



# International Journal of Home Science

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## Motivating women towards growing organic vegetables in terrace

**N Gayathri and Dr. B Loganayaki**

### Abstract

Farming lands are being rapidly converted into housing plots and this causes a severe reduction in crop grown area. Due to migration of people to urban areas, fertile agricultural land has been converted into houses and infrastructures, thus reducing the land for cultivation. The yield of crops has come down due to continuous use of chemical fertilizers. It leads to health hazards, pesticide toxicity effects in human. Organically growing crops in every available space especially organically grown vegetables and greens assumes great significance. This would help in preserving the soil and save the environment from degradation.

**Keywords:** Cultivation, fertile, hazard, organic, degradation

### 1. Introduction

Revolutionary changes in communication policies and strategies, techniques are needed to make the people more powerful. Agricultural technology is one of the more existing farm practices for people for increasing their standard of living. Land degradation resulting from unsustainable land management practices, is a threat to the environment as well as to lively hoods, where the majority of people directly depend on agricultural production. Although the world's food supply is claimed to be sufficient to meet the present needs, an estimated 842 million people or one in eight people in the world are suffering from chronic hunger regularly not getting enough food for an active life. Like wise, India is self-sufficient in food production but 231 million people of its, total population of approximately 1.2 billion are undernourished (Paneerselvam 2014) Home gardening activities are simple and most efficient technology which may result in the better use of household resources and improved practices of waste converted into healthy and nutritious manure which is used for growing the vegetable plants. Organic gardening practices will sustain soils, plants and nourishes our family both physically and aesthetically. India is the biggest democratic nation with a population of 1.23 billion where one third of the poor still lives below the poverty line of 1 US\$ per day. Population of India is keep on increasing but the natural resources like land and water are less and decreasing due to global warming (Shashikanth 2015). Urban agriculture in the form of roof garden, balcony garden, terrace garden contribute to increase in evapotranspiration, reduce air temperature in urban areas and mitigate urban heat island. Terrace gardening can act as solution climate change and for reducing carbon and energy foot print. Due to population explosion and pressure, there is hardly any space available in houses or multistorey buildings to grow vegetable. In such situation the technology of terrace gardening using locally available resources provides some compensation of recreating agricultural land lost for building houses for growing immediate household needs. Hence there is an urgent need to produce toxin free vegetables using organic waste as manure for the cultivation of vegetables in Terrace with the following objectives:

1. To identify the households and target groups by conducting survey
2. To frame a training module to upgrade their skills and capacity building towards organic terrace garden.

**2. Methodology**

Wastes generated in rural areas are generally household waste, kitchen waste, agro waste, Cattle waste and other non biodegradable waste. The main environmental threat of biodegradable waste is the production of maintenance landfills (www.appropedia.com). To convert these wastes into wealth in terms of organic manure for the utilization of terrace garden, households located in Gorimedu, Chinakollapatty, kondapanayakanpatti of Salem district were selected. A total of 500 families (250 urban and 250rural) were surveyed by using convenience sampling techniques. This locale is identified and selected for the research based on people’s interest and easy approach of respondents.

**3. Method of Preparing Pot Media**

Vegetables need to grow with the help of nutritious mixture, for growing media mixture of soil includes well decomposed compost (kitchen waste), farm yard manure, coco peat and handful of neem cake is required. The proportions of pot mixture for the research study are as follows.

- 1. Red Soil - 15%
- 2. Sand - 5%
- 3. Composted kitchen waste - 30%
- 4. Farm yard manure - 30%
- 5. Coco peat - 20%

All these ingredients are mixed together and fill in to the bags for growing the plants. Composting helps to recycle the kitchen waste, farm yard manure and reduce the volume of

waste going to landfills. These wastes are converted organic matter in to a valuable resource for plants.

**4. Selection of Method**

A detailed interview schedule was formulated to elicit information regarding socio-economic status like age, income, occupation, vegetables preferred and type of existing garden. During survey, Pamphlets on waste management and benefits of organic vegetables in terrace garden prepared in English and Tamil was distributed.

**5. Results and Discussion**

The systematic analysis of the findings of the research describes the following aspects.

**5.1 Selection of Area and Sample**

In Tamil nadu, especially in rural, urban and semi urban areas, waste is a severe threat to public health and cleanliness. waste in rural areas generally household waste, kitchen waste, agro waste, cattle waste and other biodegradable waste. Hence the study was conducted in Salem district, three areas were selected. One area comes under urban category namely Gorimedu and other two areas comes under rural category namely Chinnakollapatty and Kondapanayakanpatty. These locale is identified and selected for the research based on people’s interest and easy approach of households and willingness of people. for house hold survey, 500 samples were selected, 250 households from urban and 250 from rural areas were selected by using purposive sampling techniq

**Table 1:** Socio Economic Background

S. No.	Socio – Economic Profile	Variables	Number of Respondents (N-500)			
			Urban (N -250)	Percentage	Rural (N -250)	Percentage
1	Age in Years	Below 15	M-120	48	M-85	34
			F-130	52	F-165	66
		15-25	M-150	60	M-78	31
			F-100	40	F-172	69
		26-35	M-120	48	M-105	42
			F-130	52	F-145	58
		36-45	M-90	36	M-85	34
			F-160	64	F-165	66
		46-55	M-105	42	M-110	44
			F-145	58	F-140	56
		56 and above	M-115	46	M-75	30
			F-135	54	F-175	70
2	Education	Illiterate	-	-	-	-
		Primary	25	10	34	14
		Secondary	55	22	76	30
		Higher Secondary	65	26	65	26
		Graduates	83	33	59	24
		Professional	22	9	16	6
3	Type of Family	Joint	65	26	40	16
		Nuclear	185	74	210	84
4	Occupation	Business	55	22	16	6
		Govt. Employee	45	18	34	14
		Private	60	24	49	20
		Professional	43	17	14	5
		House Wife	38	15	126	51
		others	9	4	11	4
5	Family income* (Rs. Month)	3000-7000	-	-	65	26
		7000-10000	-	-	135	54
		>10,000	250	100	50	20

\* M-Male, F-Femlae \*HUDCO (2010)

Age is an important factor as it shows that the changes of behaviour in human life cycle. Table I shows that majority of

the respondents are in the age group 36-45 in Urban category and 56 and above in rural category. The educational status of

selected respondents 33 Percent of urban households were graduates and 30 percent of rural households were in secondary education. 74 percent of the urban respondents adopted Nuclear family system and 84 percent of rural respondents were also Nuclear families. In occupational status 24 percent of the surveyed urban families were under private employee category and 51 percent of the respondents were

housewives in rural areas. Mostly all the urban respondents were earning above Rs.10,000 for better living where as 54 percent of the rural category were Rs.7000 to Rs.10,000. Because of raising the prices of all commodities people have to survive and fail the problems of incubates the increasing the posts of necessity things.

**Table 2:** Type and Nature of House

S. No	House Details	Classification	Percentage of Households			
			Urban	N-250	Rural	N-250
1	Type	Individual	143	57	195	78
		Apartment	77	31	23	9
		Group	30	12	32	13
2	Nature	Owned	185	74	152	61
		Rented	65	26	98	39

A house is a building in which family lives, Table II reflects that, 57 percent of the urban respondents were living in individual houses and 78 percent of the rural category were also living in individual house. It is obvious that 74 percent of the urban respondents possess own houses and only 26 percent of them were in rented house. In rural category, 61 percent of

them were living in own houses and 39 percent of the respondents were living in rented houses. Majority of the respondents of urban and rural areas spent more than Rs. 2500 to 3000 for the vegetables in comparison with other food items. It justify that vegetables are more important for normal diet which helps to provide and give nourishment to the body.

**Table 3:** Sources of Getting Vegetables

Sources	Percentage of Households*			
	Urban (N-250)		Rural (N-250)	
Departmental stores	180	72	37	15
Street Vendors	76	30	185	74
Uzhavar santhai	175	70	220	88
Organic shops	135	54	-	-
From Agricultural farm	-	-	183	73
Door step vendors	155	62	230	92
Weekly santhai	175	70	185	74
From their own kitchen garden	-	-	155	62
Pazhamudir nilayam	250	100	25	10

\*Multiple Response

The above table III cleared that All of the respondents of urban households utilized Pazhamudir nilayam for buying vegetables for family diet. In rural areas, 92 percent of them getting

vegetables from door step vendors. It expressed that the vegetables are available in door step vendors and Uzhavar sandhai for ease of conference of people.

**Table 4:** Problems faced while purchasing Vegetables

S. No	Problems	Percentage of the Respondents*	
		Urban (N-250)	Rural (N-250)
1	Long distance to the place of purchase	-	75
2	Non-availability life of fresh vegetables	75	48
3	Expensive during off season	76	87
4	unable to avail variety of vegetables	67	75
5	Person not available	43	65
6	Time constraint	33	-
7	Lack of transport facilities	-	46
8	Low cost and locally available fruits and vegetables are not available	63	75

\*Multiple Response

The table V reflects that the problems faced by the respondents while buying vegetables majority of urban respondents expressed that vegetables are expensive during the off season. In rural areas, 87 percent of them were indicates the same reason as urban respondents said.

The waste produced by the households in urban areas, expressed that 44 percent of the respondents were collected nearly 101 to 150 gm of vegetable waste per day and in rural areas 56 percent of the respondents were said that they are produced 101-150 gm of vegetable waste and nearly 53 percent of the rural households expressed that they collected 151-200 gm of animal waste in their house.

**Table 5:** Necessity of Education on Waste Management

S. No	Particulars	Percentage of Households	
		urban (N-250)	Rural (N-250)
1	Good health	75	65
2	Neat and sound environment	78	-
3	Mental satisfaction	67	-
4	Get fresh air	67	-
5	Utilize live stock waste	32	68
6	Recycle the kitchen waste	69	72
7	Reduce carbon foot print	57	-

\*Multiple Responses

The above table VI indicates that the necessity of education on waste management, 78 percent of the urban respondents were expressed that the education of waste management is important for neat and sound environment where as 72 percent of the rural respondents were said that the education regarding recycling the kitchen waste as resources.

Space available in the terrace is very important for cultivation of vegetables. In selected urban respondents nearly 74 percent of households were belong to 1201-1500 Sq. ft category and 61 percent of the rural respondent were belong to the 601-1000 sq. ft of terrace.

**Table 6:** Sources of information on Terrace Garden

S. No	Sources	Percentage of Households*	
		Urban (N-250)	Rural (N-250)
1	Television	78	73
2	Newspapers and Magazines	86	57
3	Neighbours	32	22
4	Internet	73	25
5	Experts	21	-

\*Multiple Response

The table VII reflects that the newspapers and magazines played an effective role of spreading awareness on terrace garden. Nearly 86 percent of the urban respondents were

known about information on terrace garden from new papers and magazines. In rural areas 75% of the respondents were indicated that they knew from television.

**Table 7:** Vegetables Preferred for terrace cultivation

S. No	Preferred vegetables	Urban (N-250)	Percentage	Rural (N-250)	Percentage
1	Tomato	150	60	165	66
2	Chilli	175	70	160	64
3	Brinjal	105	42	185	74
4	Guard Variety (Bitter guard, ridge guard, Bottle guard)	75	30	175	70
5	Ladies Finger	130	52	163	65
6	Mint	180	72	177	71
7	Coriander	175	70	160	64
8	Palak	160	64	147	59

\*Multi Response

Majority of respondents of urban and rural areas were expressed that they want to cultivate native vegetables like tomato, chilli, brinjal, ladies finger and also ready to grow

greens also. It indicates that the greens are very important for healthy living

**Table 8:** Adoption of Organic terrace garden

S. No	Benefits	Percentage of Households*	
		Urban (N-250)	Rural (N-250)
1	Provides fresh vegetables and fruits	72	70
2	Save money	68	72
3	Spend time effectively	65	36
4	Create values of children	49	57
5	Make people energetic	57	66
6	Refresh the mind	68	77
7	utilize the available resources	67	82
8	Protect our environment	88	89

\*Multiple Response

Majority of the households of urban and rural areas expressed that the terrace garden provides fresh vegetables and fruits, this terrace cultivation technique is very helpful to protect our environmental pollution.

Based on framed module, a five days programme was organized with the help of experts related to the topic. Field visit to KVK formed an integral part for the trainees as they had practiced exposure on raising the seedlings in protray

using vermicompost as an important ingredient. Lecturing on importance of organic cultivation of vegetables in terrace was also very informative for them.

## **6. Conclusion**

Due to population explosion and pressure, there is hardly any space available in houses or multistory buildings to grow any vegetable. In such situation the technology of terrace gardening using locally available resources provides some compensation of recreating agricultural land lost for growing immediate household needs. Through terrace gardening the household waste is used for manure and people can live better and healthy living, enrich the surrounding with technically handling of waste as a manure. The study was undertaken to motivate and train women on recycling green waste as manure, utilized for terrace practices for the family. Majority of the respondents from urban and rural areas of Salem district were interested to attend training on terrace garden to upgrade their skill and establish roof top garden. Hence it was concluded that motivating organic terrace garden should be promoted which may result in better use of household resource and improved caring practices and empowerment.

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