

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 2; February 2025; Page No. 32-35

Received: 24-11-2024
Accepted: 29-12-2024

Indexed Journal
Peer Reviewed Journal

Addressing issues of women entrepreneurship in vegetable farming: A study in Deogarh district of Odisha

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DOI: <https://doi.org/10.33545/26180723.2025.v8.i2a.1606>

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Abstract

The researchers examined women's roles in Kirtanpalli and Budido villages from Deogarh district of Odisha regarding their awareness levels and performance abilities and their perceived training needs through vegetable farming and processing and extension measures to boost female farmer entrepreneurship alongside skill and income enhancement. The study found that all interviewed women participated actively in vegetable compost development along with vegetable production and irrigation duties and harvesting activities but only 66.5 percent of women shared the management of income responsibilities and the same percentage of men handled vegetable marketing. All farm women had full access to water resources and seeds and planting materials while among them only half controlled irrigation systems and only 12.5 percent retained ownership of seeds and planting materials. Evaluation data indicated that the exclusion of farm women from banking credit access highlights an important issue of concern regarding their financial authority. The largest number of women work in packaging (90%) and after that they work in harvesting (62.5%). Farm women demonstrated the highest awareness about demand-driven produce and ranked them with a score of 1.8 after duration of growth and value-added products manufacturing which received scores of 1.73 and 1.38 respectively. The assessment of training requirements by agricultural women for skill improvement showed that they required post-harvest management knowledge and marketing expertise and practical information about harvesting and packaging techniques together with quality seed production methods.

Keywords: Awareness level, training needs, vegetable farming, post-harvest management, entrepreneurship development

Introduction

Fruits and vegetables represent the fundamental dietary elements which human beings consume. Vitamins and minerals exist in their richest concentration in fruits and vegetables which help humans protect themselves from many nutritional deficiencies and chronic diseases. Horticultural crops especially fruits and vegetables stand vital for food security while maintaining nutritional levels because daily per capita availability falls drastically below the recommended intake of 85 gm fruits and 280 gm vegetables from the Indian Council of Medical Research and National Institute of Nutrition. The WHO diagnostic panel for dietary issues and nutrition and disease prevention

recommends consuming at least 400 grams of fruits and vegetables each day to reduce diet-related illnesses and nutrient deficiencies while utilizing forty-eight 80-gram portions each day. Despite lower consumption figures different regions of the world continued to display this phenomenon because of multiple existing factors. People worldwide do not meet the recommended vegetable intake levels set by the WHO. The pattern of low vegetable consumption occurs at a high rate among nations that are developing including India. Consumer preferences now focus on products that provide ready-to-eat fruits and vegetables with preserved fresh quality while containing only natural substances. The main goal of basic processing

for raw produce involves two essential functions. The delivery of fresh produce requires processing which should maintain nutritional value and provide convenient format for distribution. The storage period of the product needs to be extended enough to support its market reach to end users. The drastic increase in fruit and vegetable output does not address the monumental challenge of providing sufficient sustenance for India's population exceeding one billion. In Horticultural crops the lack of proper storage and transportation facilities leads to annual waste of 30% of produce which costs 50,000-80,000 crores. The second position India occupies as global producer of horticultural outputs marks substantial potential for future export growth yet the current export capacity remains minimal. In contrast to this potential Value Addition in Horticulture creates higher value from primary products through processing and packaging combined with improvements to product quality.

Material and Methods

Researchers conducted their study in the agricultural community of Reamal which belongs to the Deogarh district of Odisha. The researchers investigated farm women residing in Kirtanpalli and Budido villages located within Reamal block of the Deogarh district of Odisha. A total of 40 female vegetable farmers joined the study among 4 Social Health Group clusters. The collection of data involved distributing a well-designed survey document to women writers for three purposes: measuring farming performance in vegetable cultivation and processing operations and assessing training requirements that would enhance their capabilities through future interventions. The evaluation took into account both farming activities such as seed procurement and production processes and post-harvest operations and facility control and resource and credit accessibility for the participants. The researchers evaluated awareness through three-point scale scoring involving full awareness as 2 points and partial awareness as 1 point and complete unawareness with 0 points. The farm women rated their perceived training requirements through a three pointed scale using Essential Needed, Moderately Needed

and Not Needed scores that corresponded to 2, 1 and 0 respectively. Data from women vegetable farmers revealed their participation in agriculture combined with their resource knowledge and farm control and ownership together with their training requirements that was evaluated in several tables.

Results and Discussion

An analysis of data from the participating women in vegetable farming and post harvest management about their involvement, awareness level, access and control over farm resources, credit and physical resources alongside their perceived training needs was conducted through the following tables.

Table 1: Role performance of farm women in vegetable cultivation (N=40)

Sl. No.	Activities	Women	Men	Both
1.	Procurement of seeds	0(0.0)	40(100.0)	0(0.0)
2.	Procurement fertiliser	3(7.5)	37(92.5)	0(0.0)
3.	Disease and pest control	15(37.5)	35(87.5)	1(2.5)
4.	Compost preparation	40(100.0)	0(0.0)	0(0.0)
5.	Intercultural Operations	40(100.0)	0(0.0)	0(0.0)
6.	Watering	40(100.0)	0(0.0)	0(0.0)
7.	Harvesting	40(100.0)	0(0.0)	0(0.0)
8.	Marketing	12(30.00)	27(67.5)	1(2.5)
9.	Managing income	27(67.5)	9(22.5)	4(10.0)

(The number in the parentheses indicate percentage)

Table 1 shows that all women participate fully in mushroom compost-making in addition to production steps and crop water management and fruiting of the mushroom. Male involvement centres around seed acquisition and fertilizer procurement, along with 93.33% involvement in fertilizer procurement. A significant proportion of 67.5% of women managed their income and spent equal time on marketing activities as their male counterparts. The survey findings demonstrate that farm women performed activities within household areas while male farmers focused on external activities.

Table 2: Access and control over farm resources, credit and physical resources (N=40)

S. No.	Resources	Access			Control		
		Men	Women	Both	Men	Women	Both
1	Farm Resources						
	Area	9(22.5)	3(7.5)	28(70.00)	35(87.5)	0(0.00)	5(12.5)
	FYM/Compost	3(7.5)	12(30.00)	25(62.5)	25(62.5)	0(0.00)	15(37.5)
	Seeds and planting material	0(0.00)	40(100.00)	0(0.00)	19(47.5)	5(12.5)	16(40.00)
	Irrigation	0(0.00)	40(100.00)	0(0.00)	4(10.00)	25(62.5)	11(27.5)
	Labourer	0(0.00)	0(0.00)	40(100.00)	8(20.00)	12(30.00)	20(50.00)
2	Credit						
	Bank Credit	40(100.00)	0(0.00)	0(0.00)	36(90.00)	0(0.00)	4(10.00)
	Investment/Capital	26(65.0)	3(7.5)	11(27.5)	33(82.5)	0(0.00)	7(17.5)
	Income	7(17.5)	11(27.5)	22(55.0)	7(17.5)	25(62.5)	8(20.00)
	Savings	7(17.5)	26(65.0)	7(17.5)	5(12.5)	29(72.5)	6(15.0)
	Reinvestment on critical inputs	24(60.00)	7(17.5)	9(22.5)	21(52.5)	3(7.5)	16(40.00)
3	Physical Resources						
	Preparation of production unit	24(60.00)	3(7.5)	13(32.5)	36(90.00)	0(0.00)	4(10.00)
	Transportation	40(100.00)	0(0.00)	0(0.00)	40(100.00)	0(0.00)	0(0.00)
	Grading/Sorting	0(0.00)	40(100.00)	0(0.00)	4(10.00)	25(62.5)	11(27.5)
	Packaging	0(0.00)	36(90.00)	4(10.00)	3(7.5)	21(52.5)	16(40.00)
	Harvesting	4(10.00)	25(62.5)	11(27.5)	0(0.00)	21(52.5)	19(47.5)
	Marketing	19(47.5)	5(12.5)	16(40.00)	19(47.5)	9(22.5)	12(30.00)

(The number in the parentheses indicate percentage)

The data in Table-2 indicated that all farm women access irrigation and Seeds along with planting materials. Furthermore, joint decision-making authority extends to laborers according to all respondents and covers vegetable cultivation area for 70 percent of respondents. A study indicates that area under cultivation receives primary resource control from 86.5 percent of male farmers who also oversee FYM/compost allocations at 62.5 percent. However, female farmers demonstrate control at 62.5 percent for irrigation management and maintain only 12.5 percent control for spawn distribution.

Women had equal opportunities to apply for bank credit as their share is 100% but their invasion of profit and capital stands at 65%. Most farm women obtained financial resources through their family savings (65%). Access to income occurs jointly according to 55% of the respondents. The analysis indicates that female farmers enjoyed 72.5% control over savings and a similar level (62.5%) over income while male farmers held access to bank credit that reached 90% to investment/capital (82.5%) before reinvestment on essential inputs (52.5%). A majority of 40% of farming households shared access authority to

critical reinvestment decisions. The farm women completely lacked any influence or ownership over bank credit which remains their main financial concern. The implementation of simplified procedures should form a part of the policy framework which aims to provide institutional credit to farm women interested in sustainable vegetable agriculture.

Every man and woman in the study area participates in transportation tasks along with grading and sorting. Women participate in vegetable packaging as the primary activity at 90 percent rates followed by harvesting activities at 62.5 percent. The main tasks for male farmers include preparation of production unit (60% of cases) and marketing functions (47.5%). The combination of male farmer and female farmer participation reached 40 percent for marketing activities while preparation of production units required a joint effort (32.5 percent). Women farmers gained physical resource control through grading/sorting activities at 62.5 percent and shared distribution of control over transportation at 100 percent and preparation of production unit at 90 percent and marketing at 47.5 percent. Studies reveal comparable results about joint access as well.

Table 3: Awareness level of women farmers involved in vegetable farming (N=40)

S. No.	Awareness level*	Fully Aware	Partially Aware	Not Aware	Mean Score	Rank
1.	Demand driven vegetables	32(80.0)	8(20.0)	0(0.0)	1.8	I
2.	Diseases management	20(50.0)	11(27.5)	9(22.5)	1.28	IV
3.	Duration of crop	29(72.5)	11(27.5)	0(0.0)	1.73	II
4.	Pest management	19(47.5)	12(30.0)	9(22.5)	1.25	V
5.	Quality planting material production	9(22.5)	11(27.5)	20(50.0)	0.73	VIII
6.	Market availability	16(40.0)	13(32.5)	11(27.5)	1.13	VI
7.	Governmental schemes	15(37.5)	13(32.5)	12(30.0)	1.08	VII
8.	Preparation of value added products	24 (60.0)	7 (17.5)	9 (22.5)	1.38	III

(The number in the parentheses indicate percentage)

The awareness level (Table-3) of farm women indicates that majority were fully aware abo demand driven vegetables (80%) with a mean score of 1.8 followed by duration of crops with (72.5%) with a mean score of 1.73, preparation of value-added products (60%), disease management (50%) and pest management (47.5%), respectively. Similarly they

were partially aware about in most of the activities required for vegetable farming. In contrast, majority were not aware about Quality planting material production (50%) which requires technical up gradation of knowledge and skill of farm women.

Table 4: Perceived Training Needs of women farmers in vegetable farming according to their skill gaps (N=40)

Sl. No.	Training Needs	Essentially Needed	Moderately Needed	Not Needed	Mean Score	Rank
1.	Post-harvest management and marketing	36(90.0)	4(10.0)	0 (0.0)	1.90	I
2.	Harvesting and packaging practices	33(82.5)	7(17.5)	0 (0.0)	1.83	II
3.	Seed production	27(67.5)	13(32.5)	0 (0.0)	1.68	III
4.	Disease management	25(62.5)	15(37.5)	0 (0.0)	1.63	IV
5.	Storage	23(57.5)	17(42.5)	0 (0.0)	1.58	V

(The number in the parentheses indicate percentage)

Table-4 reveals the training needs which farm women perceive in vegetable farming. Researchers found post-harvest management and marketing scored highest while Quality planting material production ranked as the third due to its mean score of 1.9 compared to 1.83 and 1.68. Electronic systems should be used to deliver marketing education that includes vegetable market information sources and distribution channels together with various value-added products specifically for women farm leaders.

Conclusion

The vegetable cultivation combined with processing offers farm women powerful opportunities for managing their families while increasing financial gains and strengthening agricultural markets and improving rural nutrition. Presently we need to stop these losses because of population expansion. The post-harvest operations primarily depend on farmwomen which necessitates immediate attention for various extension matters. Farm women should start this farming as an entrepreneurial opportunity through self-help

groups that work in collaboration with Krishi Vigyan Kendras, Research Organizations and State Agricultural Department. The assessment revealed vegetable farming contained the greatest participation of women during packaging as well as grading and sorting and harvesting and product packaging activities. If the technologies have to be scaled down to the rural masses the issues related to post harvest of horticultural produce and the skills appropriate for farmwomen have to be kept in the forefront. As the farmwomen have little knowledge about post-harvest handling of perishables they have to be empowered in this sector. The technologies are required to be taken to the actual users if India has to be leader in the processing of the horticultural products which at present is at lower level. The self-employed women also require training, in this sector for entrepreneurship development. It is possible through training the trainers, who will downscale the latest low cost technologies to the producers and processors; These technologies have to be regional specific as there are varied agro-climatic conditions. The problem of huge post-harvest losses can only be addressed if the low cost techniques reach to the actual users. Farmwomen need to implement their acquired traditional farming techniques for testing purposes alongside modern techniques for advancement and quality enhancement. The skills of farmwomen will upgrade through modern technologies while they learn to develop new products and apply them. The future global food security depends heavily on successful reductions of food losses which occur after harvest.

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