



## Poshan Vatika: A manageable model to improve nutritional security

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### Abstract

Poshan vatika is a manageable model for tribal /rural area to solve the nutritional insecurity. In addition, kitchen gardens/nutri garden when properly managed provide a four-in-one solution to the food and nutrition problem by increasing household food availability, enabling greater physical, economic and social access, providing an array of nutrients, and protecting and buffering the household against food shortages. Thus, the study was planned keeping in view to Improved food security, Increased availability of food and better nutrition through food diversity and enhanced rural employment through additional or off-season production in rural areas. The purposive experimental study was planned. The study was conducted in 5 villages under FLDs programme in Narmada District. Total 150 farm families were selected for the study having area around 150 m<sup>2</sup> near the house. Total 10 varieties were provided throughout the year in every poshan vatika included fruits and vegetables seeds and saplings were first time introduced in selected area. It was seen that area available for kitchen garden in most of farm families was cultivated area near the house (39.18%) and unused land near the house (30.71%). It was observed that maximum production was in Rabi season followed by Kharif season respectively, may be due to scarcity of water during summer. Availability of Macro and micro nutrients through consumption of vegetables in daily routine diet was found satisfactory.

**Keywords:** Poshan vatika, nutritional security, tribal areas, rural development, vegetable cultivation

### Introduction

Poshan Vatika can play an important role in enhancing dietary diversity by providing key micronutrients through local fruits and vegetables. Poshan Vatika is a good example of convergent action on-ground. A lack of resources is one of the important factors that affect food and nutritional security, particularly at the HH level in the rural area resulting in micronutrient deficiency, particularly in preschool children and in pregnant and lactating women. Therefore, *Poshan Vatikas* (Nutri-Gardens) are very much essential in isolated places and villages far from local markets. Dietary diversity is as important as adequate diet and even more important than dietary adequacy in case of certain micronutrient deficiencies, particularly in the younger ages. A review suggested dietary diversification, including home gardening, as an effective strategy to improve nutrition in maternal and child under nutrition <sup>[1]</sup>. The promotions of nutrition gardens in Indian villages in the districts of Odisha and Maharashtra have shown favorable results in terms of improved diet diversity <sup>[2]</sup>. Numerous phytochemicals found in a variety of fresh fruits and vegetables have antioxidant, antiallergic, anti-inflammatory, antiviral, and antiproliferative properties <sup>[3]</sup>. Therefore, amyriad of colored vegetables in the daily diet will enhance children's ability to fight disease and improve immunity. Establishing a Poshan Vatikas/Nutri-Garden is much easier in the Anganwadi's in rural areas as there is ample space, and families are involved in agriculture. Growing different green vegetables, herbs/medicinal herbs round the year and it will ensure regular and handy supply of fresh vegetables, increase consumption of vegetables, bring health and nutrition behavior change, and have a positive effect on

their health. Also, it will generate awareness among people on the importance of a balanced nutritious diet.

### Materials and methods

The study was conducted in both the kharif and Rabi seasons. Krishi Vigyan Kendra has provided seed and planting material of improved varieties to the selected households. For kharif season, the vegetables selected for kitchen garden included amaranths, okra, bottle gourd, sponge gourd, bitter gourd, brinjal, tomato, cow pea, spinach, and radish whereas in rabi season, they were provided seeds/planting material of coriander, fenugreek, spinach, radish, carrot, beet root, cauliflower, cabbage, tomato, brinjal, chilli. To fulfill the objectives of the present study the purposive experimental study was planned.

**Table 1:** reveals that area available for poshan vatika in most of the farm families were Unused land near the house (45.81 %) followed by in cultivated area near the house (39.18%) and Cultivated area near the tube well (16.66 %) only 13.33 percent Farm family's available courtyard for poshan vatika in Narmada district. It was also found that only sixty-five farm women were grown vegetables, out of which only three farmers were grown all types of vegetables throughout the year before the intervention of this programme due to lack of awareness, laziness and lack of seed. Tabinda Qaiser *et al.* (2013) <sup>[5]</sup> also reported that the potential land availability of kitchen gardening in courtyards were 55% while cultivated area around the house and fields was 23% similarly existing area under fruits and vegetables was 42.86% in the field followed by 38.10% was around house.

S. N	Availability of area for poshan vatika	No. of Respondents	Respondents grown before intervention	
			Yes	No
1	Backyard/ Court yard of house	20 (13.33)	14	12
2	Unused land near the house	46 (30.71)	24	22
3	Cultivated areas near the house	59 (39.18)	12	26
4	Cultivated area near the tube well/Borewell	25 (16.66)	15	25
Total		150	65	85

**Table 2:** Technical Constraints faced by respondents in adoption of Poshan vatika n=150

Sr.no.	Constraints	Frequency	Percentage (%)	Rank
1	Pest and disease problems in poshan vatika	145	96.66	I
2	Lack of irrigation facility due to scarcity of water in area	110	73.33	VI
3	Lack of scientific knowledge about poshan vatika	101	67.33	IX
4	Lack of knowledge regarding nutritious fruits and vegetables selection	115	76.66	V
5	Lack of storage facility for surplus small quantity produce	120	80.00	IV
6	Lack of interest among rural youth /adolescents' girl	128	85.33	II
7	Difficulty in immediate payment after selling at local level	108	72.00	VIII
8	Unavailability of local market at village level	105	70.00	VII
9	Less priority of poshan vatika as compared with other farm activities	122	81.33	III
10	Problem of proper protection of poshan vatika from local goat and cattle grazing	99	66.00	X

A perusal from the table 2 revealed that major constraints perceived by more than half of the farmer were lack of technical knowledge about pest & disease problem (99%) found in poshan vatika, Lack of interest showed rural youth /adolescents girl for poshan vatika maintenance and their care (85.33),also it showed from the table farm women were gave less priority to poshan vatika as compared to other farm activities (81.33) and lack of storage facility for surplus small quantity produce are not available with them (80.33) in terms of nutrition received from fruits and vegetables they have insufficient knowledge (76.66) were

ranked first, second, third and fifth respectively other constraints reported ranked sixth due to scarcity of water and irrigation facility they don't have interest to do poshan vatika they faced marketing issues they didn't find immediate payment after selling at local level (72.00) percent ranked eight and ranked ninth were Lack of scientific knowledge about management of poshan vatika. lastly it was found that many farm women were also worried about protection from goat and cattle grazing (66.00) % and it received ranked tenth.

**Table:** Effectiveness of poshan vatika after FLD Programme

Impact	Before Programme	After Programme
Practice of Kitchen Gardening throughout the year	Only 03 to 5 farm Family	All selected farm families
Type of vegetable grow	Only brinjal, chilli, tomato and few green leafy	All types of vegetables
Grow vegetables in all season	Some people only Kharif	Maximum families growing in Rabi and kharif season
Impact on livelihood	Buy costly vegetables and poor health	Saving money, improvement in physical health (fitness)
Knowledge about daily intake vegetables in diet	Not aware	They aware now and used 224-300 gm / person /Day
Nutritious food & vegetables	Only 5 to 10 Participant	More than 50 Participants

Table 3 reveals the effectiveness of poshan vatika in rural areas, with the initiation of poshan vatika the livelihood of local community in the targeted area improved. It was acknowledged that after FLD programme, all the participants were taking more interest. It was also found that after introducing poshan vatika people save money in buying vegetables, more than 50 farmers earn money by selling of surplus vegetables and use fresh and chemical free vegetables in daily routine diet. The practice of poshan vatika (inclusion of fruits and vegetables) were increased.

**Conclusion**

Thus, the poshan vatika plays a crucial role for awareness regarding to take adequate vegetables in daily diet to solve the nutritional problems in rural areas. It may be concluded from this study that establishment of poshan vatika play an important role in tackling the problem of malnutrition by providing diversity in diet in rural areas. Improved

consumption of green leafy vegetables from nutrition garden is a low-cost sustainable approach for reducing micronutrient malnutrition. A 150 m2 area of planned nutrition garden is appropriate for medium size family in terms of availability of vegetables. There is need to upscale the Nutritional Gardening/nutria garden/ kitchen garden / home garden in rural areas with nutrition education in order to promote increased consumption of diverse and nutrient rich food.

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