

## Chapter 12

# Review of Terrace Gardening Literature and Suggestions for Increasing Adoption

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### ABSTRACT

*Agricultural lands are swiftly transforming into residential complexes and high-rise buildings, leaving limited space for traditional gardening. A sustainable and creative venture, terrace gardening (TG) focuses on using rooftop areas for the growth of plants, vegetables, and herbs. To give people and communities access to fresh food and a green haven in urban settings, it entails converting underutilized rooftops into gardens. The authors review and present relevant literature on the topic of TG. The review identifies that papers on TG mainly cover themes like motivations to participate in TG, advantages of TG, sustainability and innovation in TG, operations and stakeholder management in TG, and limitations of TG. The review shows that time management, project management, networking, and stakeholder involvement are essential for TG. A SWOC analysis reveals that TG offers potential for business owners seeking to have a positive environmental impact while supplying the rising demand for fresh, locally grown food.*

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## INTRODUCTION

The practice of growing plants on terraced surfaces, commonly in urban or suburban settings with constrained space, is known as terrace gardening (TG). It entails building a terrace with several levels, and raised beds that can be used to cultivate a range of plants, such as decorative plants, fruits, herbs, and vegetables (Medha *et al.*, 2022). TG is significant because it has so many positive effects on urban dwellers, sustainability, the environment, and urban living.

Urban farming has been gaining momentum over the years among urban dwellers. The awareness of safe and nutritious food among consumers is driving them to think of ways and means of cultivating fruits and vegetables that they eat. TG can encourage urban green cover and improves the aesthetics of buildings (Winkler *et al.*, 2019). These methods not only contribute to local food security but also promote a healthier and more environmentally conscious lifestyle. Research indicates that terrace gardens might enhance the general and mental health of city dwellers. These also encourage a sense of community engagement and self-sufficiency. By reducing the need for long-distance transportation of food, urban farming and TG contribute to lower carbon footprints and create more resilient, sustainable cities in the face of increasing urbanization (Thomas & Cherian, 2021). TG is a simple but definite step towards increasing our green cover, irrespective of space restrictions. This is an achievable activity for many urban dwellers to cultivate the food crops of their choice.

TG provides environmental benefits, reduces urban heat island effect, helps with waste recycling, energy, and water conservation. By adding plants that can reflect sunlight and enhance air circulation, TG can help lessen the impact of the urban heat island effect. TG can offer food and shelter to insects and birds, fostering biodiversity in urban settings (Deng *et al.*, 2021). Fertile agricultural land in urban areas has been converted into houses and other infrastructures leading to reduction of land for cultivation. The impacts of residential development on the natural environment extend to the realm of agriculture, particularly in the use of chemical pesticides and fertilizers. As urbanization encroaches on agricultural lands, the demand for increased food production often leads to intensive farming practices. So, if one wants to grow vegetables and fruits domestically, a viable alternative is organic TG, which provides the ideal space (Medha *et al.*, 2022). This felt need can become a real movement by sharing and spreading know-how amongst stakeholders.

Despite these advantages, further studies and evaluations of the literature are still needed, especially when it comes to understanding factors important for terrace farming, TG's impact on the environment and innovation in TG. This is because the information that is currently available is dispersed and incomplete, which makes it challenging for practitioners and researchers to find pertinent information. Researchers can summarize current information, identify gaps in the field, and suggest new avenues for future research and implementation by conducting a literature review on TG. This can encourage future researchers to address meaningful research gaps in current literature, and help urban and suburban communities to pursue TG as a sustainable and eco-friendly technique (Deng *et al.*, 2021). In the following section we present the current literature on TG. Following that we present a strength, weakness, threat, and challenge analysis of TG. Finally, we conclude the paper with results and discussion.

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