

Household Food Security through Kitchen Garden: A Practically Workable Step by KVKs in U.P. State

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ABSTRACT

Continuously increasing food prices of basic kitchen items, fruits and vegetables the poor and fixed income groups are suffering from the decreasing real incomes and purchasing power. The marginal increase in the income of the poor people to enable them to gain access to food and improve their nutrition is the need of the present time. The kitchen garden falls under bio-intensive and participatory innovation which can provide year round availability, access and consumption of adequate amount and varieties which supply not only the calorific demands but also the micronutrients by the resource poor. One of the easiest ways of ensuring access to a healthy diet that contains adequate macro- and micronutrients is to produce many different kinds of foods in the home garden. This is especially important in rural areas where people have limited income-earning opportunities and poor access to markets. Kitchen gardening contributes to household food security by providing direct access to food that can be harvested, prepared and fed to family members, often on a daily basis. Home gardens are also becoming an increasingly important source of food and income for poor households in peri-urban and urban areas. Kitchen gardens can be grown in the empty space available at the backyard of the house or a group of women can come together, identify a common place or land and grow desired vegetables, fruits, cereals etc that can benefit the women and community as a whole (Christensen, 2011). There are many social benefits that have emerged from kitchen gardening practices; better health and nutrition, increased income, employment, food security within the household, and enhance in community social life.

Keywords: Vegetables, kitchen garden, urban areas, social life

MATERIAL AND METHODS

As per RDA daily intake of vegetables should be 300 gm/person including roots and tubers, green leafy and green vegetables while it was very low in rural areas. So to ensure proper intake KVK Kanpur Dehat and KVK Kushinagar made efforts to plant Kitchen gardens on backyard of the rural houses under Front Line Demonstrations. 24 kitchen in each district were planted viz: Rudapur, Majhiyar, Aurangabad, Sahtawanpurwa, Bakhariya and Jhammaniwada of Maitha blocks in District Kanpur Dehat and Malludeeh, Phulwapatti, Andhya, Laxmipur, Mainpur and Khadahi of Kasya Block of Kushinagar districts were selected purposively as these are adopted village under Home Science Size of Each Kitchen garden were kept same as 250m². Since due to division in families and area as well lands are getting short so A On Farm Trial was also conducted

to assess the appropriate area to plant Kitchen garden for the family of 4-6 members in village Kakardahi of Maitha Block from year 2013 to 2015.

RESULTS AND DISCUSSION

Appropriate Area for Family of 4-6 members

As per RDA 300 gm vegetables should be consumed daily on that basis requirement for vegetables of family having 4-6 members is 36- 54 Kg and 108-162 Kg for three months generally vegetable crops are of 90 to 120 years duration so taken 3 months as standard.

Analysis of Data in Table 1 revealed that average vegetable production from 104 m² was 209.33 Kgs where as 305.60 Kgs production was achieved from 150 m² area. About 386 Kgs production was achieved from 204m². As per RDA daily vegetable

Table 1: Area Suitable for a family of 4-6 members

Sl. No.	Crop Area	Spinach	Okra	Bottle gourd	Brinjal	Ridge gourd	Indian Round gourd	Lobia	Radish	Pumpkin	Tomato	Amaranth	Coriander	Total for a cropping season
1	104 m ²	15.48	20.00	22.30	27.10	22.00	18.50	15.75	10.40	18.40	17.20	13.00	9.20	209.33
2	150 m ²	27.00	25.50	34.00	36.40	32.50	24.20	25.50	17.30	27.40	30.50	15.30	10.00	305.60
3	204 m ²	30.20	35.50	42.60	40.30	39.70	35.50	32.50	22.00	34.50	35.75	21.50	15.50	385.55

*All figures in Kg

consumption of a person should be 300gm. On the basis of RDA a family having 6 members needed 1.8 Kg. vegetable daily and 54 Kg in month, 162 Kgs for 3 months. Generally a Cropping season of a vegetable lasts for 3 months and average production of 104m² is 209 Kg. Therefore it can be concluded from the table 1 that 104m² area is sufficient for a family of 6 members.

Daily Consumption pattern of vegetables before and after planting Kitchen garden per Person

It can inferred from Fig.1 that average vegetable consumption of a person is less than RDA before planting kitchen garden and also consumption of roots and tubers was more in comparison to green and green leafy vegetables. After planting Kitchen garden Consumption of vegetables increased gradually and consumption of green and green leafy vegetables also increased proportionately.

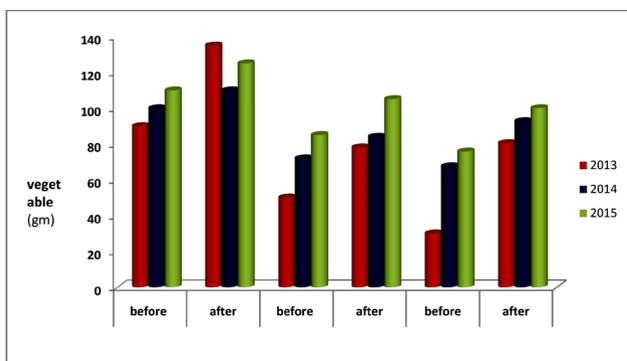


Fig. 1: Daily consumption of Vegetables per Person before and after Planting Kitchen Garden

Economic Evaluation of Kitchen Garden

Table 2 envisages that vegetable production can be a profitable venture as B:C ratio for each vegetable is nearly 1; 2. Cost of cultivation included cost of labour no matter who done the job, labour or family members.

Utilization of Vegetables obtained from Kitchen Garden

It is very clear from Fig. 2,3& 4 vegetables after family consumptions were either sold out or been gifted to neighbours but ratio of gifted vegetables has been increasing every year. Reason behind as awareness regarding importance of vegetable consumption increased they started more gifting.

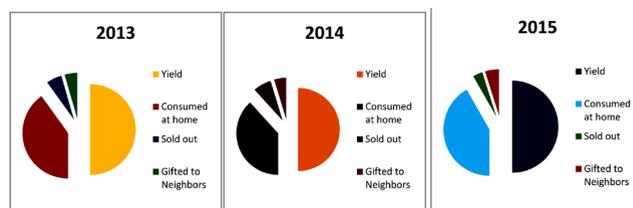


Fig. 2,3& 4: Yearly Utilization of Vegetables from Kitchen Garden

Participation of Family Members in Different Operations

Data pertinent to participation of family members given in Table 3 describe that mainly husband and wife do all the operations for maintaining Kitchen garden but children also contribute their part. Maximum contribution wife given for harvesting and weeding while husband prepared land and fenced the garden.

CONCLUSION

104 Mt² area was sufficient for a family of 4-6 members whereas their daily consumption was only 170 gm vegetables/ person before plantation of kitchen garden but increased yearly after planting Kitchen Garden.. Average vegetable production for a cropping season was 346 Kg from a kitchen garden of 250Mt² area. Kitchen Gardens provide an opportunity to a family to work together as husbands and children also participating in maintaining kitchen

Table 2: Yield and Economic Evaluation of Kitchen Garden planted in 250 m² Area

Sl. No.	Crop	Yield / Bed (5X4m)	Economic Evaluation			
			Gross Cost	Gross Return	Net Return	B:C Ratio
1	Spinach	31.45	336.00	663.00	327.00	1:1.97
2	Chillies	8.50	473.00	960.00	487.00	1:2.02
3	Fennel	1.20	260.00	1100.00	840.00	1:4.23
4	Carrot	19.00	420.00	864.00	444.00	1:2.05
5	Beetroot	20.50	370.00	1029.00	659.00	1:2.78
6	Amaranth	17.00	339.00	648.00	309.00	1:1.91
7	Radish	25.60	441.00	1166.00	725.00	1:2.64
8	Coriander leaves	23.90	255.00	924.0	669.00	1:3.62
9	Cauliflower	52.00	442.00	941.00	499.00	1:2.13
10	Cabbage	56.00	422.65	820.00	398.00	1:1.93
11	Brinjal	59.00	342.80	712.00	370.00	1:2.08
12	Tomato	32.70	473.00	1009.00	536.00	1:2.13

Table 3: Participation of Family Members in Different Operations for Maintaining Kitchen Garden

Sl. No.	Operations	Husband (%)	Wife (%)	Children (%)
1	Land preparation	50	38	12
2	Planting	49	40	11
3	Weeding	27	61	12
4	Mulching	47	41	12
5	Irrigation	35	52	13
6	Stalking	46	43	11
7	Fencing	50	42	8
8	Harvesting	22	64	14
9	Plant protection	57	34	9

gardens. Kitchen gardens were also contributing their part in enhancing sociability in rural folks as more than 70 Kgs of vegetables were been gifted to neighbors. Vegetables occupy an important place in our daily life particularly for vegetarians. Vegetables are the only source to increase not only the nutritive values of foods but also their palatability. For a balanced diet, an adult should have an intake 300 g of vegetables per day according to the dietary recommendation of nutrition specialists. But the present level of production of vegetables in our country can permit a per capita consumption of only 170 g of vegetables per day. So it is recommended that each and every KVK should promote Kitchen Gardens and also motivate rural women to go for scientific and advance techniques of cultivation for more profit. While governments should take steps to establish seed banks and vaults, the women in the lower strata of the society can also contribute to seed

conservation. They should also be encouraged to preserving ones traditional knowledge and practice of treating primary health conditions through locally available medicinal plants.



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