



Strengthening Rural Livelihood Through Nutrition Gardening

KEYWORDS

Nutrition Garden, Rural Households, Livelihood, Nandurbar District

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ABSTRACT

Indian agriculture is now at a critical juncture. The liberalization of agriculture trade, increasing trends of urbanization and fragmentation of the land have resulted in commercialization of Indian agriculture. In the present scenario, farmers are bound to turn towards more remunerative crops, like vegetables, for their sustenance. India has a large population and diverse agro-climatic conditions that favor the growth of various vegetables in the country. Nutrition gardening, in the last few years, has been a ray of hope for the landless, small and marginal farmers. This has become a new dimension of development in favor of the poor rural masses. The present study was undertaken in the Nandurbar district which falls under three agro-climatic zones i.e., the western Maharashtra plain zone, western ghat zone and sub mountain (hilly) zone. About 70% of the total population of Nandurbar district constitutes of tribal areas. Majority of the farmers belong to small, marginal or landless families. Their main occupation is agriculture and allied activities, working either as cultivators or as agricultural laborers. So the present study focuses on the role of nutrition gardening for rural livelihood development. The study revealed that the nutrition gardening has not only increased the income of rural families but also contributed to employment generation, social change, and self-sufficiency among small, marginal and landless farmers.

Introduction

Agriculture is a very important sector for sustained growth of the Indian economy, more so since about 70% of the rural (as well as 8% of the urban) households are dependent on agriculture for employment and livelihoods. A livelihood is a means of making a living. It encompasses people's capabilities, assets, income and activities required to secure the necessities of life. Most of the people in villages earn their living either through agriculture or handicrafts. Since the land available to each family has remained the same and the number of family members has grown, supporting all of them through agriculture alone is becoming difficult. People are moving to towns and cities in search of jobs, but these are not easily available partly because they lack the necessary qualifications.

A person's livelihood refers to the "means of securing the basic necessities-food, water, shelter and clothing-of life". Livelihood is defined as a set of activities which involve securing water, food, fodder, medicine, shelter, clothing and the capacity to acquire these necessities working either individually or as a group by using endowments (both human and material) for meeting the requirements of the self and his/her household on a sustainable basis with dignity. The vast majority of hungry and malnourished people live in developing countries under sub-standard living conditions and over half a billion of the global population suffers from chronic food insecurity. With the global population expected to reach over 9 billion by 2050, there will be a continuous need to increase food production and buffer stocks to meet the growing demand and efficiently cope with volatilities in food production and prices.

Nutrition gardens are the easiest way of growing nutritious fruits and vegetables at the desirable place. These gardens have persistently endured the test of time and continue to play an important role in providing food and income for the family. It is an ancient and widespread practice all over the world and also found in both rural and urban areas in predominantly small-scale subsistence agricultural

systems. Nutrition garden can also be called as suposhan vatika, kitchen garden, home garden, backyard garden or vegetable garden. For some women, sales of garden products are often the only sources of income or livelihood. Kitchen gardens, as they are referred to by Rowe, are very important especially for women-headed families in terms of meeting their everyday food consumption needs and generating income. In fact, nearly half of the food consumed at home and one-third of the food sold in the market comes from these garden lots. The economic benefits of home gardens go beyond food and nutritional security and subsistence, especially for resource-poor families. Bibliographic evidence suggests that home gardens contribute to income generation, improved livelihoods, and household economic welfare as well as promoting entrepreneurship and rural development. Earnings from the sale of home garden products and the savings from consuming home-grown food products can lead to more disposable income that can be used for other domestic purposes. Strategies that enhance household income and practicing of home gardens need more attention when it comes to reducing household food insecurity (Ogundiran, 2013). Nutrition garden thus solves the farmers' problems by taking steps to make better farming techniques available to increase production from the same piece of land, and also making opportunities of employment and livelihood available close to or within the villages itself.

Methodology

Study Area

The present study was undertaken to investigate the role of nutrition gardening for rural livelihood development. The study was carried out in Navapur tehsil of Nandurbar district. The Nandurbar district is situated between 730-310 and 740-320 East longitude, 210-000 and 220-030 North latitude. The district falls under three agro-climatic zones i.e., the western Maharashtra plain zone, western ghat zone and sub mountain (hilly) zone. The district is surrounded by Madhya Pradesh, Gujarat and Dhule district. Rural population accounts 85 per cent of the total popula-

tion, out of which 73.2 per cent families live below poverty line. The economy of the district is dependent on agriculture. Nearly 60 per cent of the total population consists of small and marginal farmers. The main subsistence in this area is agriculture, which depends upon monsoon. Agriculture in this area is facing several problems like soil erosion, soil degradation, climatic extremities and hazards. Therefore the basic needs of the rural people are not fulfilled by their economic activities. Majority of the rural families migrate every year after monsoon season in search of work. Landless people are generally mobile in search of jobs like brick work, sugar cane cutting, laborers in construction site, farm keepers, watchman, etc. This is the main cause behind the poor livelihood and malnutrition. All these factors make it an attractive area for horticultural investment.

Sample

The sample comprised of rural households of Navapur tehsil of Nandurbar District. A total of 30 respondents were sampled to generate required data by using simple random sampling technique. Self structured questionnaire and Interview method was used to gather relevant information.

Results and Discussion

Table 1 presents the demographic information of the respondents which includes age, education, occupation, income, marital status, land holding and source of income of the households. Half of the respondents were aged between 31-40 years (50%) followed by 41-50 (37%) and 20-30 years (13.33%). Education is one of the most important factors in acceptance, rejection, adoption and dissemination of useful information to other fellows for their benefits. The data in Table 1 indicates that 67 percent of the respondents in the study area were illiterate, while 33 percent were literate. Out of the literate, 23.33 per cent were educated up to primary level and 10 per cent up to secondary level. Earlier studies have shown that education has a significant effect on farmer's behavior towards adoption of improved agricultural practices (Tara, 1983; Chaudhry, 2004; Asfaw and Admassie, 2004). Majority (73.33%) of the respondents belonged to joint families and 27 per cent to nuclear families. with respect to marital status, cent percent of the respondents were married. Majority (93.33%) of the respondents had their own land and only 6.7 per cent of them were landless. With respect to occupation of the respondents, majority (83.33%) were dependent on agriculture followed by poultry (33.33%), housewives (10.0%) and others/shop owners (6.7%). Income may be defined as the total money value of the services received by an individual from all sources. For this purpose, occupational distribution of the family of sample respondents is given in Table 1, which shows that 31 per cent of the respondents were laborers, 30 per cent were government servants, 19 per cent involved in agriculture, 5 per cent engaged in own business and 15 per cent were involved in other miscellaneous occupations. Regarding income of the respondents, 80 percent get less than Rs.10, 000/- income from agriculture followed by Rs 11,000-20,000/- (13.33%) and Rs.21,000-30,000/- (10%).

Nutrition gardening activity involves various activities such as land preparation, sowing, irrigation, weeding, harvesting, etc. Respondents under the study were of the opinion that nutrition gardening has emerged as a means of social change and provides income to poor, landless and marginal farmers. Figure 1 shows the women working in nutrition gardens. Some people do it for income and some people do it as a traditional practice. Home gardens, maintained

primarily by women, are part of a continuum of resource areas that are constructed and utilized. The maintenance of specific plants in the gardens provides a source of stability in the rapidly changing cultural, social and economic environment. According to Ozkan et al. (2000) women farmers provided the majority of labor, input in planting, hoeing and harvesting activities. Women are faced with serious constraints in carrying out vegetable production activities. Women in small land holdings have the highest involvement in agriculture. They reported that one-third to one-half of vegetables, spices and fruits grown in the homestead were sold to supplement the family income.

In the nutrition gardens surveyed, one of the characteristics of food insecurity in rural areas is lack of variety of food. A total of three types of fruits and 12 types of different vegetables were recorded, such as papaya, banana, green leaves, okra, ridge gourd, bottle gourd, cucumber, chilli, and tomato are grown and also maintained in the nutrition gardens and these crops helped to reduce household food insecurity (Table 2). Major three fruit crops: papaya, banana and custard apple and five vegetable crops were identified: cucumber, bottle gourd, brinjal, tomato, okra, chilli, bitter gourd and drumsticks were produced by larger proportion of households. More so, following crops were planted throughout the season such as; spinach, amaranths and fenugreek. Results revealed that households play a significant role in nutrition gardening in Nandurbar district.

The sustenance of rural livelihoods is currently at stake than ever before, in the face of economic liberalization. Livelihood options are shrinking in rural areas in general and more so in eco-fragile regions, such as drought, desert prone, hilly areas and other under developed /backward districts. Nutrition /Vegetable/kitchen/ backyard gardens are opening new avenues for enhancing rural incomes. Marketing of vegetables play significant role in sustaining rural livelihoods, although the phenomenon of migration, malnutrition/ill health are widely prevalent in rural India. Nutrition gardens are known as best method of supplementary food production system for a household and home gardening is one of strategies that has potential of enhancing food security for the poor.

Nutrition gardening is a healthy activity. It is not only an activity to give nutritional security to the respondents; it gives the financial support to the rural households. The kinds of vegetables sold by rural households and the different major fruits and vegetable groups as well as the total amount earned by individual households during the study are presented figure 2. The findings revealed that fruit and vegetable income earned by household during the study belonged to 13 major vegetables namely; Fenugreek, Spinach, Amaranths, Drum stick, Cucumber, Ridge gourd, Bitter gourd, Bottle gourd, Brinjal, Tomato, Chilli, Sweet potato and Okra. Further, households earned more income on cucumber, bottle gourd, brinjal, tomato, okra, chilli, bitter gourd, drumsticks and papaya than other vegetables.

Table 3 (Fig.1) depicts the income earned from nutrition gardening. The results revealed that more number of respondents earned Rs.200-400/- on okra (60.0%), brinjal (56.7%), bitter gourd (53.33%), tomato (50%), bottle gourd (46.7%) and chilli (43.33%). Higher percentage of respondents earned Rs. 400-600/- on spinach (60%), amaranths (56.7%), bitter gourd (56.7%), fenugreek (56.7%) and drum stick (53.33%). Considerable percentage of respondents

earned Rs. 600-800/- by selling cucumber (46.7%) and papaya (20%). Very few (6.7%) of them earned Rs.800-1000/- from papaya.

Conclusion

It can be concluded from the present study that nutrition garden plays an important role in strengthening rural livelihoods in Nandurbar district. However improving household income and making use of home gardens will yield a large improvement in agricultural production and reduce household food insecurity. The benefits attained from engaging in this activity are employment creation, reduction of household expenditure on food, income generation and recreation. Nutrition gardens are an eco-friendly sustainable agricultural practice to improve food security and enhance economic growth. Increased production in the study area will contribute to improved people's livelihoods in terms of increased income, vegetable consumption and nutrition which will eventually contribute to improved health status.

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Table 1. Demographic information of the respondents

Sl. No	Particulars	No. of respondents	
		Frequency	Percentage
I	Age(years)		
	20-30	04	13.33
	31-40	15	50.00
	41-50	11	37.00
II	Education		
	Illiterate	20	67.00
	Primary	07	23.33
	Secondary	03	10.00
III	Family Type		
	Nuclear	08	27.00
	Joint	22	73.33
IV	Marital Status		
	Married	30	100.00
	Unmarried	-	-
V	Land holding		
	Land	28	93.33
	Landless	02	6.70
VI	Occupation		
	Housewife	03	10.00
	Agriculture	25	83.33
	Poultry	10	33.33
	Other(shop)	02	6.70
VII	Income(annual)		
	< 10,000	24	80.00
	11,000-20,000	04	13.33
	21,000-30,000	03	10.00
	>31,000	-	-

Table 2. Fruits and Vegetables Grown In the Nutrition Garden

Sl. no	Fruits and vegetables	No of respondents	
		Frequency	Percentage
I	Fruits		
1	Papaya	30	100.00
2	Banana	28	93.33
3	Custard apple	25	83.33
II	Vegetables		
4	Fenugreek	20	67.00
5	Spinach	22	73.00
6	Amaranths	20	67.00
7	Drum stick	28	93.00
8	Cucumber	30	100.00
9	Ridge gourd	27	90.00
10	Bitter gourd	28	93.00
11	Bottle gourd	30	100.00
12	Brinjal	30	100.00
13	Tomato	30	100.00
14	Chilli	28	93.00
15	Okra	30	100.00

Table 3. Percentage distribution of earnings from nutrition garden (fruits and vegetables)

Sl. No.	Fruits and vegetables	Income in Rs/month			
		Rs.200-400/-	Rs.400-600/-	Rs.600-800/-	Rs.800-1000/-
1	Papaya	02 (6.7)	09 (30)	06 (20)	02 (6.7)
2	Banana	05 (16.7)	07 (23.33)	-	-
3	Custard apple	03 (10)	02 (6.7)	-	-
4	Fenugreek	10 (33.3)	17 (56.7)	-	-
5	Spinach	09 (30)	18 (60)	-	-
6	Amaranths	08 (26.7)	17 (56.7)	-	-
7	Drum stick	12 (40)	16 (53.33)	-	-
8	Cucumber	08 (26.7)	10 (33.33)	7 (46.7)	-
9	Ridge gourd	12 (40)	09 (30)	-	-
10	Bitter gourd	16 (53.33)	17 (56.7)	-	-
11	Bottle gourd	14 (46.7)	07 (23.33)	-	-
12	Brinjal	17 (56.7)	09 (30)	-	-
13	Tomato	15 (50)	10 (33.33)	-	-

14	Chilli	13 (43.33)	04 (13.33)	-	-
15	Okra	18 (60)	05 (16.7)	-	-

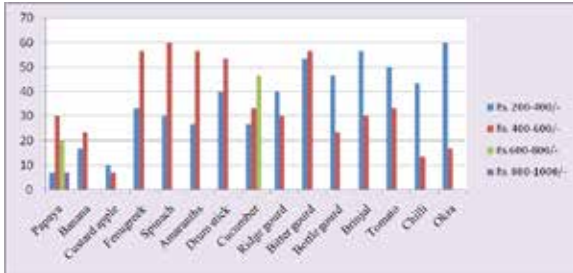


Figure 1. Earnings from nutrition garden (fruits and vegetables)



Figure 2. Participation of women in maintaining and selling vegetables grown in nutrition garden

REFERENCE

Ogundiran, O., 2013, The Role of Home Gardens in Household Food Security in Eastern Cape: A Case Study of Three Villages in Nkonkobe Municipality, *J.Agric. Sci*, 5(10)-10-15. | Ozkan, B., Ediz, D., Ceyhan, V., Goldey, P. and Ogier, J.P., 2000, Women's role in the vegetable farming systems in Antalya, Turkey: a gender analysis of labour participation and decision-making in the agricultural sector. *Acta-Horticulturae*, 536: 419- 438. | Prapimporn, S. and Sompong, T., 1996, Cultivating continuity and creating change: Women's home garden practices in northeastern Thailand, *J. Agric and Human Values*, 13 (3): 3-11. | Rehman, B., Mehreen, F., Qaiser, T., Khan, A. and Akhtar, A., 2013, Social Attitudes Towards Kitchen Gardening, *J. Social Sci*, 2(1): 73-80. | Sharma, A., 2010, Nutritional Gardens To Fight Hidden Hunger, *Intensive Agri*, 3: 3-8. | Tarar, U.H., 1983, A study into the extent of adoption of plant protection measures against rice borer by the farmers in Tehsil Wazirabad, District Gujranwala, M.Sc.(Hons) Thesis, Deptt. Agric. Ext., Univ. of Agric., Faisalabad. pp. 5-8. | www.livelihood.com |