

# "Urban Agriculture and Sustainable Communities": An Analytical Study of Urban Agriculture as a Tool for Achieving Food Security and Sustainability in Modern Cities

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## **Abstract:**

This research discusses the concept of urban agriculture as an effective tool to enhance food security and achieve sustainable development in cities. With increasing urbanization and rising demand for food, urban agriculture becomes an urgent necessity to utilize available spaces in urban environments such as rooftops and public parks. The paper reviews the multiple benefits of this practice, including improving environmental quality, enhancing the local economy, and increasing social interaction between residents. The research analyzes successful local and global experiences in urban agriculture, highlighting its potential to address challenges facing urban communities, such as lack of space, legal restrictions, and Lack of cultural awareness, lack of resources and cultural awareness. The research provides recommendations to promote urban agriculture, including developing supportive policies, providing training and resources, and strengthening community partnerships. Through these recommendations, the paper aims to provide a framework for mainstreaming urban agriculture as a sustainable practice that contributes to improving the quality of life in cities. The results show that urban agriculture not only enhances food security but also contributes to improving the psychological and social health of communities, making it an important tool to meet future challenges in urban environments.

## **Paper History:**

Paper received March 07, 2025, Accepted May 07, 2025, Published on line July 1, 2025

#### **Keywords:**

Urban Agriculture, Food Security, Sustainable Development, Urban Communities Sustainability, Agricultural Innovation

#### References:

- 1- Food and Agriculture Organization (FAO). (n.d.). FAO website. Retrieved from https://www.fao.org
- 2- World Health Organization (WHO). (n.d.). WHO publications. Retrieved from https://www.who.int/publications
- 3- UN-Habitat. (n.d.). Urban Planning. Retrieved from https://unhabitat.org/topic/urban-planning
- 4- International Fund for Agricultural Development (IFAD). (n.d.). IFAD website. Retrieved from https://www.ifad.org/en/
- 5- Specht, K., Siebert, R., Hartmann, I., Freisinger, U. B., Sawicka, & Dierich, A. (2014). Urban agriculture of the future: An overview of sustainability aspects of food production in and on buildings. Agriculture and Human Values, 31(1), 33-51.
- 6- Euronews. (2022, October 5). Taiwan is transforming unused metro stations into underground vertical farms. Retrieved from https://www.euronews.com/green/2022/10/05/taiwan-is-transforming-unused-metro-stations-into-underground-vertical-farms
- 7- Dezeen. (2013, September 12). Pasona Urban Farm by Kono Designs. Retrieved from https://www.dezeen.com/2013/09/12/pasona-urban-farm-by-kono-designs/
- 8- Melbourne Skyfarm. (n.d.). Melbourne Skyfarm official website. Retrieved from https://www.melbourneskyfarm.com.au/
- 9- Aprilli Design Studio. (n.d.). Urban Skyfarm. Retrieved from https://www.aprilli.com/sustainability/urban-skyfarm-t23d7
- 10- Pacific Place. (n.d.). Pacific Place Hong Kong official website. Retrieved from https://www.pacificplace.com.hk/en
- 11- ResearchGate. (n.d.). Brooklyn Grange rooftop farming and green roofing business. Retrieved from

- https://www.researchgate.net/figure/Brooklyn-Grange-is-the-leading-rooftop-farming-and-intensive-green-roofing-business-in fig4 322841378
- 12- McClintock, N. (2010). Why farm the city? Theorizing urban agriculture through a lens of metabolic rift. Cambridge Journal of Regions, Economy and Society, 3(2), 191-206.
- 13- GreenLight Fund. (n.d.). GreenLight Fund Detroit. Retrieved from https://greenlightfund.org/sites/detroit/
- 14- Farms Initiative. (n.d.). About Farms Initiative. Retrieved from https://www.farmsinitiative.org/about
- 15- Green Roofs. (2020, May 28). Urban Gardening: The Rooftop Gardens of Cairo. Retrieved from https://www.greenroofs.com/2020/05/28/urban-gardening-the-rooftop-gardens-of-cairo/#:~:text=In%202019%2C%20Egypt's%20Ministry%20of,eco%2Dfriendly%20use%20of%20spa ce
- 16- Edible Cities Network. (n.d.). Consortium. Retrieved from https://ediblecitiesnetwork.com/consortium
- 17- GrowUp Farms. (n.d.). Official website. Retrieved from https://growupfarms.co.uk/
- 18- Kono Designs. (n.d.). Urban Farm Projects by Kono Designs. Retrieved from https://konodesigns.com/urban-farm/
- 19- Hortiplan. (n.d.). Lufa Farm Canada. Retrieved from https://www.hortiplan.com/en/lufa-farm-canada/
- 20- Agrourbana. (n.d.). Official website of Agrourbana. Retrieved from https://www.agrourbana.ag/
- 21- Hakuhodo India. (n.d.). Vegi Bus Project. Retrieved from https://hakuhodoindia.com/work/vegibus.html

CITATION

Dalia Eldamaty, Ahmed Nagi (2025), "Urban Agriculture and Sustainable Communities": An Analytical Study of Urban Agriculture as a Tool for Achieving Food Security and Sustainability in Modern Cities, International Design Journal, Vol. 15 No. 4, (July 2025) pp 271-279