access and ability to understand technical information. Women have less access to education and training in agriculture.

Providing them with the necessary credit needs, cost effective technology and awareness from extension trainings can really contribute in the socio-economic upliftment of rural women labourers and farmers. Specifically, the women farmers need training in terms of farm management, production technology, post-harvest management, primary processing, value addition

Table 6: Areas of interventions needed for reducing gender gap

Areas of interventions	Constraints and Challenges	Interventions needed	Opportunities
Technical	Lack of technical knowledge in nursery growing, field cultivation, post-harvest management, primary processing, and marketing of vegetables.	Training and capacity building of women farmers across the crop cycle operations and value chain.	Food processing and value addition & linkages with emerging food retail markets.
Institutional & legal	Lack of participation of women in formal institutional system like fertilizer, marketing and credit cooperatives and societies. Legal entitlements of land and access to other important resources/inputs.	Ensure active participation of women in formal institutions. Involvement of women farmers in association and other institutions	Sense of ownership and empowerment.
Financial	Lack of access to credit needs and information regarding financial institutions and their approachability.	Ensure adequate and timely credit needs of farm women are fulfilled.	Interest rebate and subsidy components especially for encouraging women farmers sponsored by government under different schemes.

Source: Based on focused group discussion (FGD) and field observations

and agricultural marketing to effectively handle the vegetable enterprise. For the government alone it seems difficult to reach the women farmers located in remote areas and due to inadequate government institutions/functionaries in order to educate/train the country farmers. There is need for Public private partnership (PPP) approach to encourage women farmers to take up vegetables enterprises for their livelihood. The suitable policy measures need to be taken up by the government in encouraging farm women to have independent crop enterprise which can afford them with enhanced livelihood security.

सारांश

महिलाएँ कृषि की विभिन्न क्रिया-कलापों जैसे बुआई, पौध रोपड़, अंतर-खेती, कटाई, श्रेणीकरण, प्रसंस्करण, विपणन एवं सब्जी से बनने वाले स्वादिष्ट व्यंजनों के तैयार करने में महत्वपूर्ण भूमिका का निर्वाहन करती हैं। घरेलू स्तर पर गृहवाटिका तैयार कर परिवार के उपभोग हेतु सब्जी उत्पाद कर सतत् सब्जी उत्पादन में सहयोग

करती हैं तथा इस प्रकार परिवार की पोषण सुरक्षा को बनाये रखती हैं। ग्रामीण परिवेश में महिलायें सब्जी विपणन का कार्य भी करती हैं। महिलाओं का देश की खाद्य एवं पोषण सुरक्षा में बेहद महत्वपूर्ण योगदान है फिर भी उनके योगदान को पहचान नहीं मिलती है एवं कमतर आंका जाता है। सब्जियाँ कम समय में तैयार होती हैं तथा इनसे कृषकों को उनके लागत की आर्थिक वापसी शीघ्र हो जाती है। इस प्रकार यह सबसे उपयुक्त पारिश्रमिक प्रदायी तथा सस्ता उद्यम है जिसे महिला कृषक अपना सकती हैं एवं अपनी सामाजिक, आर्थिक सशक्तिकरण को बल दे सकती हैं। महिला सब्जी उत्पादकों के कुल 54 प्रतिदर्श को लिया गया तथा आंकड़ों के विश्लेषण से स्पष्ट हुआ कि शत-प्रतिशत महिलायें अशिक्षित हैं एवं लगभग 76 प्रतिशत प्रतिवर्ष उत्तरदाताओं के गरीबी रेखा के नीचे पाया गया। उनके काम करने का औसत श्रमदिवस संख्या लगभग रू. 22.5 प्रतिमाह रहा जो प्रतिवर्ष 6 माह आता है। महिलाओं की तुलना में पुरुष 12 प्रतिशत अधिक मजदूरी प्राप्त करते हैं। महिला श्रमिकों द्वारा प्राप्त की गयी वार्षिक आय का औसत रू. 23214 रहा तथा रू. 5040 (21.7 प्रतिशत) का प्रतिवर्ष बचत भी किया। केवल आवश्यकता है कि उन्हें क्रेडिट की जरूरत, उपयुक्त सब्जी उत्पादन का प्रशिक्षण, कम लागत की तकनीकी, बाजार की जरूरत एवं प्रसार सेवा की जानकारी प्रदान की जाये।

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