



ISSN (E): 2277-7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2022; SP-11(6): 2226-2228  
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[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 01-04-2022  
Accepted: 06-05-2022

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## Nutrition garden practices as an intervention for nutrition sensitive agriculture in households of rural Telangana state

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### Abstract

Agriculture, nutrition and health have all remained as separate silos for long as they are governed administratively, technically and operationally by different Ministries, both in the states and at the Centre. Although a rich body of evidence is emerging from recent studies on the nutrition impacts of NSA programs and other agricultural investments, there are still important gaps in knowledge that need to be filled.

One such strategy is practicing nutrition garden/kitchen garden at household level. To know the various types of the plants they grew as part of the nutritional garden. Hence, this research is carried out which aims to know the nutritional garden practices among 180 rural women farmers from Nalgonda district of Telangana state. The objective of the study was to know the practice of nutrition garden at household level. Frequencies and Percentages were used for this study. The results expressed that about 30% (i.e. 54 respondents of 180 respondents) of the respondents practice nutritional garden at household level.

**Keywords:** Agriculture, health, nutrition and nutrition garden

### Introduction

Despite impressive gain in agricultural production and greater availability of food, a large population is suffering from nutritional imbalance (Nagarajan *et al.* 2014) <sup>[2]</sup>.

In the context of Telangana CNNS held during the period of 2016-2018, 17.9% of children under five are wasted, and out of this 5.6% are severely wasted. In terms of total burden, there are approximately 10 lakh children with acute malnutrition and 3 lakh children with SAM in Telangana. This amounts to 5.3% of the total burden of wasted children in India (CNNS 2019) <sup>[1]</sup>.

Rashmi (2018) <sup>[3]</sup> investigated on kitchen garden for nutritional security in nutri smart village. The study revealed that after investing a bare minimum amount of Rs. 250 in vegetable crops production a total profit of ten times i.e. Rs. 2000 to 2200 can be obtained and can improve diet and income of farmer families of the rural areas. This would not only enhance the income of the families but would also help in getting a proper balanced diet to the family in the country where nutritional requirement lacks in our daily food.

Ruel and Alderman (2013) <sup>[4]</sup> identified six pathways through which agricultural interventions can impact nutrition. (1) food access from own-production; (2) income from the sale of commodities produced; (3) food prices from changes in supply and demand; (4) women's social status and empowerment through increased access to, and control over, resources; (5) women's time through participation in agriculture, which can be either positive or negative for their own nutrition and that of their children; and (6) women's health and nutrition through engagement in agriculture.

### Materials and Methods

Based upon the nature of the research problem and objectives of the present study, an ex post facto research design was opted for the study. The locale of the study was Nalgonda district of Telangana state.

The objective of the study was to know the practice of nutritional garden at household level. To know the various types of the plants they grew as part of the nutritional garden. Frequencies and Percentages were used for this study.

In this study, samples comprising of 180 women farmers practicing the nutrition garden were randomly selected for the study.

Structured questionnaire schedule was designed by the investigator for the study. The questionnaire has questions related to the nutrition garden practices at household level which includes a list of vegetables, leafy vegetables, fruits,

gourds/creepers, medicinal plants, herbs & shrubs, roots & tubers and leguminous plants. Frequencies and percentages were used to analyse the collected data.

**Table 1:** List of plants in nutritional garden at household level

S. No.	List of plants in nutritional garden	Respondents (N=180)	
		Frequency (N)	Percentage (%)
<b>Vegetables</b>			
1.	Tomato	49	27.22
2.	Chilli	26	14.44
3.	Brinjal	32	17.78
4.	Okra	16	08.89
5.	Bell pepper	12	06.67
6.	Cabbage	05	02.78
7.	Cauli flower	04	02.22
8.	Moringa	19	10.56
9.	Tamarind	07	03.89
<b>Leafy vegetables</b>			
1.	Red sorrel	11	06.11
2.	Spinach	8	04.44
3.	Fenugreek	12	06.67
4.	Malabar spinach	16	08.89
5.	Amaranthus	04	02.22
<b>Fruits</b>			
1.	Sapota	17	9.44
2.	Guava	43	23.89
3.	Mango	51	28.33
4.	Goose berries	09	05.00
5.	Orange	00	00
6.	Papaya	52	28.89
7.	Coconut	31	17.22
8.	Banana	14	07.78
9.	Pomegranate	34	18.89
10.	Jamun	12	06.67
11.	Lemon	33	18.33
12.	Water melon	00	00
<b>Gourds/ Creepers</b>			
1.	Ridge gourd	23	12.78
2.	Bottle gourd	48	26.67
3.	Broad Beans	49	27.22
4.	Cluster beans	06	03.33
5.	Bitter gourd	13	07.22
6.	Cucumber	16	08.89
7.	Tindora	03	01.67
<b>Herbs and shrubs</b>			
1.	Coriander	28	15.56
2.	Mint	11	06.11
3.	Curry leaves	52	28.89
<b>Medicinal plants</b>			
1.	Basil	48	26.67
2.	Aloe vera	54	30.00
<b>Roots and tubers</b>			
1.	Onion	09	05.00
2.	Potato	00	00
3.	Carrot	00	00
4.	Radish	00	00
5.	Colocasia	00	00
6.	Ginger	00	00
7.	garlic	00	00
<b>Leguminous plants</b>			
1.	Horse gram	07	03.89
2.	Red gram	06	03.33
3.	Chick pea	00	0.00
4.	Cow pea	00	0.00
5.	Green gram	00	00

## Results and Discussion

As parts of this research study various types of the plants they grew as part of the nutritional garden were different types of vegetables, leafy vegetables, fruits, gourds/creepers, medicinal plants, herbs & shrubs, roots & tubers and leguminous plants. About 30% of the respondents practice nutritional garden at household level. Frequencies and Percentages were used for this study.

From the above table 1, It shows that from the vegetables section 27.22% of the respondents grow tomatoes, followed by 14.44% of them grow chilies followed by 17.78% of them grow brinjal and 08.89% of them practice okra, about 10.56% of them grow moringa and furtherly bell pepper comprising 06.67% to the least cauliflower, cabbage and tamarind were grown.

From the leafy vegetable section 08.89% of them grow Malabar spinach, 06.67% of them grow fenugreek followed by 06.11% of them practice red sorrel and further spinach comprising 04.44% to the least amaranthus with 02.22% were grown.

Coming to fruit section 28.89% of them grow papaya followed by 28.33% of them grow mangoes. Further, 23.89% of them practice growing guava, 18.89% of them practice growing pomegranate about 18.3% of them practice growing lemon plants. Furtherly Sapota comprising 9.44%, banana comprising 7.78%, gooseberries comprising 5% and Jamun comprising 6% were practiced.

Coming towards gourds and creepers 27.22% of them grow broad beans and 26.67% of them grow bottle gourd followed by ridge gourd comprising 12.78% and to the least tindora, cucumber were practiced as part of nutritional garden. In medicinal plant section 30.00% of them grow aloe vera and 26.67% of the respondents grow basil leaves.

In herbs and shrubs section 28.89% of them practice growing curry leaves and 15.56% of them grow coriander about 6.11% of them grow mint leaves. In roots and tuber section about 5% of them grow only onion. Coming to the leguminous plants 3.89% of the respondents practice growing horse gram about 03.33% of them practice red gram.

## Conclusion

The study concludes that from the vegetables section 27.22% of the respondents grow tomatoes from the fruit section 28.89% of them grow papaya followed by 28.33% of them grow mangoes. Coming towards gourds and creepers 27.22% of them grow broad beans and 26.67% of them grow bottle gourd. In the medicinal plant section 30.00% of them grow aloe vera and 26.67% of the respondents grow basil leaves. In the herbs and shrubs section 28.89% of them practice growing curry leaves.

The study reveals that practising the nutrition garden as an intervention through nutrition sensitive agriculture improves the dietary diversity of the family members resulting in providing sufficient nutrients individually and family members as a whole. This practice also saves the expenses in a way where one individual doesn't spend too much money for purchasing the fruits and vegetables rather grow them in kitchen gardens and get nutritional security through this nutrition garden practice.

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