

# Benefits of Non-Commercial Urban Agricultural Practices

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Urban agriculture refers to any type of activity located within or around a city designed to provide ecosystem services. Given the rapid population growth and urbanization, urban agriculture is seen as a potential alternative route to a more sustainable urban food system. Indeed, it has multiple functions, contributing to a variety of outcomes associated with localized urban food systems, including food access, food and agriculture education, community building, and civic engagement. Moreover, implementing non-commercial urban agricultural practices has multifaced social, economic, and environmental benefits, such as improving people's health, reducing expenditure on food and creating sustainable cities, highlighting the need to recognize the multifaceted role of non-commercial urban agricultural practices in promoting a more sustainable lifestyle and strengthening local communities and engagement.

Keywords: non-commercial urban agriculture ; benefits ; allotments ; urban farms

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## 1. Introduction

Ensuring sustainable urban food systems is of extreme importance, given that urban areas are currently characterized by rapid population growth, aggressive food marketing, and unhealthy diets <sup>[1]</sup>. Indeed, these areas and their inhabitants face numerous challenges linked to the expansion of urbanization, including socio-economic, ecological, and environmental issues, which have a negative impact on the environment and unsustainable urban development and a huge impact on health <sup>[2]</sup>.

To address these challenges, urban agriculture (UA) is seen as a potential solution that can provide green space and bring food production <sup>[3]</sup>. Indeed, UA is defined as any type of activity located within or at the periphery of a city and aimed at providing products and ecosystem services to the residents, such as physical and mental health benefits, mitigation of social and economic problems, and community resilience <sup>[4]</sup>.

Many forms of UA are currently being practiced <sup>[4]</sup>. Community gardens (CG) have been defined as 'open spaces which are managed and operated by members of the local community in which food or flowers are grown, and whose total area is maintained collectively, ranging from small neighborhood gardens to larger ones of up to 1000 m<sup>2</sup>' <sup>[4][5]</sup>. This is a popular strategy for strengthening social cohesion and improving health <sup>[1]</sup>. As far as allotments (A) are concerned, they have been defined as 'plots of land designated by local authorities for the purpose of growing vegetables for home consumption' <sup>[6]</sup>. A occurs when land is acquired through a personal-use lease <sup>[6]</sup>. Nevertheless, when A meet the criteria of growing food or flowers in a communal manner, they can also be considered as CG <sup>[7]</sup>. Another form of non-commercial urban agricultural (NCUA) practices are school gardens (SG), which feature vacant land on school sites designed for a range of food education-related agricultural activities involving student participation <sup>[8]</sup>, which are useful for improving children's nutritional outcomes and knowledge <sup>[9]</sup>, making them more willing to try unfamiliar varieties of fruits and vegetables <sup>[10]</sup>. In addition, SG provide an opportunity to meet and interact with other students in a natural environment, developing social skills, communication, and cooperation <sup>[11]</sup>.

The benefits of implementing NCUA practices within the cities have long been demonstrated in the literature, which can be categorized into economic, environmental, and social benefits. The literature considers NCUA to have a number of potential social benefits, including strengthening social capital, increasing social cohesion and community resilience, and improving public health <sup>[12]</sup>. Moreover, the positive social effects of being in nature have been shown to increase feelings of generosity, friendship, and empathy <sup>[13][14]</sup>. Indeed, it reduces personal feelings of anxiety and improves mental health and well-being <sup>[15][16][17]</sup>. In terms of economic benefits, a number of studies have shown that the implementation of urban agricultural practices (UAP) helps to reduce the global food supply and demand situation, as it can be seen as a source of income while providing direct access to a wider range of nutritionally rich products <sup>[18]</sup>. In other words, UA can generate an additional source of income, improving the economic situation of many households <sup>[19]</sup>. The final aspect is that of the

environmental, where the outcomes of UA are generally highly valued and recognized by scientists for their great potential to improve the quality of urban life and the environment <sup>[20]</sup>. In fact, the creation of UA spaces in cities helps to retain storm-water, purify the air, and conserve biodiversity <sup>[21]</sup>, thus helping to mitigate the pollutants responsible for global warming <sup>[22]</sup>. Moreover, as food is grown and produced locally, it reduces transport costs and ensures environmental protection <sup>[23]</sup>.

## **2. Benefits of Non-Commercial Urban Agricultural Practices**

### **2.1. Social Benefits**

The implementation of NCUA yielded in four categories of social benefits from gardening: mental health and wellbeing, society economic growth and employment opportunities, nutrition, and social cohesion: First, mental health and wellbeing, where it was found that living in green environments was associated with reduced instances of depression and helped reduce personal feelings of anxiety <sup>[24]</sup>, with an 8–12% reduction in mortality risk <sup>[7][25][26]</sup>. Secondly, the society economic growth and employment opportunities, where a number of professionals, technicians, and farmers are hired to manage the UAP by offering help and advice to users <sup>[27]</sup>, making these NCUA areas a “refuge sector” for unemployed workers, retired people, or failed entrepreneurs <sup>[28][29]</sup>. In the third place comes the nutrition aspect, where gardens expand access to healthy nutritional fruits and vegetables in economically significant quantities, and where fruit and vegetable consumption has improved <sup>[30][31]</sup>, increasing food security and providing livelihoods for urban dwellers <sup>[32]</sup>.

### **2.2. Environmental Benefits**

The implementation of NCUA makes an essential contribution to the sustainable development goal of creating sustainable cities and communities <sup>[33]</sup>, where environmental sustainability remains a potential priority <sup>[34]</sup>. They could help improve the green infrastructure that contributes to creating and maintaining habitats for a wide range of plants and animals by providing shelter and nesting sites, offering water and food resources, and integrating into surrounding ecosystems. <sup>[34]</sup> A number of potential biodiversity enhancements in CG have been identified, such as plants that attract and feed pollinators <sup>[35]</sup>. In addition, one of the main environmental benefits cited for different forms of NCUA in different countries is improved air quality, increased air humidity, and lower air temperatures during the summer months, which can significantly mitigate the urban heat <sup>[20]</sup>. Furthermore, the implementation of NCUA forms enables community development as a means of rebuilding declining cities and neighborhoods and reducing food miles and the resulting carbon emissions <sup>[36]</sup>.

### **2.3. Economical Benefits**

In terms of economic benefits, the implementation of urban areas has improved the economic situation of many households, as gardens inherently amplify the aesthetic appeal of neighborhoods, and as a result, are likely to increase property values in the immediate vicinity, particularly in deprived neighborhoods <sup>[19]</sup>. Indeed, results suggest that gardeners harvest nutritionally and economically significant quantities of food <sup>[31]</sup>, and also enable the integration of aspects of Circular Economy <sup>[37]</sup>. Moreover, at an individual level, growing one's own produce also has a tangible economic benefit, as it reduces the amount spent on groceries, although the exact savings have not been studied extensively <sup>[38]</sup>.

## **3. Conclusions**

The findings are aligned with the results found by Nikolić et al. (2022), highlighting the potential of UA in providing alternative food sources for growing urban populations, focusing on UA's multifunctionality and its perceived benefits in improving cities and combating food insecurity, taking into account the various economic and social impacts of UA, along with its environmental potential for mitigating the effects of climate change and creating sustainable cities <sup>[39]</sup>. Furthermore, in 2023, Boukharta et al. also stated the importance for policy makers and urban planners to consider the potential benefits of UA and to prioritize stakeholder engagement in the development and implementation of NCUA <sup>[40]</sup>. Moreover, the explanation of the significance of the results and actions taken can be reinforced by a qualitative assessment with benchmarks focusing on aspects such as resource use, community involvement, the impact and benefits of NCUA, and their measurement against established standards to assess the performance and impact of the UA initiative.

UA has multiple functions, contributing to a variety of outcomes associated with localized urban food systems, including food access, food and agriculture education, community building, and civic engagement <sup>[40][41]</sup>. The NCUA forms provide, such as improving the health and well-being of the population, increasing the social inclusion and society economic growth, helping customers to obtain a variety of fruit and vegetables at lower prices, purifying the air, etc., and which can

be categorized into three aspects, namely social, economic, and environmental. Furthermore, the results obtained clearly show that there is a difference in the implementation of UAP and the assessment of its benefits between countries, with UA being more common and encouraged in developed countries and less known and used in developing countries, suggesting the need to explain and share the concept further within communities, which has also been mentioned by Boukharta et al. (2023), by organizing workshops for residents along with other activities that can help strengthen ties between residents and provide them with the opportunity to learn more about UA and its services <sup>[40]</sup>.

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