Urban Agriculture Benefits Portfolio

WAGENINGEN
UNIVERSITY & RESEARCH

Politecnico di Torino

EFUA
European Forum on Urban Agriculture

Preamble by Daniel Münderlein

Urban Agriculture (UA) is a highly dynamic phenomenon, which is evolving constantly through space and time. It creates a wide range of benefits, which include different societal, technological and environmental dimensions. UA is more than just food growing in the city and can be considered as a tool for enhancing urban sustainability and resilience. In order to take full advantage of UA and to successfully embed it into the urban fabric, it is necessary to understand the connection between observed and identified benefits and the constantly evolving forms and types of UA. Whilst previous studies focus either on benefits of UA or on describing the phenomenon of UA in form of a typology, this portfolio aims at investigating and illustrating the according connections in an interactive way.

The UA Benefits Portfolio presents economic, socio-cultural, environmental and climate, food as well as health and well-being related benefits and creates interlinkages to a recent typology update. It becomes apparent, that Urban Farms, Community Parks, DIY Gardens/Farms, Zero Acreage Farms, Community Gardens and Social Farms have unique characteristics and provide different sets of benefits. As UA is constantly in development, the identified benefits are presented as gradients. The presented portfolio provides a comprehensive overview of UA and includes a descriptive as well as valorising perspective. It is not only helpful for describing and classifying UA projects but also for communicating and highlighting benefits within practice and policymaking.

An urban policy section is included, which aims at informing policy makers about the benefits of UA and the contribution to Sustainable Development Goals. Important policy themes are identified, and potential thematic connections are visualised.

Finally, a selection of interesting case studies from all over Europe is presented, which highlights and emphasises the multiple benefits as well as innovation potentials. This portfolio is a great contribution to UA related research and will facilitate the sustainable implementation and integration of UA within planning and urban development. It helps us to see and understand the bigger picture of feeding the city in the 21st century. The Urban Agriculture Benefits Portfolio can be considered as the summit of the scientific work in the European Forum on Urban Agriculture (EFUA), which is a 4-year project funded under the European Union's Horizon 2020 Research and Innovation Program. The project is running from 2020-2024. The presented portfolio is a centerpiece in unlocking Urban Agriculture's potential and supporting the mission of achieving better networking, better knowledge, better deployment and better policies in the field.

Daniel Münderlein | Coordinator of EFUA

Picture by Picasso Food Forest

Table of contents

What is Urban Agriculture?

Urban Agriculture (UA) has played an essential role in urban food systems throughout history; it is thus not new. Since the earliest towns developed, humans have been growing food in urban and peri-urban spaces. For example, a "villa rustica" was a type of peri-urban farm located close to Roman cities, providing food for local markets.

Medieval cities typically had monastic gardens and agricultural fields both inside and outside the city walls. In modern-day Europe, growth of urban agriculture is associated with the industrial revolution and, even more recently, increasing environmental awareness and ambition to reconnect city dwellers with food. These practices reflect how Urban Agriculture has evolved over the centuries in response to changing urban needs. As these needs continuously shifted, so did the characteristics of Urban Agriculture, with new farming models emerging and changing motivations for growing food in an urban context.

Today, Urban Agriculture is valued not only for its food production but also for the variety of economic, social, health and ecological benefits it provides. Urban Agriculture has a long tradition as well as a bright future. It connects the past and the future and can be considered as heritage and futuristic next-practice of feeding the city.

Defining Urban Agriculture

A well-known definition of Urban Agriculture, coined by Mougeot (2000: 10), is: "Urban Agriculture is an industry located within (intra-urban) or on the fringe (intra-urban) of a town, a city, or a metropolis, which grows or raises, processes, and distributes a diversity of food and non-food products, (re-)using largely human and material resources, products, and services found in and around that urban area, and in turn supplying human and material resources, products, and services largely to that urban area."

In simpler terms, Urban Agriculture involves growing food (and associated services) in and around the city, maintaining a connection to the urban area and its residents. Despite the considerable diversity of Urban Agriculture practices, they all share some key characteristics:

1. Location: Urban Agriculture is located in the urban or peri-urban space.
2. Function: It provides food products, often in combination with other services.
3. Integration: Urban Agriculture is socially, economically, and/or ecologically integrated into the urban system.

The benefits of Urban Agriculture

Urban Agriculture offers a range of benefits. It contributes to food security and sovereignty by producing fresh food locally, reduces the carbon footprint of food transportation, and promotes community engagement through shared gardening projects. Additionally, it can create economic opportunities and improve the urban environment through green spaces.

Modern practices in Urban Agriculture

Today, Urban Agriculture encompasses a high variety of practices, such as community gardens, social farms, rooftop gardens, vertical farming, and hydroponics. These approaches reflect the adaptability and innovation that drive Urban Agriculture in response to contemporary urban challenges and opportunities. Types of Urban Agriculture are continuously evolving and new initiatives regularly come into existence. Within the context of this dynamic field, one of EFUA's aims is to explore and understand the diversity of Urban Agriculture from an European perspective. In this context, EFUA developed a new typology of UA, based at a cross Europe survey and expert interviews:

1. The Urban Farm
2. The Community Park
3. The DIY Garden/Farm
4. The Zero Acreage Farm
5. The Social Farm
6. The Community Garden

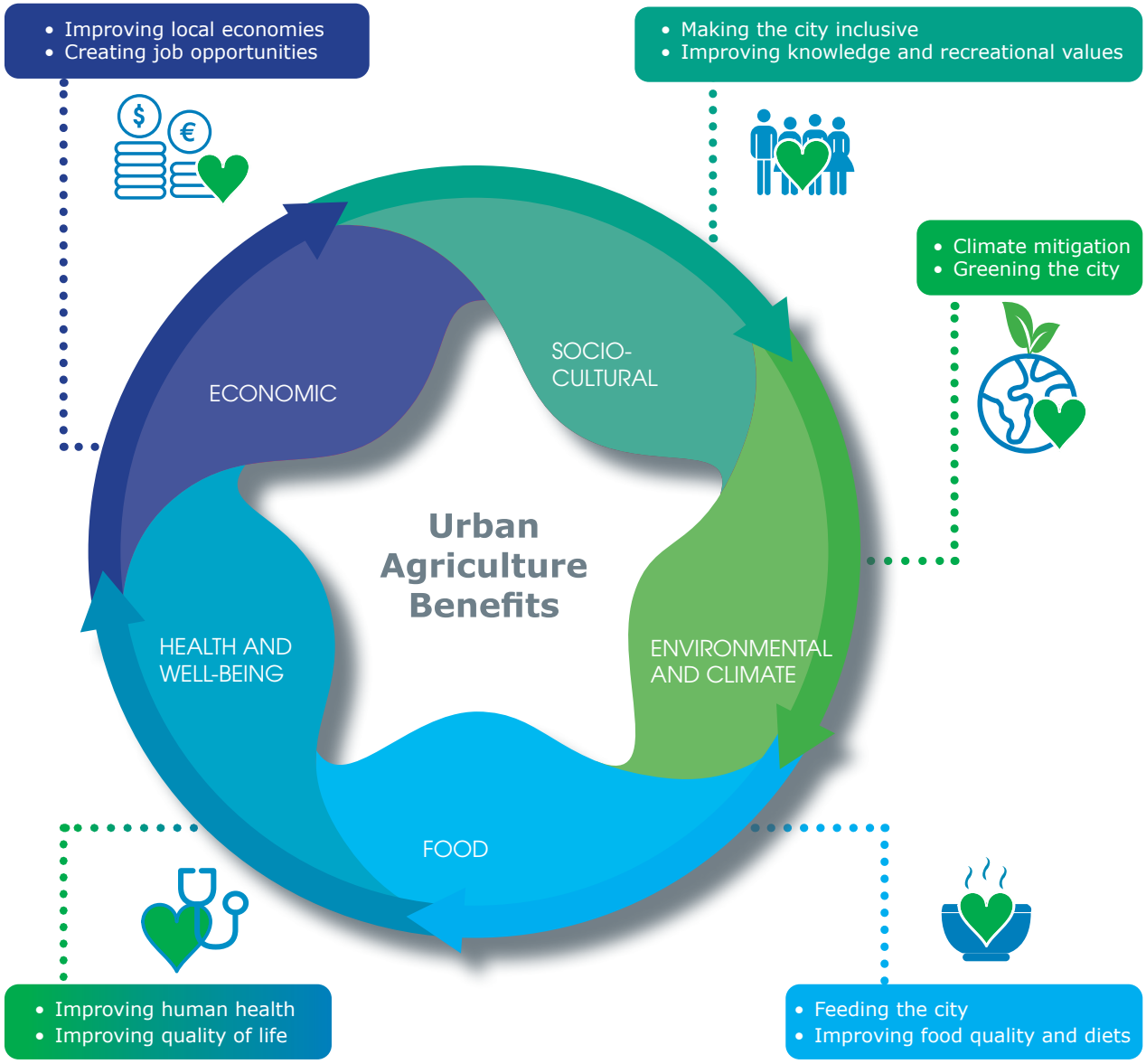
1| Urban Agriculture Benefits Portfolio | Introduction and Overview

Many scholars from different scientific fields suggest that Urban Agriculture (UA) has the potential to address various urban policy objectives. Recent studies indicate multiple benefits of agriculture in urban and peri-urban areas. However, a comprehensive review of potential UA benefits, including unintended negative effects, has been lacking so far. Moreover, specific benefits associated with different types of Urban Agriculture are often overlooked, leading to a lack of clarity about which practices are most effective in achieving particular (policy) goals. That is, understanding the contribution of Urban Agriculture can help achieve policy goals at local, national and also EU level.

Aims and structure of this portfolio

The aim of this portfolio is to showcase the main benefits of UA related to the environmental, social, economic, health, well-being and food domains. In addition, this document also explores diverse types of UA and successful UA initiatives, the relationship between these forms and benefits, as well as possible risks associated with UA practices. Finally, primary urban policy targets that UA can contribute to achieve are emphasized, especially through city-level examples.

The portfolio is structured in three sections. The first section of this document explains UA benefits and its connections with diverse UA typologies, as well as inspiring cases of UA. The second section shows the potential of UA and presents good examples at city-level to implement UA. The last section includes general remarks and outlines possible directions of future research.



Research methodology
The UA benefits (and unwanted effects) were classified in five potential dimensions: socio-cultural, environmental and climate, food, health and well-being, and economic, acknowledging the various underlying values of UA initiatives.

A systematic literature and project review was conducted, which provided a list of benefits and potential unintended effects. Interviews with stakeholders (mainly policy-makers and experts) and two online questionnaires were carried out to validate the results. Finally, in order to understand and highlight the relationships between the different types of UA and benefits, evidence and expert opinions of the EFUA partners were used.

General findings
The literature and project review produced a list of 37 different benefits and 15 unwanted effects of UA. Most benefits fall within the social-cultural and environmental dimension. However, some of these benefits can be interconnected, leading to potential trade-offs. Through the online questionnaires, it was found that urban food gardening practices provide mainly social, health and well-being benefits. Instead, professional urban farming typologies are predominately associated with social, environmental and nutritional benefits. Based on insights from stakeholders and survey respondents, certain benefits emerged as more recognisable and common, while interviews and online questionnaires further helped to identify the key benefits for each category.

Benefits related to different UA type
In general the analysis reveals that DiY and community gardens/parks seem to deliver more socio-cultural and environmental benefits than the other UA types. Forms of UA closely associated with food production, such as zero acreage farms, urban farms and DiY gardens/farms, obviously appear more likely to create food-related benefits. The economic dimension is more strongly linked to professional farming such as zero acreage farms and urban farms. Finally, the UA types that provide the most health and well-being benefits are social farms, as well as DiY gardens and community gardens/parks.

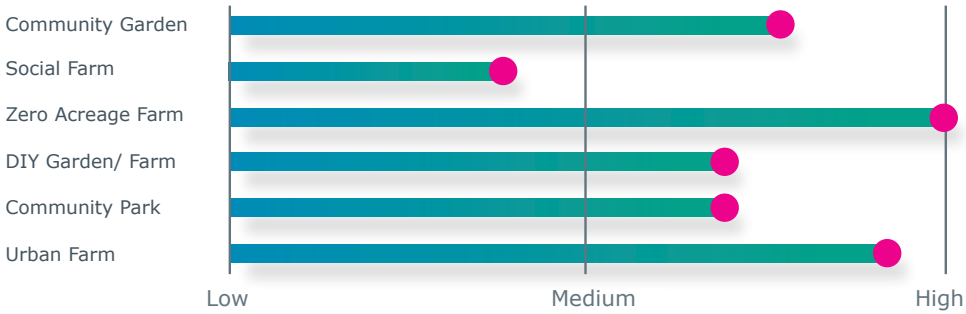
How and which urban policy targets can UA help to achieve?
Our analysis shows that the benefits of UA can contribute to some policy targets of the European Urban Agenda. The figure on page 5 summarises this contribution. The benefits of UA initiatives in the socio-cultural dimension can help tackling social inequalities and make the city inclusive, can improve the recreational value and develop learning about UA initiatives. UA initiatives can green the city and improve urban biodiversity, by maintaining green spaces, as well as counterbalancing land consumption and soil sealing. UA mitigates the impact of climate change on the urban environment, e.g. by buffering (excess) precipitation and reducing urban heat island effects. Feeding the city and improving food quality, reducing food miles and contributing to healthy diets are other urban themes that UA can contribute to. Furthermore, the well-being and quality of life in urban areas and the mental and physical health of urban dwellers can be improved, especially through diverse forms of urban gardening such as community gardens and DIY gardens. In economic terms, urban farming can strengthen local economies by connecting producers and consumers, and by creating opportunities for non-market food provision as well as local employment. The next chapters will detail UA's benefits and unwanted side effects.

Picture by PLNT | Antwerpen

1.1| Economic benefits

Professional UA can improve local economies and reduce local economic leakage, thereby strengthening relationships between consumers and producers and supporting alternative food chains and networks. Non-professional farming and urban gardening can also promote local agri-food products and markets. The proximity to an urban area can favour innovation and the creation of new business models, based on the agricultural diversification and the provision of potential recreational activities. Agricultural diversification can develop new sources of income, agri-food products, and services. Some UA forms, e.g. vertical or indoor farms, can create alternative markets and new consumer relationships, e.g., for the production of edible insects and algae. In addition, UA can contribute to new green jobs and other local work opportunities. Finally, UA can reduce public land management costs, for example, through maintenance agreements with farmers and gardeners' associations.

Contributions of Urban Agriculture types to produce economic benefits



The contributions of each of the six types were defined based upon research conducted during the EFUA project (See Cassatella, C., & Gottero, E., 2022).

Key economic benefits

- Diversification of income and activities
- Job opportunities
- Improved local economies

Be aware of unwanted effects

threats

Some high-tech systems, such as green walls and facades, rooftop gardens, indoor and high-tech farming, have high installation costs as well as (energy) costs to maintain the system. In addition, the cost of fertilizers, seeds, and tools could be expensive for some urban gardeners. Finally, closer contacts between producers and consumers could favour mechanisms of tax evasion.

Picture by Daniel Münderlein

Contributing to economic benefits | Nabo Farm | Copenhagen, Denmark

Nabo Farm is a Zero Acreage Farm in Copenhagen (Denmark), located in an old auto repair workshop, that grows several types of vegetables such as sprouts and microgreens (watercress, radish, pea shoots, etc.). It sells its products to families and restaurants located near Copenhagen, through daily deliveries of fresh food. The farm strives to sustainable production methods that include hydroponics systems, no use of pesticides, zero waste from packaging, and low water consumption, as well as a short supply chain. it is not only a good example of resource-efficient cultivation systems and reuse of abandoned buildings but also a good example of alternative markets and innovations in marketing/consumer relations.

https://nabofarm.com/

Pictures by Nabo Farm

1.2| Socio-cultural benefits

Participation and cooperation among diverse private and public stakeholders can enhance interactions and networking, thereby fostering a healthier local community and a stronger sense of place. Many urban food gardens and social farms organise social activities to reduce discrimination, improve social inclusion, support social cohesion and achieve gender equality. This happens through a collaborative approach between gardeners, citizens, and municipalities and through involving different social and cultural groups in the management and use of urban plots. Often urban gardens offer educational and training activities on food, nutrition, diets, and gardening, and they serve as spaces for informal experiential learning. They can enhance food literacy, knowledge, and skills-development, as well as environmental awareness and cultural values amongst individuals and communities.

Professional and non-professional UA can also contribute to new forms of leisure, the development of path networks (bike lanes/sidewalks) and eco-tourism, particularly through recreational and agritourist farms. Urban and peri-urban farms also contribute to the maintenance of local knowledge, cultural traditions, and heritage. They enhance the quality, heterogeneity, and multifunctional use of outdoor spaces and the aesthetic qualities of agricultural landscape, including through maintaining landscape features such as hedges, terraces, stone walls, and historic buildings.

Key socio-cultural benefits

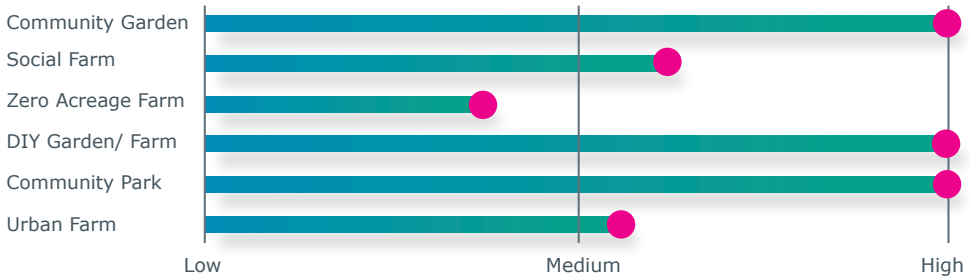
- Improvement of social cohesion and feelings of belonging and a sense-of-place
- Increase of knowledge skills and awareness about food, agriculture and environment
- Increased of leisure and recreation activities and tourist attractions.

Be aware of unwanted effects

threats

In some circumstances, UA initiatives could increase the incidence of class-based disparities and tensions in neighbourhoods, within gardens and between different stakeholders, thereby increasing the risk of green gentrification. Due to possible low levels of public accessibility to fresh and healthy food, some high-tech farms might also contribute to social exclusion.

Contributions of Urban Agriculture types to produce socio-cultural benefits



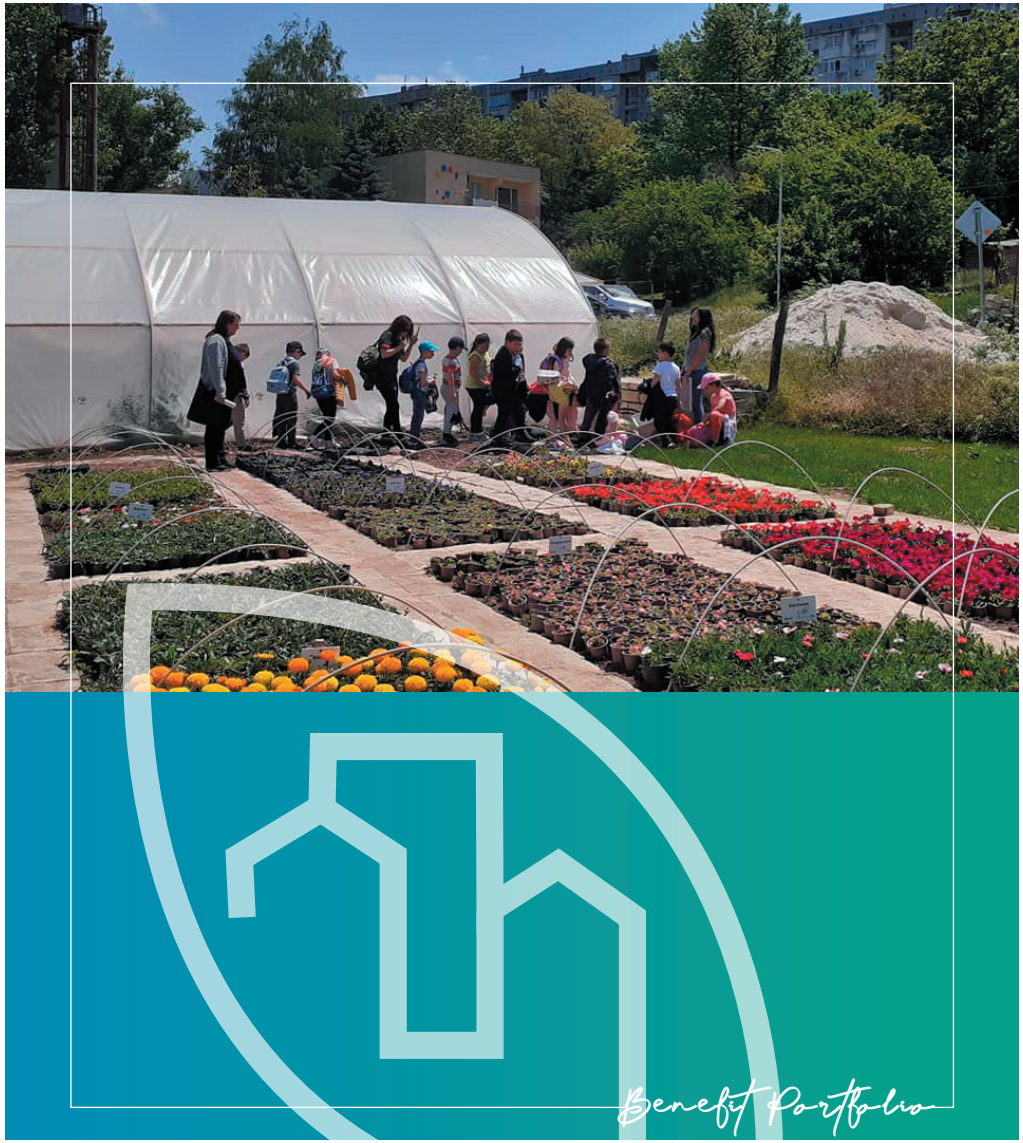
The contributions of each of the six types were defined based upon research conducted during the EFUA project (See Cassatella, C., & Gottero, E., 2022).

Picture by Daniel Münderlein

Contributing to socio-cultural benefits | The Wonderful Garden | Dobrich, Bulgaria

The "Wonderful Garden" is a social enterprise that trains and employs young adults with disabilities in gardening and horticultural activities in Dobrich - a town in the North-East of Bulgaria. Over the years the initiative has grown from a rooftop flower garden to a municipality supported one-acre urban farm that produces a range of vegetables, fruit, and decorative tree saplings, as well as flowers. Products are sold on the town's farmers' market, as well as directly on the farm. According to feedback, employees are happy to have a stable job and also to receive training to develop specific skills. They are grateful that their work is appreciated in a society where people with disabilities are most often excluded from the opportunity to be financially independent. This initiative shows that UA can promote many socio-economic activities that involve different stakeholders and which contribute to improving social inclusion, physical and mental health, as well as to create local job opportunities for different social groups.

https://www.facebook.com/fondationstnicolay/?locale=bg



Picture by The Wonderful Garden

1.3| Environmental and climate benefits

The conservation and the increase in surface of urban green areas, plants, and green infrastructure that is associated with UA initiatives contributes to decreased storm water runoff, prevents erosion, improves rainwater retention, and reduces erosion. Some UA initiatives, particularly Zero Acreage farms and Building-Integrated Agriculture systems (BIA), favour the environmental regeneration of brownfield sites, contaminated land, and abandoned buildings, and they promote the sustainable use of resources. Plants, trees, and greening practices provided by UA initiatives help to regulate temperature and reduce the urban heat island effect, thus contributing to climate change mitigation and adaptation. Urban green enhances carbon sequestration and decreases air pollution. Local food production and direct selling also lead to a reduction in food miles. Finally, practising UA can contribute considerably to maintaining specific habitats and native species, protected areas, as well as biodiversity, particularly through organic or environmentally friendly farming practices

Key environmental and climate benefits

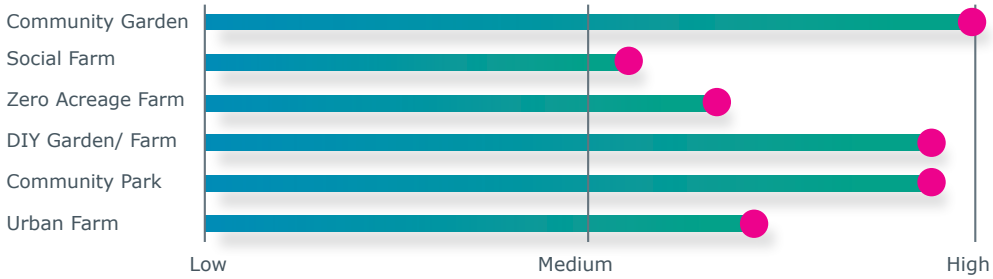
- Climate change mitigation and adaptation
- Increased quality and quantity of urban green spaces and green infrastructure
- Preservation of urban biodiversity

Be aware of unwanted effects

threats

High input agricultural practices could increase inefficient use of natural resources and use of pollutants and intensive production systems. These practices could contaminate soil and water bodies, further undermining the quality of urban and peri-urban environments. Some less environmentally friendly UA initiatives could also significantly threaten the conservation of urban habitats and biodiversity, also introducing alien and invasive species.

Contributions of Urban Agriculture types to produce environmental and climate benefits



The contributions of each of the six types were defined based upon research conducted during the EFUA project (See Cassatella, C., & Gottero, E., 2022).

Picture by Daniel Münderlein

Contributing to environmental and climate benefits | Orti Generali | Turin, Italy

Orti Generali is a community garden in the south area of Turin (Italy). It is situated within an urban park and is located in a post-industrial neighbourhood. The gardens are cultivated exclusively through organic methods and managed by a social enterprise established from an association of citizens. Orti Generali is a good example of nature-based solution and approach for the regeneration of degraded areas. It contributes to soil conservation and fertility, to increasing and managing green spaces, and to provide pollinator-friendly spaces, reducing pesticide use, and increasing urban biodiversity. Recently, the community garden has also launched a kiosk that offers vegetarian and vegan dishes, seasonal and local products. Orti Generali organises many social and cultural activities that involve gardeners and different stakeholders that contribute to the improvement of social inclusion, cohesion, and interaction.

https://www.ortigenerali.it/

Picture by C. Cassatella

1.4| Food benefits

Food produced by UA initiatives can improve food security, as well as self-reliance and self-provisioning of cities and urban communities. By producing local and fresh fruit and vegetables, strengthening local food production systems, as well as promoting alternative distribution channels and networks, UA can significantly improve access to local food, shorten supply chains, and reinforce direct relationships between producers and consumers. Many forms of UA improve diet quality and access to fresh and healthy fruit and vegetables, while others (such as community gardens and parks, DIY gardens/farms, as well as social farms) favour dietary diversity, as well as access to ethnically and culturally appropriate food. Through the involvement of different social groups in the production, retail, and management processes, some UA initiatives (especially social farms and urban food gardens) contribute to food sovereignty and food justice.

Key food benefits

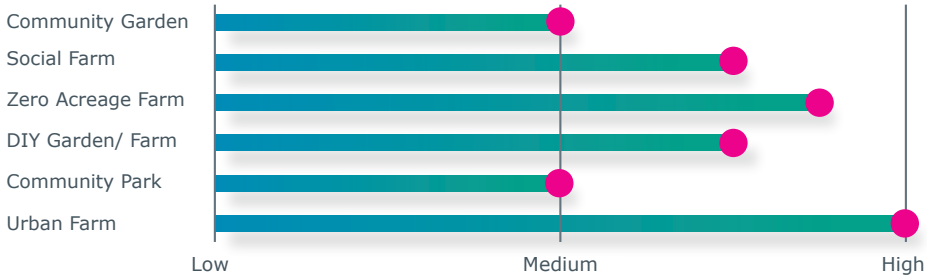
- Improvement of food quality and diets
- Improvement of food security
- Food access and subsistence improvement

Be aware of unwanted effects

threats

Due to the air pollution and the soil and/or water contamination, the quality of food in some urban areas might be low or harmful for human health and therefore requires monitoring. In addition, the food quantity produced by some UA initiatives, might be too low to feed the city and to meet the food demands, which is why food production in cities should be seen as complementary to other mainstream food supply chains.

Contributions of Urban Agriculture types to produce food benefits



The contributions of each of the six types were defined based upon research conducted during the EFUA project (See Cassatella, C., & Gottero, E., 2022).

Picture by Jan Eelco Jansma

Contributing to food benefits | Grondig | Ghent, Belgium

Grondig is an urban farm located in the city region of Ghent (Belgium) that adopted a community-supported agricultural (CSA) approach. This farm produces vegetables, potatoes and (small) fruits by means of organic vegetables and also offers eggs and meat. It also offers guided farm tours and educational activities. Grondig adopts the method of self-harvesting by participants. Customers participate in the farm's activities and business. They can pick fruit and vegetables whenever they want, access the accounts, and use the space to organise activities and events. Each participant pays a yearly fixed contribution in order to ensure the farmers' income and share both potential risks and yields of the harvest. At the annual meeting, participants can also contribute in the decision-making process. This farm shows that UA can help to strengthen the contribution to a sense of community, promote short supply chain and alternative food networks, improve local economies and farmers' incomes, as well as diversify agricultural activity.

https://plukboerderijgrondig.be/site/index.php

Picture by Lien Van den Eynde

1.5| Health and well-being benefits

UA contributes to greener and healthier urban environments, working and living places and thus, well-being and quality of life in cities. Furthermore, UA can be a pleasant way to spend time and to get people involved in activities, as well as to engage in leisure and hobbies. Practising UA allows gardeners and practitioners to increase self-esteem, improve their state of health and well-being, as well as encouraging access to fresher, healthier food and better, varied diets.

UA and in particular, urban food gardening and social farming, is also helpful for relaxation, physical and mental health, and for developing specific therapies and rehabilitation programs. In addition, some forms of high-tech production systems, such as vertical farming, could contribute to significantly reduce the toxicity of agricultural products compared to conventional farming practices, especially when using biofertilizer

Key health and well-being benefits

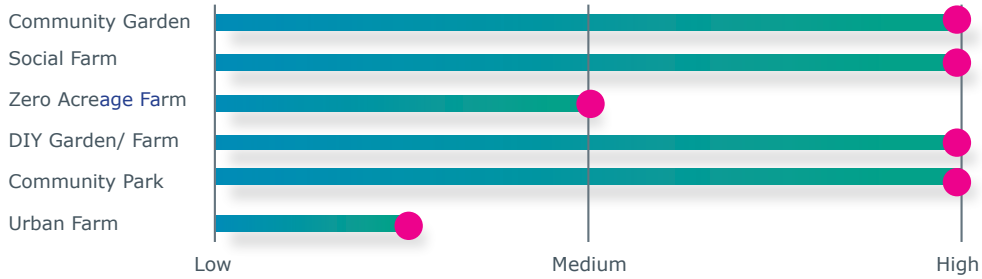
- Improvement of well-being and quality of life
- Improving food access and subsistence
- Fresh and healthy food

Be aware of unwanted effects

threats

Practising agricultural activities in urban and peri-urban areas could increase human health risks due to the proximity to possible contaminated sites, polluted soils, industries, or dense traffic zones. Some plants used by UA may foster allergies. In addition, some odours and noises related to UA may raise anxiety, increase disturbance, and reduce a sense of peace.

Contributions of Urban Agriculture types to produce health and well-being benefits



The contributions of each of the six types were defined based upon research conducted during the EFUA project (See Cassatella, C., & Gottero, E., 2022).

Picture by Daniel Münderlein

Contributing to health and well-being benefits | Ninewells Community Garden | Dundee, Scotland

Ninewells Community Garden is located on the grounds of the Ninewells Hospital, in the city of Dundee (Scotland). The garden aims to actively involve patients through therapeutic and rehabilitative gardening. It is open not only for patients and hospital staff, but also visitors, the local community, many volunteers, and different organizations. Current activities include the production of organic fruits and vegetables, honey, training for volunteers, healthy lifestyles, and eating and cooking workshops. The health benefits of this UA are treatment of illness, recovery, secondary prevention, rehabilitation of patients, as well as promoting health and wellbeing of staff and visitors.

https://ninewellsgarden.org.uk/

Picture by Ninewells Community Garden

2| Urban Policies

This section guides policymakers on how to unlock the potential of Urban Agriculture (UA), presenting city-level practices as examples to integrate agriculture in urban and peri-urban areas. Understanding the diverse urban needs that can be addressed through UA is crucial for crafting targeted policy recommendations to support policymakers. By incorporating UA into policy frameworks, cities can make use of their ability to improve green spaces, support local food production, and enhance community engagement. The alignment of UA (benefits) with urban policy goals can contribute to enhance UA's value and improve policy effectiveness.

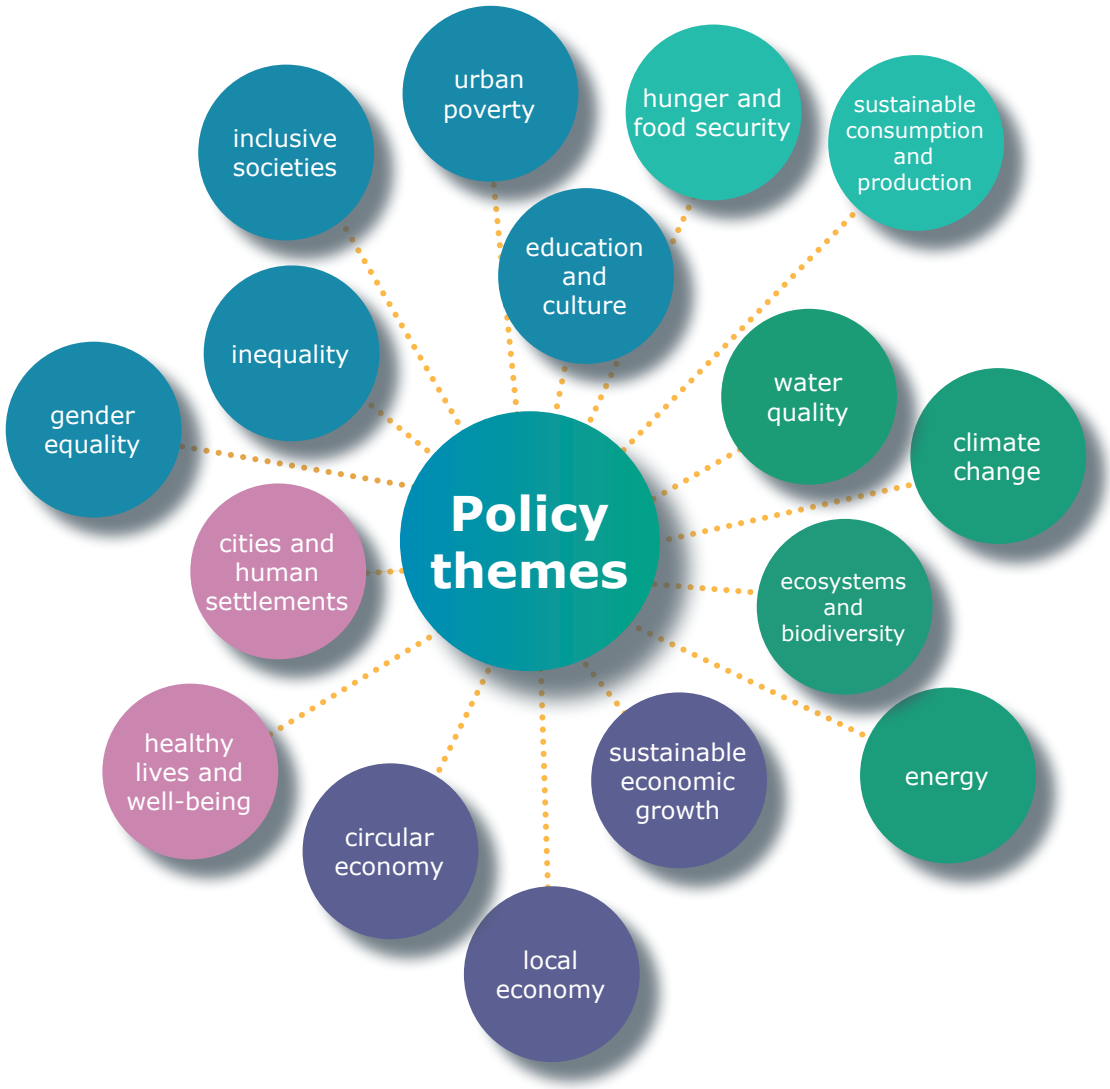
The multifaceted nature allows UA to align with multiple policy themes, contributing to Sustainable Development Goals (SDGs) and other urban sustainability targets. Here's an overview of how UA can deliver benefits across these categories:

To lever these benefits, policymakers can implement a variety of strategies, such as offering incentives for UA projects, designating spaces for community gardens, or integrating UA into urban planning processes. By doing so, cities can foster the potential of UA to co-achieve sustainability and community-oriented goals.

The figure on the right side summarises the key areas potentially related to UA and its benefits or where UA can be used as a vehicle to deliver numerous sustainability goals. In order to identify the main areas of UA benefits and some of the UA policy themes, to which UA can significantly contribute, this Urban Agriculture Benefits Portfolio also shows some examples of local initiatives located in cities that support UA, thereby developing policy tools to lever the potential and multidimensional benefits of UA. For further information see also the references section. The different policy themes are categorized based on the main connections with UA benefits.

- purple = economic benefits
- blue = socio-cultural benefits
- green = environmental and climate benefits
- turquoise = food benefits
- pink = health and well-being benefits

Areas and urban policy themes where UA can contribute



2.1| Examples of Urban Policies

1 **UA as a part of green infrastructure in the Belvedere park | Cologne, Germany**

The Belvedere park is located in Cologne (Germany), and part of city's green infrastructure system and network of green spaces. This UA park contributes not only to increasing the area for recreational benefits and ecological diversity. It defines the urban fringe, prevents land consumption, increases biodiversity, improves the aesthetic qualities of the city landscape and promotes the cultivation of traditional crops. It is a good example of greening the city and improving urban and peri-urban settlements through UA.

Picture by RWTH University of Aachen

2 **The self-sufficient district of Oosterwold | Almere, the Netherlands**

Oosterwold is a peri-urban area located in the city of Almere (Netherlands). An area of about 4,000 hectares has been converted into a hybrid rural-urban area, with the intention to create 15,000 new homes by 2030. Approximately 50% of this area is allocated to Urban Agriculture. This means that any landowners, in order to develop new buildings, must endorse an agreement that includes the allocated 50% of land to Urban Agriculture. Through this approach, the City of Almere aims to provide 10% of the food production of the Oosterwold City-region, during the coming years. Almere is a good example of how local UA policy can contribute to feeding the city in a healthy, equitable, and sustainable way, whilst also improving local and circular economies.

Picture by Jan Eelco Jansma

3 Guidelines and regulations for urban gardens | Vilnius, Lithuania

Recently the city of Vilnius (Lithuania) has adopted new guidelines and regulations for urban gardens, with a special focus on environmental sustainability, and integrated these within the city's urban policies. Vilnius also implemented a participatory approach that involved different private and public stakeholders such as the municipality, NGOs, schools, and the Ministry of Environment. The City of Vilnius has also launched a plan to support the development of new urban gardens, aiming at encouraging participation and creating a sense of place, especially in disadvantaged neighbourhoods. Vilnius has also initiated a dialogue with the National Land Authority on possible temporary use of state land, in order to tackle land-related ownership issues and to increase the land allocation for urban gardening. This case is based on the experience of the City of Rome (Italy) and it was developed in the context of the RURBAN Project (URBACT program). In conclusion, the initiative of Vilnius has also contributed to social inclusion and to improving the quality of life and the urban environment.

Picture by Risorse per Roma (RPR)

Picture by Daniel Münderlein

Picture by Daniel Münderlein

3| Concluding remarks

In conclusion, the European Forum on Urban Agriculture (EFUA) has gathered substantial evidence supporting the various benefits of Urban Agriculture. Moreover, EFUA has presented a structured approach to the apparent diversity of Urban Agriculture in Europe and proposed a new typology. In this document it highlights the relation between the benefits and specific types of Urban Agriculture. As such, EFUA has linked the new typology to the possible benefits which provides a more detailed insight in UA's contribution. Through this approach EFUA has highlighted that UA undoubtedly benefits cities on a number of levels which is further supportive the unlocking UA's potential in Europe.

This document underscores the positive impact that UA can have on urban life, particularly in the environmental-climate and social spheres. Urban Agriculture contributes to urban sustainability by enhancing green spaces, reducing carbon emissions and promoting social cohesion through community-based gardening and farming initiatives. However, despite these encouraging findings, certain areas of UA require more extensive study to fully understand the scope of the benefits.

Some dimensions of UA, such as its impact on self-sufficiency in food, health and well-being, environment and urban economic have not been sufficiently explored. While qualitative studies dominate the current literature, there is a significant gap in research that quantitatively measures and substantiates the specific benefits (and unwanted effects) of UA. A more rigorous, data-driven approach could help policymakers and stakeholders better assess the tangible outcomes of UA initiatives, providing clearer guidance for policy and urban planning. There may be a task here for the EU to work with national governments to develop a system of monitoring urban agriculture across Europe.

In addition, while the benefits of UA are well documented, the potential unwanted effects need more attention. These might include issues related to land use, resource allocation, or unintended environmental consequences. Understanding these negative aspects is crucial to roll out balanced UA policies that maximise benefits whilst mitigating risks.

As the field of Urban Agriculture continues to evolve, there is a need for more comprehensive research to cover these gaps. Future studies should focus on a wider range of UA practices, utilising quantitative methodologies to accurately measure the benefits and unwanted effects of UA. Additionally, research should explore the societal and cultural aspects of UA, considering how it can contribute to aspects as preserving cultural heritage, improvement of liveability and enhancing community health and well-being.

All in all, the evidence supporting UA's benefits is strong. Of course, a more thorough examination of its impact, along with a closer look at potential drawbacks, will provide a more balanced picture. However, as this document demonstrates there is already enough evidence for urban policymakers to formulate a conscious and balanced policy that can further unlock the potential of Urban Agriculture. In other papers and documents, EFUA shows how targeted policies and governance can effectively guide the process of unlocking the potential of Urban Agriculture, through facilitating exchange, mapping vacant spaces and establishing (local) UA Councils. Eventually, unlocking the potential of Urban Agriculture will contribute to a more sustainable, resilient, and inclusive urban environment. Let's grow together!

Additional information

This portfolio builds upon the findings of the research conducted within Task 3.2 "Understanding the benefits of UA" (Lead: Politecnico di Torino). It is also intended as an update of the benefit leaflets. For these reasons parts of the text included in this document is based on it. See also:

https://www.efua.eu/sites/default/files/2023-01/EFUA_PoliTO_Benefit%20leaflets_def.pdf

For any further details and references, please refer to following documents:

Cassatella, C., Gottero, E. (2022), Type-benefit matrix, including set of indicators, and benefit leaflets, H2020 project n. 101000681, European Forum for a Comprehensive Vision on Urban Agriculture (EFUA), Deliverable 3.2., available from: https://cordis.europa.eu/project/id/101000681/results

Jansma, J.E., E.J. Veen and D. Muller, 2024. Beyond urban farm and community garden: a new typology of urban and peri-urban agriculture in Europe. Urban agriculture and regional food systems Volume 9 (1). https://acsess.onlinelibrary.wiley.com/doi/10.1002/uar2.20056

Jansma, J.E., Veen, E.J., Vaandrager, L., Muller, D. & Berg, W. van den (2021). UA typology update, European Forum for a Comprehensive Vision on Urban Agriculture (EFUA), Deliverable 3.1, available from: https://cordis.europa.eu/project/id/101000681/results

The policy section includes some cases analysed in detail in the context of Task 4.2 "In-depth analysis of urban planning strategies towards UA" (Lead: Politecnico di Torino). The full results, which include guidelines to support city authorities in the integration of UA into public policies and planning tools were illustrated in: Cassatella, C., Gottero, E., Cotella, G., Salizzoni, E., Pede, E., Quaglia, S. (2022,). Report on in depth-analysis on UAs role in urban planning, H2020 Project n. 101000681 European Forum for a Comprehensive Vision on Urban Agriculture, Deliverable 4.2, available from: https://cordis.europa.eu/project/id/101000681/results

Colophon

Text by
Enrico Gottero | Politecnico di Torino
Darleen van Dam | Wageningen University & Research
Jan Eelco Jansma | Wageningen University & Research
Lucie Sovová | Wageningen University & Research
Lenneke Vaandrager | Wageningen University & Research

Thanks to

Thanks to **Ian Whitehead** for editing the final text, the members of EFUA Working Package 3 for their input and the examples across Europe for sharing photographs and additional information

Layout

Caroline Verhoeven | Wageningen University & Research

Special Thanks

Special thanks to Claudia Cassatella for her valuable feedback and suggestions provided for the drafting of this document. Special thanks to Dona Pickard, Patricia Hernandez Lelli and Nele Lauwers for their support provided for case study descriptions and the collection of pictures.

The European Forum on Urban Agriculture (EFUA) is a 4 year project funded under the European Union's Horizon 2020 Research and Innovation Programme.

EFUA's objectives are to unlock Urban Agriculture's potential through achieving better networking, better knowledge, better deployment and better policies in the field.

Through establishing an Urban Agriculture (UA) Forum, it aims to develop new levels of stakeholder engagement to inform decision making and to mainstream Urban Agriculture into European, regional and local policy.

For more information, please visit efua.eu

E|F|U|A
European Forum on Urban Agriculture

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant agreement No 101000681

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant agreement No 101000681

Picture by Daniel Münderlein

Urban Agriculture Benefits Portfolio

WAGENINGEN
UNIVERSITY & RESEARCH

Politecnico di Torino

EFUA
European Forum on Urban Agriculture