

The Impact of Urban Food Ecosystems on Improving Food Security

Introduction:

Urban agriculture (UA) has been described as a new trend in agriculture to achieve food security through short, peri-urban, and/or urban supply chains. It is defined as 'the production of plants and animals in homes or plots in urban or peri-urban areas' (Hoorweg & Munro-Faure, 2008). UA has gradually passed through multiple stages from traditional agriculture to the integration of food production and new technologies. The benefits of the smart integration of technology and agriculture are that it can create sustainable urban food ecosystems (UFEs) and their interconnectedness to the Water-Energy-Food (WEF) nexus, as well as environment reinvestments such as water desalination, food waste, and wastewater treatment. for the rapidly expanding urban population especially in the developing world (Orsini *et al.*, 2013).

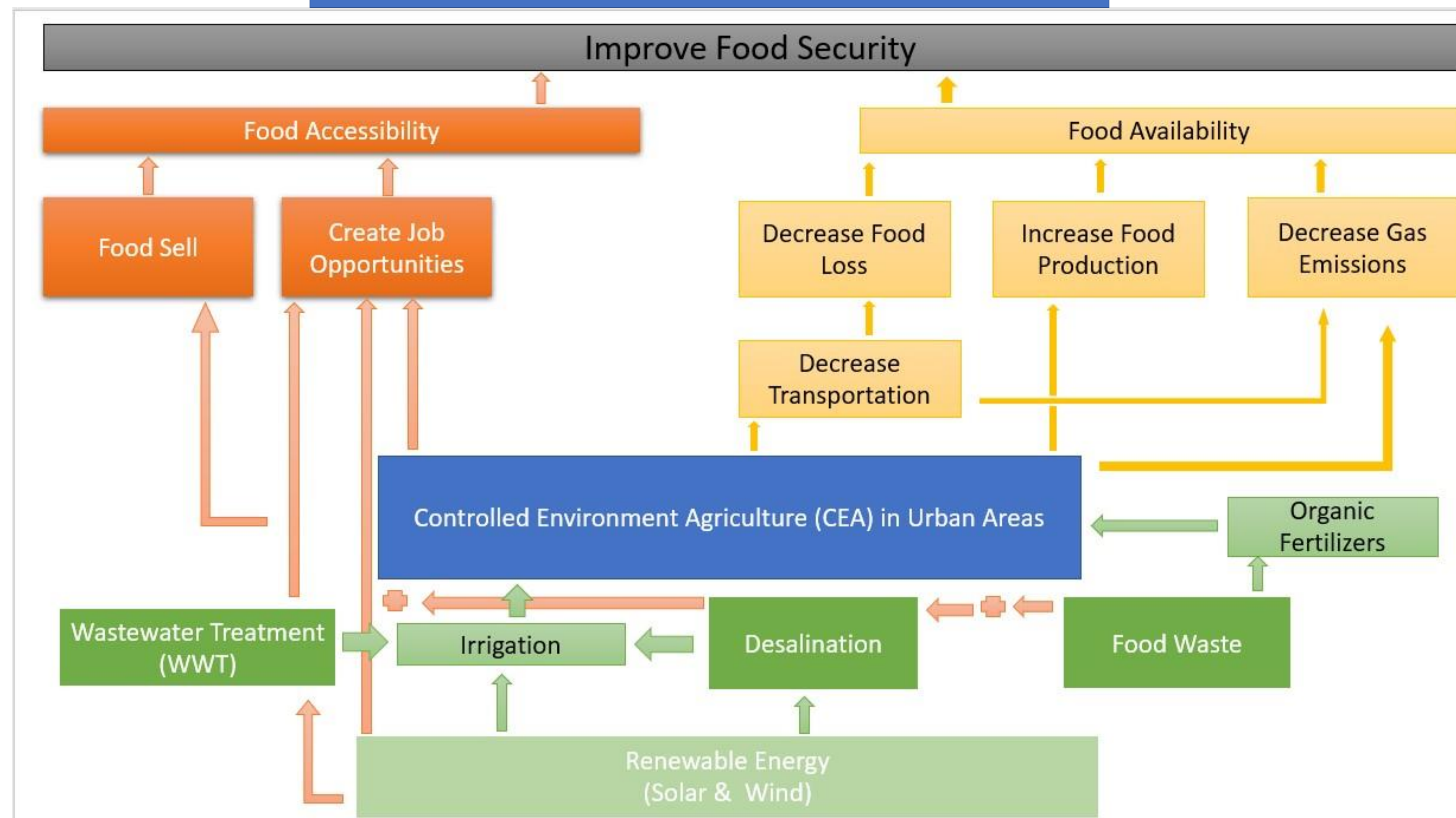
The purpose and significance:

Sustainable urban food systems can decrease poverty rate, improve food security, decrease gas emissions via the usage of renewable energy resources and converting food waste into fertilizers.

Methodology:

The research relies primarily on literature review (secondary data) on controlled environment agriculture (CEA), sustainable urban food systems (UFEs), Water-Energy-Food Nexus (WEF), and reinvestment in wastewater and food waste. The purpose of that is to conceptualize a new framework that can be as a basic information for the policy guiding to plan to have sustainable and green cities, especially in the developing world.

Results:



Discussion:

UFEs we can improve the economic status of urban dwellers. with the support of governments to new business models work on new technologies can create a revolutionized, resilient, and productive UFEs which will generate tons of modern opportunities for entrepreneurs and job seekers. Thus, it would improve the citizen's' food accessibility. technology-enabled UFEs hand-in-hand with the smart policy of land usage would allow more efficient, sustainable intensification of productive agricultural areas, vertical production, and intensive production with CEA. Considering UFEs as a new advancement method of urban farming, it not only increases the productivity of agriculture, but it also creates new sustainable environmental plans, and the overall purpose is improving the region's food production . Therefore, it would also improve the food availability for the urban citizens.

Citations:

- Davies, T. F., & Garrett, B. (2019). Connecting Farm, City, and Technology Transforming Urban Food Ecosystems in the Developing World. Retrieved from <https://www.thegfcc.org/post/gfcc-releases-new-report-connecting-farm-city-and-technology>
- Orsini, F., Kahane, R., Nono-Womdim, R., & Gianquinto, G. (2013). Urban agriculture in the developing world: a review. *Agronomy for Sustainable Development*, 33(4), 695-720. doi:10.1007/s13593-013-0143-z