the URBES project

Urban agriculture: landscapes connecting people, food and biodiversity

Food is not only essential to our health and wellbeing, but it also often plays a pivotal role in the social connections and cultural traditions that help define both our communities and sense of self.

In order to maintain the variety we want and need from our crops and livestock, and thus our food system, biodiversity is of fundamental importance. It is also the foundation of the ecosystem services that are essential to sustain agriculture and human wellbeing.

With increasing urbanization, current agricultural practices are often challenged to provide sufficient locally farmed food to feed growing cities, resulting in ever more industrialized and globalized food production.

This often leaves growers and consumers of food separated by great distances, both physically and ideologically, and comes at a huge environmental cost. Farming and gardening in the city are effective ways of supporting well-being by reconnecting people with nature, supporting biodiversity, enhancing ecosystem services, and increasing food security and the resilience of cities.

This factsheet will explain the importance of urban agriculture: the ecosystem services that urban agriculture provides for human wellbeing, food security and urban resilience; and the need for integrated planning across sectors to ensure that the ecosystem services that urban agriculture provides can proliferate.

factsheet 7

What is urban agriculture?

Put simply, urban agriculture is the practice of cultivating food in an urban environment. In an ideal situation, urban agriculture represents a system in which environmentally sustainable cultivation practices, the local economy, and relationships between people intersect, creating a thriving local food system, strong communities and ensuring greater access to healthy, seasonal and local food and ecosystem services while at the same time increasing urban food security.

Urban agriculture can take many forms: from neighborhood allotment gardens to intensive, commercial production units; from rooftop gardens to urban farms. Types of urban agriculture include:

- Allotment gardens: An allotment is a plot or parcel of urban or suburban land made available for individual, non-commercial gardening/food growing and recreation. This type of garden can consist of a few or up to several hundred individually cultivated allotment plots which are used by individuals or families as part of an allotment site and are an important feature in the urban landscape. They combine utility, recreational benefits, social meaning, aesthetic beauty and numerous ecosystem services (see right).

- Community gardens: Community gardens are an emerging form of urban agriculture. They often arise from self-organized, bottom-up and "guerilla gardening" movements in response to social or economic crises. Such gardens can vary in size, from single plots on a vacant lot in a neighborhood to larger projects. Community gardens are often used to experiment with combining agricultural and social practices. They are gaining increasing recognition for enhancing social inclusion and strengthening social networks in cities.

- Community farms: These farms tend to be communal growing spaces that engage the surrounding community in small-scale food production. While these are usually open to all community members to participate in and enjoy, the farm management decisions, regarding the selection of crops and harvesting times, are handled by experienced farmers. Community farms can assist in improving the quality and quantity of food available locally while reducing the environmental impact of food production.

Ecosystem Services provided by urban gardens*

Habitat services	Habitat for biodiversity
Provisioning services	Medicinal resources and aromatic plants; Food supply (quantity and quality)
Regulating services	Air purification; Local climate regulation; Global climate regulation; Maintenance of soil fertility; Pollination
Cultural services	Social cohesion & Integration; Place-making; Political fulfillment; Biophilia (connection with nature); Aesthetic information; Nature & Spiritual experiences; Relaxation & Stress reduction; Entertainment & Leisure; Exercise & Physical recreation; Learning & Education; Maintenance of cultural heritage

**These results were based on 44 in-depth interviews with allotment and community gardeners in Barcelona.*

- Institutional farms and gardens: These are associated with an institution (such as a company, church, school etc.) whose primary goal is not necessarily food production, but who may share the same health, ecological and social goals that urban agriculture supports.

- Commercial urban farms: As farmlands become increasingly marginalized, there is a need to explore urban farming on a more commercial scale. In general, commercial farmers try to intensify crop productivity in order to achieve profitability, but may also contribute to the health and ecological goals of the broader urban agriculture community if they implement sustainable farming practices that are sensitive to the local ecology.

Food security depends on functioning ecosystems

Around the world, cities are experiencing rapid urbanization, and with it, a growing demand for food, while at the same time facing ever increasing challenges in food production. A growing global population has bolstered the pressure to industrialize and globalize food production. This significantly undermines the biodiversity and thus the variety of our food systems and brings with it numerous environmental and human-health impacts. In addition, climate change is already now affecting natural systems, thus changing the functions upon which food-producing ecosystems depend.

Biodiversity is the basis of agriculture, and the two are inextricably linked. The genetic diversity of our crop and livestock species has allowed farming systems to evolve since the birth of agriculture some 10,000 years ago, and it is also the foundation of the ecosystem services essential to sustain agriculture and human well-being. On the other hand, agriculture can also contribute to the conservation and sustainable use of biodiversity. Protecting and promoting biodiversity in our existing agricultural systems (including both wild and cultivated species) is key to making global food systems more adaptable and resilient, and to safeguarding the ecosystem services we depend on in the face of global climate change.

Allotment gardening in the City of Salzburg

Salzburg has approximately 648 allotments gardens, covering an area of 28.3 ha. As part of an URBES study, 156 people were interviewed on their opinion on the role of allotment gardens in recreation, food production, environmental education, ecological gardening and the environmental behavior of citizens. The study showed that 47% of the allotment gardeners who produced food did so for the health benefits, and 44% reported that they garden in an eco-conscious way, without the use of fertilizers.

In addition, the results shown in Figure 1 below highlight the importance of allotment gardens for recreation and environmental education beyond the obvious function of food production. The majority of interviewed gardeners (66%) responded that they had learned about nature through allotment gardening, with 31% and 28% quoting new knowledge about their general relationship with nature and ecological behavior and horticulture/garden management respectively. In this study, 78% of the participants valued the allotment garden as an 'important or even very important' place for the younger generation to learn about nature owing to its hands-on approach and the fact that it is an excellent place for the observation of birds, small mammals and amphibians. Interestingly, when allotment gardeners were asked where they observed the highest number of animals, 80% of observations were reported on the allotment plot, followed by forests (34%) and other urban public green spaces (9%), highlighting their important role in providing habitat for biodiversity.

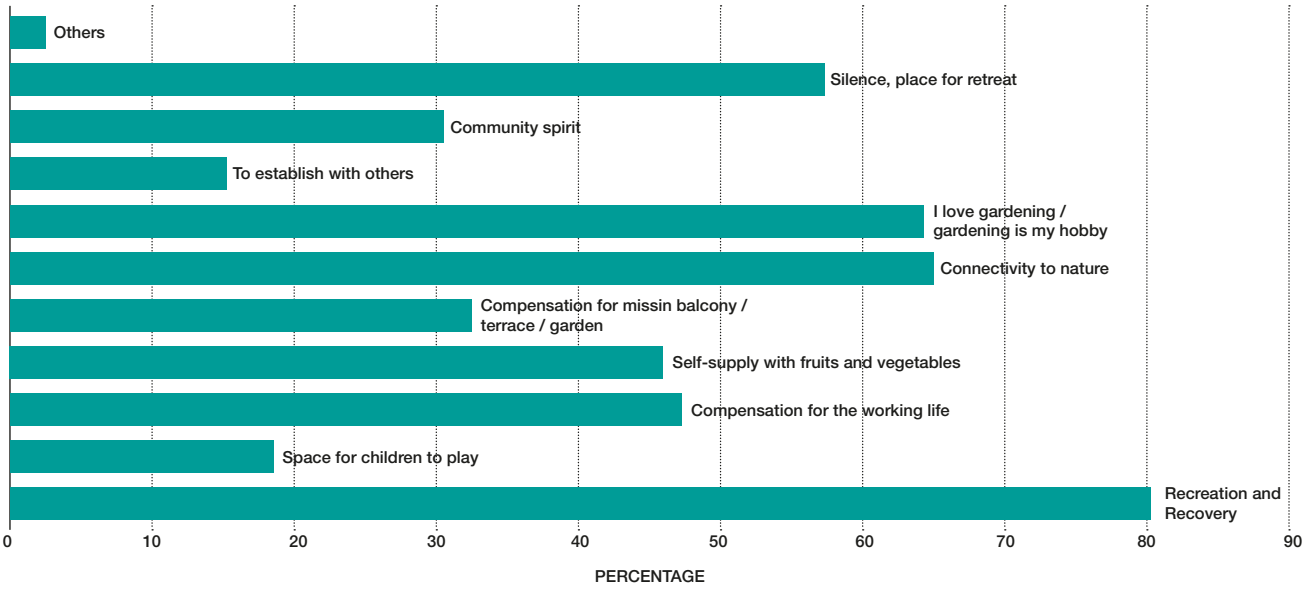

Figure 1: Reasons to use allotment gardens

Urban agriculture as a way to reconnect with nature

Cities all over the world can benefit from urban agriculture as an effective means to build sustainable and more resilient food systems, communities and cities. By reconnecting people with the natural processes of food production, urban agriculture helps facilitate responsible consumption, enhance citizens' connection with nature and encourage questions on where and how their food was produced. In addition, by bringing citizens together, for example in community gardens, people not only learn how to grow their own food, but also - and more importantly - engage and participate in their community. Over and above the fresh produce, people grow their own food because they enjoy interacting with nature, creating new relationships and connections within their communities and being part of an activity that is both rewarding and beneficial to their sense of health and well-being.

1 2006 figures

Planning for resilient urban food systems

Creating resilient, sustainable urban agriculture will require support at all levels of government and from strong community networks:

- **Integrate urban and regional planning:** The challenges facing both urban and rural landscapes stem from the closely interlinked pressures on the economy, ecosystems and human health. This calls for an integrated approach to urban and regional planning in which government departments need to foster greater collaboration and communication. Linking agriculture and ecosystem management can achieve joint objectives - for example in making cities more resilient to climate change, while conserving biodiversity.
- **Support local agriculture and urban gardening:** This can be done through, for example, responsible public procurement regulations within municipalities, increasing communal farming infrastructure; designating land for urban farming; and strengthening existing local food networks.
- **Ensure that educational opportunities are in place:** Education engages people with nature while enhancing their understanding of food production. It also raises citizens' awareness of the interconnections between their diets, biodiversity and health, promotes local produce and educates urban farmers on the use of biodiversity-friendly food production practices that uphold ecosystem services.
- **Develop a sustainable urban food strategy:** Take a holistic approach to the food system of a city, creating a strategy and implementation plan with local measures which can be scaled up with support from national and international levels.

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