

URBAN AGRICULTURE IN KERALA: A CASE STUDY ON TERRACE FARMING IN ERNAKULAM DISTRICT

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Abstract

Over the past fifty years the world has witnessed tremendous progress in the field of economic development. Urbanization which is considered as one of the most important indicators of economic development has led people to concentrate around cities. Uncontrolled urbanization which arises as an aftermath of industrialisation, lead to migration of people to urban areas. At present more than 54 per cent of people reside in urban areas and by 2050, it is expected to be more than 70 per cent. Rapid population growth and migration towards urban areas increased the demand for food, shelter, water and basic necessities. Due to migration of people to urban areas, the fertile agricultural land has been converted into concrete structures. In many developing countries, due to hunger, demand of food produce, growing poverty, lack of employment opportunities, and the availability of cheap resources including organic wastes and wastewater in cities have resulted in the development of urban and peri-urban agriculture (UPA). While urban agriculture practices become widespread and has become a hot topic of discussion in major cities across the country, an exact picture of urban agricultural practices in Kerala has not yet been studied. Traditionally people In Kerala used to grow vegetables in the backyards of home. As development progressed, the land around the houses disappeared .At present no place is left for kitchen gardens at home. Ernakulum is just an example. Terrace farming which forms a part of Urban agricultural movement is gaining popularity in the city of Ernakulum. The District Administration has launched 'Zero Waste and Safe-to-Eat Vegetable' project in 2012. The project is implemented as a joint initiative of the District Agri Horticulture Society (DAHS) and Vegetable and Fruit Promotion Council (VFPCCK), by utilising the funds from National Horticulture Board (NHB). Large number of households are engaged in terrace farming activities in Thiruvankulam Panchayath. So in this context it is important to analyse horticulture production by households through terrace farming. This study aims to analyse the Economic Impact of Terrace Farming in urban area.

Keywords: *Urban Agricultural movement, Terrace farming, Sustainable agriculture*

Introduction

Agriculture sector, the world over, has experienced a phenomenal growth since the mid-twentieth century. The green revolution Technology created revolutionary changes in India's agricultural sector .But recently it has been felt that the high yielding varieties have reached a plateau where there is little scope for expansion. At the same

time, agricultural development has contributed a lot in creating environmental problems. It has created problems such as global warming, reduction in biodiversity and soil degradation. Apart from this farmers are facing natural calamities in the form of drought, floods etc which causes damage to crops. During the last decades, agricultural production and yields have been increasing. Along with this global fertiliser and pesticide consumption is also increasing at an alarming rate. The pollution of surface and groundwater with chemicals and pesticides remains a problem for most of the countries. Thus in modern days, more emphasis is laid on the quality of the agricultural products along with the quantity of production. India remained food deficit for almost two decades since independence. Now our country is self-sufficient on food grain production. But to fulfil the nutritional security, the gap between increasing demand for horticultural products needs to be filled. Traditional agriculture cannot fill this gap as it requires large area under cultivation. We cannot increase land area under cultivation due to heavy population pressure. There is a lot of pressure on cultivable land caused due to industrialization, urbanization and expansion of rural villages. Therefore it has become utmost necessary that we have to improve the productivity of horticultural products by adopting new technologies which is proved to be sustainable. Urban agricultural practices offer a suitable solution to it. Across the nations, we are seeing a growing urban agriculture (UA) movement. In many cities, it is seen as a strategy for development, employment generation, community development and many more Urban agriculture has been defined as '...an industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city or metropolis, on land and water dispersed throughout the urban and peri-urban area, applying intensive production methods, using and reusing natural resources and urban wastes, to yield a diversity of crops and livestock.'. Backyard kitchens, community gardens, farmers markets, and community supported agriculture programs (CSAs) are gaining popularity, all around the world. (UNDP 1996) Urban and peri-urban agriculture (UPA) occurs within and surrounding the boundaries of cities throughout the world and includes products from crop and livestock agriculture, fisheries and forestry in the urban and peri-urban area. It also includes non-wood forest products, as well as ecological services provided by agriculture, fisheries and forestry. Often multiple farming and gardening systems exist in and near a single city. (FAO 1999).

Urban farming has been in practice since the dawn of cities and agriculture itself. Before the advents of chemical fertilizers, refrigeration, and mass transportation that make the food system possible, cities had to produce enough food to sustain themselves rather than import it from rural areas. Urban agriculture is practised on small to medium size areas within the city for growing crops, raising small livestock and fish for home- consumption or sale. Urban agriculture can be found in: vacant plots, in home gardens, on open spaces, on roof tops, on river banks, in school gardens ,on road

strips, on communal lands and many more. **Significance of the study** Kerala is a state which depends heavily on neighboring states for meeting its food requirements. About two third of the required food materials comes from other states. There was a time when the people of Kerala relied on home grown vegetables, which were considered safe to eat. But the growing population, urbanisation and rising wages made it necessary to imports the required food stuff from the nearby states of Tamil Nadu and Karnataka. As it happens the people of Kerala were unaware of the rising pesticides in these imported vegetables. Realizing the hazards of such imported vegetables people of Kerala has decided to revive the agricultural sector. The key initiative of department of agriculture is promotion of urban farming, high tech agricultural practices, the programs for organic farming, etc.

Objectives of the Study

Following are the objectives of the study.

1. To analyse the structure and performance of terrace farming in Thiruvankulam Panchayath.
2. To analyse the cost and benefits incurred by households engaged in Terrace farming.

Methodology of the Study

The primary data is obtained from the households in Thiruvankulam Panchayath of Ernakulam district. For this purpose, questionnaire method was used. The secondary data were collected from published information available on terrace farming from various sources. Thiruvankulam is a suburb of the city of Kochi, in the state of Kerala, India. It is a part of Tripunithura Municipality and Kochi metropolitan area. The village consist of numerous small scale and cottage industries as well as large petroleum companies. Most of the people in the area are employed in the city of Kochi. The following table shows the details of families engaged in terrace farming in the area.

Table 1

Factors	Particulars	No. of Respondent	Percentage
Area	500sq. ft. - 750sq. ft.	8	16
	750sq. ft. - 1000sq. ft.	12	24
	1000sq. ft. - 1500sq. ft.	13	26
	Above 1500 sq. ft.	17	34
	Total	50	100
Age group	10 - 20	5	10
	20 - 30	16	32
	30 - 50	18	36
	Above 50	11	22
	Total	50	100
Sex	Female	35	70
	Male	15	30
	Total	50	100

Occupation	Employed	16	32
	Retired	9	18
	Student	5	10
	Unemployed	20	40
	Total	50	100
Type of farming	Organic	38	76
	Fully chemical	2	4
	Mixed	10	20
	Total	50	100
Type of plants	Vegetables	28	56
	Flowers	5	10
	Medicinal plants	2	4
	Mixed plants (vegetables and fruits)	15	30
	Total	50	100
Type of marketing	Self-marketing	8	16
	Sale to wholesalers	13	26
	Sale directly to the market	11	22
	Co-operative society	18	36
	Total	50	100
Initial Expenditure for terrace farming (In Rupees)	Below 1000	5	10
	1000 – 3000	12	24
	3000- 5000	15	30
	Above 5000	18	36
	Total	50	100
Income	Below 6000	5	10
	6000-8000	15	30
	8000-10000	20	40
	Above 10000	10	20
	Total	50	100

Source: Primary data

The major findings of the study as per the sample survey are as follows:

On the basis of study it was observed that 70% of the respondents who are engaged in terrace farming are females and only 30% are males. Among them 32% of them are employed in other jobs. It is quite interesting to observe that 32% of them are youngsters and 10% are children. This shows that Schools and colleges are encouraging students for doing farming in the available spaces at home. Only 22% of the farmers are aged above 50 years. Majority of the respondents gave importance to organic vegetable cultivation. Homemade fertilizers and pesticides are used for improving soil health, and weed controlling. A good majority of the households opined that they could reduce household and kitchen waste through recycling .Majority of them, are fully satisfied with their roof top farming. They are of the opinion that output produced is enough for their household consumption and it helps to get them some earnings also. From the analysis it can be observed that before initiating terrace farming 40% of the

households were spending 1000 rupees for their monthly expenditure on vegetables whereas only 10% of the households are spending above 500 rupees for monthly expenditure on vegetables after starting Terrace farming. This shows that they are able to reduce consumption of vegetables from the market. Also they are able to sell the produce to others through various channels.

Thus based on the study, it is found that city dwellers are very much interested in cultivating food for their own requirements and they are well aware of the need for self sufficiency in horticultural production .Produce can be either consumed by the producers or sold in urban markets. As locally produced food requires less transportation and refrigeration, it can be supplied in the nearby markets at competitive prices. Consumers can also enjoy easier access to fresh produce, greater choice and better prices. Also it has been observed that through proper government intervention an awareness can be created among the people regarding their responsibility to protect our society from the use of harmful pesticides. Realising the fact the government had initiated a lot of reforms in this direction. This may result in the creation of sustainable production systems with healthy atmosphere.

Conclusion

Terrace farming facilitates better time and space management for households, helps in the better ways of disposing household organic garbage, proper utilization of sunlight, , reduction of family expenditure and ensuring nutritional security by providing easy and economic access to fresh, hygienic and eco-friendly vegetables. Terrace farming is economically viable to practise, as the farmers are able to get better price for their produce. Through the practice of terrace garden in Ernakulum district, it gives some space back to agriculture, and it helps to get chemical free fresh vegetables. This has an added benefit of saving money, saving the time and energy spent on several trips to the vegetable market provides good exercise etc. What we want is not just the progress. We need something beyond that to lead a healthy and peaceful life. Therefore we need concerted efforts to plan and implement growing of healthy food, to nurture our nature and environment and so to keep the earth safe for future generations.

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