

## Empowerment of Farm Women through Nursery Raising of Tomato, Brinjal and Chilli

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**ABSTRACT:** Women's empowerment has been pointed out as an indispensable condition to reduce poverty in developing countries of the world. Also, it has been closely related to democratization of those countries, in providing women with rights and opportunities equal to those which men have enjoyed so far. In this regard, this paper aims to consider the multi-layered actuality of the issue of rural women's empowerment in India, especially for economic development. For this purpose, the study deals with empowerment of rural women through self-income generating activities. The study was conducted in Malwa region of Madhya Pradesh. Qualitative methods were utilized in the study. The research reveals that self-income generating activities by entrepreneurship are the most important contributing factor to empowering rural women in Dewas.

Dewas district of Madhya Pradesh is a leading district under vegetable cultivation especially tomato, brinjal, chilli, cauliflower and onion. Out of these crops tomato, brinjal and chilli occupies a large area (29.45 ha), brinjal (138.18 ha) and chilli (534.51 ha, according to compodeum 2013-14) under vegetable cultivation during kharif and rabi season. Nursery management is a very important operation for successful production of vegetables. But most of the farmers of the district are not producing seedlings of tomato, brinjal and chilli in a scientific manner which resulted in production of weak seedlings, poor seedlings growth and attack of damping off disease which is serve problem in nurseries raised through traditional methods. Keeping these factors in view the front line demonstration were conducted by krishi vigyan Kendra, Dewas (M.P.) during kharif and rabi season for two consecutive year from 2013-14 and 2014-15 at village Narana, Nanadharakhedi and Banger of district Dewas. A total of 40 demonstrations (10 demonstration in each season) were laid down. With the objective to access the income generation activities through nursery raising of tomato, brinjal and chilli and evaluate the economics from their intervention. Demonstration was carried out in an area 200 sq. m. in brinjal and tomato and 100 sq. m. in chilli by taking farmers practices (sowing of seed in flat bed without seed treatment) and improved practice i.e. line sowing in raised bed during kharif and flat bed in rabi at 10 cm. distance+seed treatment with bavistin @3 g/kg seed.

**Keywords:** Nursery raising, Frontline Demonstration, PRA, Raised bed.

### INTRODUCTION

Development of the society is directly related with the income generation capacity of its member. With agriculture as the key income generation activity the entrepreneurship based on farm and home can directly affect the income of a major chunk of our population. Entrepreneurship on small scale is the only solution the problem of unemployment and proper utilization of both human and non human resources and empowering the social and economical conditions of the farm women.

In addition, Mohanty (1995) identifies the following factors affecting women's empowerment on the Indian subcontinent are Patriarchal value system,

Social attitudes and practices, Poor level of political participation by women, Lack of legal awareness and Poor economic status. The issues relating to women's empowerment vary from country to country. Women in developed countries are more empowered than those in developing countries for economic reasons.

Further towards the empowerment of farm women using available resources can improve their socio economic condition. Essential to empowerment is acquisition of knowledge and skills in modern technologies such as soil testing, use of high yielding varieties, scientific use of seeds - bio- and chemical fertilizers, pesticides, etc. Composition and documentation of relevant technologies and a network of technology dissemination is essential.

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Small entrepreneurship outlets involving agri based allied. Professions should be created to ensure self employment for rural women.

In Dewas district of Madhya Pradesh, low income of farm women is one of the major problem of rural area. The socio economic status of farm women can be uplifted by creating more income generating opportunities. It examines income generating activities as a possible strategy for change. Nursery raising is one of the few significant income generating activities by which farm women can get income in less time and less expenses. In Malwa region tomato, brinjal and chilli are major vegetable crop. So farm women can develop tomato, brinjal an chilli nursery and after that improve their social and economical status by selling seedlings of tomato, brinjal and chilli.

### MATERIAL AND METHOD

Utilizing the information generated during PRA of KVK Dewas, 40 demonstration (10 in each season) on improved package of practice in adopted village i.e. Narana, Nanadharakhedi and Banger were organized for two years from 2013-14 and 2014-15. During PRA of these village it has been observed that farm women who have less land to generate income working as labour on Dhadki in other land. Due to less income generation activities farm women faces many problem in social and financial way. To solve this problem of farm women 40 Front Line Demonstration was conducted by the KVK to generate additional income by raising of healthy and quality seedlings of tomato, brinjal and chilli. Seedlings to the farm women 10-10 gram seed of tomato, brinjal and chill were distributed to 40 farm women (10 farm women during each season). Demonstration was conducted in area of 200 sq. m. in tomato and brinjal and 100 sq. m. in chilli. Under farmer practice farm women sown the seed by broadcasting methods, flat bed without any seed treatment, whereas in improved practices seeds were sown in raised bed during (about 6 inches higher then ground level) kharif and flat bed during rabi in the sowing at 10 cm. distance along with seed treatment with bavistin @3 g/kg seed. Under the improved practice, soil solarisation of nursery beds was also done during the month of May and June every year. Seedlings were ready for selling in 30 day in chilli, 35 days in tomato and brinjal. In this demonstration, cost of seedling preparation, gross return, net return, benefit cost ratio were calculated to estimate the income generated by the farm women. Other parameters like technology gap, extension gap and technology index were worked out (Kadian (1997).

### RESULT AND DISCUSSION

Personal profile of the farm women as depicted in the table 1 clearly indicated that the age of the farm women varied between 20 year at the lower level and 40 years at the upper age limit. Among all the forty farm women maximum 30 percent were in age group of 35 to above year followed by 27.5 percent in the age group of 20-25 years, 22.5 percent in the age group of 31-35. Only 20 percent farm women were in the age group of 26-30. In case of literacy level it was found that 30 percent of farm women were illiterate out of total forty farm women. 37.5 percent had an education of up to primary level followed by middle school (15 percent), and high school (10 percent) only 3 farm women (7.5 percent) had passed college examination.

An important fact which came to the notice was that nuclear family system was growing faster in the urban area and yet same phenomenon copied in the rural areas. The revealed that 35 percent lived in the joint family whereas only 65 percent farm women lived in the joint family ( Tiwari et al. 2015). Out of 40 farm women 45 percent families had more to 7 members and followed by 32.5 percent in 4-6 members and 22.5 percent in to 1-3 members.

Land holding in the village ranged from 1-5 ha/ family. Maximum number (50 percent) of the families had small land holding i.e. 1 to 2 ha and minimum (5 percent) had more than 4 ha / family. Hence, the economic condition of the village was also not very satisfactory. The per year income of the family was 0.8-3 lakh. Maximum number of the family are in the income range of 1-2 lakh (42.5 percent) while 20 percent families earned only 0.8-1 lakh per year. Hence, it was clear that the, landholding of the villagers was less and hence could be designated under the marginal category. So, in under to boost the economic viability a shift in the existing income generation activities through nursery raising of tomato, brinjal and chilli.

With the need for promoting a forestation through farm women participation, production and generate income through good planting material is turning out to be a significant activity. In this study result indicate that the front line demonstration has given a good impact over the income generation activities through agricultural practices as they were motivated by the new intervention applied in other agricultural activities.

The result indicated that farm women obtained 2600.5 seedlings in tomato, 1517 seedlings in brinjal and 2634.75 seedlings in chilli in year 2013-14 and

2014-15 as compare to the farmer practice in which farm women obtained 1761 seedlings in tomato, 1078.75 seedlings in brinjal and 1826.75 seedlings in chilli during rabi and kharif season of year 2013-14 and 2014-15. So there is a 48.11, 40.69 and 44.89 percent increase in number of seedlings in tomato, brinjal and chilli respectively during the kharif and rabi season of year 2013-14 and 2014-15. The reason for more production of seedlings of tomato, brinjal and chilli in demonstration might be due to less attack of damping off disease because in the demonstration, seed were treated with fungicide bavistin and sown the seed in raised bed during kharif season. This finding is in collaboration with the finding of Mukherjee, N. (2003).

Yield in respect of number of seedlings of the demonstration plots and potential yield were compared to estimate the yield gaps which were further categorized into technology and extension gap as reported by Hiremath and Nagaraju (2009). The technology gap (Table 2) shows the gap in the demonstration yield over potential yield and it was ranged in tomato 99.5 no., brinjal 67 no. and chilli 95.25 no. in rabi and kharif season of the year 2013-14 and 2014-15. The technology gap may be attributed to the dissimilarity in the weather condition (Hiremath, S.M. and Nagaraju, M.V. (2009). Further the higher extension gap of 839.5 was recorded in tomato, 438.25 in brinjal and 808 I chilli during the kharif and rabi season of year 2013-14 and 2014-15, educate the farmers through various extension means for the adoption of improved practices for raising tomato, brinjal and chilli seedling in rabi season as compare to kharif season reverse this trend of wide extension gap. The adoption of technology in the demonstration were studied through technology index which shows the suitability of the technology in the farmers field. The lower value of technology index, move is the feasibility. Table 2 shows that technology index value was in minimum in chilli (3.49 percent) followed by tomato (3.69 percent) and brinjal (4.23 percent) shows the superiority and feasibility of high adoption of this technology during rabi and kharif season of the year 2013-14 and 2014-15.

The result and output prices of condition prevailed during the study of demonstration were taken for calculating gross return, net return and benefit cost ratio (table 3). The economic analysis of the data over the years revealed that highest gross return, net return and benefit cost ratio was obtained in the demonstration during both the season As compared to farmer practice. In tomato highest gross

return (Rs. 3900.75), followed by chilli Rs. 3952.125 and brinjal (Rs. 2275.5), net return in tomato 3139.40 followed by chilli (Rs. 3174.07) and brinjal (Rs. 513.35) and B: C ratio (4.13) in tomato, followed by chilli (4.08) and brinjal ( 1.99) was recorded as compared to farmers practice which recorded highest in chilli Rs. 2740.13 gross return, Rs 2071.11 net return and 3.10 B:C ratio in chilli.

### CONCLUSION

With development of low cost vegetable nursery with empowerment of farm women to upliftment of their social and financial status can be a profitable venture. Nursery raising and its management in the village is a new intervention being carried out in the villages. In Narana, Nanadharakhedi and Banger most of the farm women are small marginal farmers and some are belong to land less family. To improve their skill and increase their socio economic status provoke the farm women for nursery management training. Nursery raising is an income generating activity for land less farmers. Less time and less money consuming new intervention carried out in the village Narana Nanadharakhedi and banger of Dewas district.

**Table 1**  
**Personal profile of the selected Farm women**

Age	No. of respondents	Percentage	Mean ± sd
20-25	11	27.5	4.56 ±25
26-30	8	20	
31-35	9	22.5	(20 to 40)
35 to above	12	30	
Education			
Not literate	12	30	13.11 ±20
Up to primary	15	37.5	
Middle school	6	15	(0 to B.A.)
High school	4	10	
College	3	7.5	
Family type			
Nuclear	14	65	21.21±50
Joint	26	35	
No. of members			
one to three	9	22.5	11.27±33.33
four to six	13	32.5	
> seven	18	45	(2 to 7)
Land holding			
1.0-2.0	9	22.5	18.60 ±25
2.0-3.0	20	50	
3.0-4.0	9	22.5	(1 to 5)
4.0 and more	2	5	
income of the family (000)			
0.8-1.0	8	20	11.81 ±33.33
1.0-2.0	17	42.5	
2.0 and more	15	37.5	(0.8 to 3.0)

**Table 2**  
**Productivity, technology gap, extension gap and technology Index of Nursery under FLDs**

Vegetable	Cost of Input (Rs.)		Yield (No. of Seedlings)		% increase over FP	Extension gap (No. of seedling)	Technology gap (No. of seedling)	Technology index (%)
	RP	FP	Potential yield	RP				
Tomato(200 sq.m)	761.34	568.89	2700	2600.5	48.11	839.5	99.5	3.69
Brinjal (200 sq.m)	762.15	657.23	1584	1517	40.69	438.25	67	4.23
Chilli (100 sq.m)	778.05	669.02	2730	2634.75	44.89	808	95.25	3.49

**Table 3**  
**Gross return (Rs./200 sq.m.), Cost of cultivation (Rs./ 200 sq.m), net return (Rs./ 200 sq.m) and B:C ratio as affected by improved and farmers practice**

Vegetable	Cost of Input(Rs.)		Yield (No. of Seedlings)		% increase	Gross Return over FP		Net return (Rs.)		B: C Ratio (Rs.)	
	RP	FP	Potential yield	RP		FP	RP	FP	RP	FP	RP
Tomato(200 sq.m)	761.34	568.89	2700	2600.5	48.11	3900.75	1761	3139.40	1173.38	4.13	2.00
Brinjal (200 sq.m)	762.15	657.22	1584	1517	40.69	2275.5	1078.75	1513.35	421.53	1.99	0.64
Chilli (100 sq.m)	778.05	669.02	2730	2634.75	44.89	3952.13	2740.13	3174.08	2071.11	4.08	3.10

**RP-** Recommended practice, **FP:** farmer practice

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