

Urban Vegetable Farming: A Sustainable Model for Metro Cities

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SUMMARY

Urban Vegetable farming is not a new concept in India but rather than it remains under exploited in our country. In India people are consuming poisonous vegetables unknowingly and getting badly harmed. By the help of this Urban Vegetable Farming model we can get assured, quality and healthy food grown at home. Water and waste food recycling instead of inorganic fertilizers plays vital role in it to reduce the pollution and toxicity of food. By adopting and assembling some old technologies newly we can definitely make a sustainable model for metro cities.

INTRODUCTION

Looking towards the exponential growth of the population in metro cities it is already predicted that nearly 55% of the Indian population will be living in urban areas by 2050 which is standing at 31.16% in 2017. Exactly opposite to that the houses and buildings in cities are getting compact day by day and the urban lands are getting reduced. Another major problem which urban areas facing badly is polluted and unhealthy food supply. For overcoming these problems the concept like urban vegetable farming emerged globally. This concept tends to rollover towards food security.

This concept is quite popular in Nigeria, Africa, USA, Boston, Thailand, etc. but it does not spread more in India. In India we have practised and implementing urban farming projects in some of the metro cities like Delhi, Hyderabad, Bangalore, Mumbai, Pune, Nagpur, etc. Urban vegetable farming should gains popularity in India due to its ability to provide direct benefits (food) but also some indirect ecosystem service at a macro level (conservation of biodiversity). Dr. B. N. Vishwanath, the father of organic urban farming in India started the movements in 1995.

What is Urban Vegetable Farming ?

Urban vegetable farming is the study of the relationship between vegetable crops and the urban environment. It focuses on the functional use of vegetables so as to maintain and improve the surrounding areas.

Why Urban Vegetable Farming ?

- Food security : To serve residue free quality food for the city dwellers.
- Environmental security : It can reduce CO₂ emissions in cities.
- Increase productivity : Limited areas and limited resources are considered more advantageous than open systems (i.e., fields).
- Organic food : Opportunity for residue free food.
- Health and nutritional security at door step.
- It provides aesthetic value to the people.
- Calculated water use : It requires the proper calculated , less amount of water .

- Water recycling : We can again use the used water for this farming by purifying it or by directly getting the purified sewage water if the plot is situated near the sweage treatment plant.
- Helps urban poor and unemployed youth : Urban vegetable faming can creates the employment for urban poor and unemployed youth by encouraging them to grow and sell the residue free and quality food in compact place and make some money with low investment .
- Bringing down storing necessities : There should be no any kind of need to store vegetables in refrigerator and no need to eat the stored food and had a scope to eat fresh and quality food.
- Food and vegetable waste management : There is scope to grow the residue free food by rejecting the inorganic fertilizers and accepting the home made organic fertilizers by using the household organic waste by converting it into compost.

Types of Urban Vegetable Gardening

- 1.Terrace Gardening : It is the process of growing of vegetables at the terrace of home. It is also called as roof gardening. Most of the houses have terrace nowadays, so it is not difficult to convert that terrace into vegetable gardens. We can keep the containers with plants at the terrace. We can also make some trays and plant crops in that.
- 2.Balcony Gardening : This includes the growing of vegetables in the narrow place of balcony of house. We can grow many types of vegetables in the balcony of house. Even the small place like balcony can also be used for raising vegetables. It can provide us vegetables for daily consumption and we don't need to purchase vegetables.
- 3.Hydroponics : It means growing of plants in soilless cultivation in various substrate or strait in nutrient solution. It is a good known technology and can be worked out at large scale at different places here we can set up a small scale urban vegetable garden using this technology. This should be a revolutionary one. We can simple grow the leafy vegetables by using this technology at our home without any problem.
- 4.Kitchen Gardening : Vegetable crops can be grown at empty space of the house by using vegetable waste as a fertilizer. This technology is somehow being followed in our region. This did not requires more highly skilled labours.
- 5.Community Gardening : Certain number of people come together and grows the vegetable garden such gardening is called as Community Gardening. It can be done on the vaccent plots or by taking plots on lease. This can increase the communication between people and join more people together.
- 6.Backyard Gardening : It is growing of vegetables at the backyard of the house. This is some what similar to the kitchen gardening. This is also mostly followed in our country but cannot be done with proper techniques. Proper techniques in this can also helps to get good returns.
- 7.Youth Gardening : Growing of vegetables in the school garden with the help of students is termed as youth gardening. Students can learn practical things from this. Students get to know that how the vegetables they eat can be grown ? They can get a chance to eat healthy fresh vegetables.
- 8.Vertical Gardening : Here plants can be grown in a vertical structure without soil, to obtain a maximum possible yield within a particular space at indoors or outdoors. Coco pit or soil can be used as a growing medium. Can be done in very small space. It is mostly suitable for shallow rooted and short duration crops.

Challenges of Urban Vegetable Gardening

- Lack of space: Urban gardening faces one huge problem i.e lack of space.

- Water Requirements: Many urban gardeners use municipal water , thereby reducing the available water sources.
- Soil and water pollution: Contaminants of fertilizers, pesticides, nitrogen, and raw organic matter accumulate in urban soil, making it less productive and even toxic in the long run.
- Food Contamination :Urban farms are highly susceptible to harboring toxic materials such as heavy metals, including zinc, copper, tin, arsenic, lead, and mercury .
- Air pollution: Chemicals that are applied to a garden in an urban setting are carried by the atmosphere to harm the population.

Scope of Vegetable Cultivation in Urban Horticulture

- Urban vegetable production can increase food security, employment and income generation, poverty alleviation, community resource development, waste management.
- A huge quantity of city, kitchen or industrial wastes can be used or recycled to produce organic vegetables.
- Urban vegetable cultivation can provide farmers to obtain an income to meet their essential and basic needs.
- Many research institutes and agriculture universities of india should develop and promote a range of vegetables types or varieties which can be grown in urban environments.
- As population increases and arable land declines people will turn to new technologies like hydroponics and vertical farming to create additional channels of crop production.

CONCLUSION

Urban Vegetable Farming model can take a revolutionary step in health concern and nutritional security. It can also generate employment in the urban poor youth and gives a good chance to earn money. It gives residue free food which cannot cause harm to human body by using the recycled water and organic waste as fertilizers. This can be over all a good practice for getting assured quality and fresh vegetables.

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