

# Improving nutritional security through kitchen gardening in rural areas

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■ **ABSTRACT** : Malnutrition is a serious nutritional problem in rural areas, resulting in different types of diseases, hampering physical growth and retarding brain development. For poor people households, vegetables and fruits are often the only source of micronutrients in the family diet. Homestead production of fruits and vegetables provides the poor people the direct access to important nutrients that may not be readily available or within their economic rich. Hence, kitchen gardening is an important strategy to improve household nutritional security. Present study was conducted in Bundi district of Rajasthan to quantify the impact of kitchen gardening to improve nutritional security of households in rural areas. The result suggests that kitchen gardening has proved a feasible livelihood strategy for resource poor people in terms of nutrient as well as calorie intake and economic performances.

■ **KEY WORDS** : Nutritional security, Kitchen gardening, Rural areas

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In rural areas of India malnutrition and poor health status is a common problem. It retards growth, increases the risk and duration of illness, reduces work output and slows social and mental development. For poor households, vegetables and fruits are often the only sources of micronutrients in the family diet. Home gardening is one of the world's most ancient food production practices and is practiced throughout the world (Landauer and Brazil, 1985). Homestead production of fruits and vegetables provides the households with direct access to important nutrients that may not be readily available or within their economic rich. So, home gardening would be a good means to improve household food security (Talukder *et al.*, 2002). Therefore, present study was conducted to see the impact of kitchen gardening in improving the nutritional security of households in rural areas.

## ■ RESEARCH METHODS

The study was conducted in Bundi district of Rajasthan. In all 20 model nutritional garden set up in two purposively

selected families. Different capacity building activities including training, exposure visit and farmer's scientist's interaction on various aspects including vegetable grown in homestead, homestead vegetable utilization, average vegetable consumption, nutrient contribution from homestead vegetable gardening were planned and undertaken. Pre-survey was conducted to obtain information regarding profile and respondent's dietary food habits and nutritional deficiency diseases were also pre-surveyed. After one year of establishment of nutritional garden, a post-survey was done to analyse the impact of kitchen gardens on nutritional status of selected families. Data were collected by face to face interview with the help of structured interview schedule.

## ■ RESEARCH FINDINGS AND DISCUSSION

Socio-economic characteristics of respondents were analysed and are presented in Table 1. The table indicates that majority (90%) of respondents were belonged to nuclear family and followed by (10 %) joint family. It was found that majority of the families (65%) were from medium sized

families followed by small size (30 %) and big size (5%). Results on family income showed that majority (55 %) of respondents belonged to income group of more than Rs. 1.0 lakh. While looking at their educational status, results revealed that 75 per cent heads of the family were literate to

Variable	Categories	Number	Per cent
Type of family	Joint family	2	10
	Nuclear family	18	90
Size of family	Small size ( 1-4 members)	6	30
	Medium size (5-7 members)	13	65
	Big Size (> 7 members)	1	5
income annual (Rs.)	< 50,000	3	15
	50000-100000	6	30
	> 100000	11	55
Education	Illiterate	4	20
	literate	9	45
	Primary	6	30
	Middle	1	5
	Graduation	0	0
Land holding	Small	6	30
	Medium	12	60
	Large	2	10

primary level educated. Results on land holding depicts that majority (60%) had medium scale land followed by small (30%) scale land and only (10%) had large scale land.

Before demonstration respondents cultivated 8 different vegetables such as bottle gourd, green chilli, brinjal, ridge gourd, okra, tomato, carrot and radish. But after intervention they had grown 21 items of vegetables like that bottle gourd, bitter gourd, green chilli, brinjal, summer squash, tomato, cucumber, ridge gourd, okra, cluster bean, cow pea, spinach, coriander, cauliflower, onion, cabbage, carrot, pea, fenugreek and radish in *Kharif*, *Jayad* and *Rabi* seasons.

It is evident from Table 2 that kitchen gardening demonstration resulted in increase in homestead vegetable production, consumption and distribution of excess vegetables to neighbours and relatives. Before intervention, respondents were practicing traditional practices; they used to grow only one or two seasonal vegetable. To fulfil the requirement, they had to purchase vegetables from market for consumption. It is obvious from Table 2 that production of vegetables at beneficiaries increased 169.27 per cent which resulted in increased consumption (85.66 %) and distribution (400 %) and money saving. Similar results were reported by (Nandal and Vashisth, 2009).

Different essential nutrients contribution from vegetables is presented in Table 3. Nutritional value of different vegetables was calculated according Susan E. Gebhardt and Robin G. Book of nutritive value of foods. Table 3 indicates that there was significant increase in consumption of vitamin A, vitamin C and calcium. These findings are supported by Yusuf *et al.* (2008). It was also found that intake of energy, protein and iron increased after intervention of kitchen gardening intervention. Similar results were also reported by Rahman *et al.* (2008), Nandal and Vashisth (2009) and Biswas and Masanta (2009).

Particulars	Production (kg.)	Purchase (kg.)	Distribution (kg.)	Consumption (kg.)
Before intervention	205	72	12	265
After intervention	552	0	60	492
Change	347	-72	48	227
Per cent change	169.27	-100	400	85.66

Essential nutrients	Per head per day consumption through vegetables			
	Before intervention	After intervention	Increase in consumption	
			Total	Per cent
Vitamin A (IU)	846.36	7045.28	6198.92	732.42
Vitamin C (mg/d)	41.07	96.22	55.15	134.26
Energy (Kcl/d)	30.69	65.20	34.51	112.45
Calcium (mg/d)	32.06	155.05	122.99	383.57
Iron (mg/d)	0.61	4.47	3.86	633.20
Protein (g/d)	1.36	4.06	2.70	199.06

**Conclusion:**

It may be concluded that establishment of kitchen gardens had immense role in tackling the problem of malnutrition and micronutrients deficiencies in rural areas.

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