



HOW TO ENHANCE BIODIVERSITY IN URBAN ALLOTMENT GARDENS?

Challenge

Urban gardens provide excellent opportunities for people to be in contact with nature and to enhance biodiversity in cities. Biodiversity – the variety of animal and plant species, habitats and genetic resources – may be rich in urban gardens. Biodiversity increases the liveability of urban environments for people, animals and plants, and its maintenance requires contributions by all actor groups in cities. Many ecosystem services are directly dependent on biodiversity. Since gardening has a great potential to support urban biodiversity as a part of a green network, gardeners and decision makers should be aware of how to do it. The main challenges are:

- How can gardeners take care of wildlife and safeguard biodiversity values in allotment gardens?
- What are the best ways to enrich biodiversity through garden management?
- How can decision makers support biodiversity-friendly urban gardens?

These questions suggest that urban gardeners potentially belong to the best stewards of nature in cities and that urban allotment gardens could play a specific role in the enhancement and maintenance of urban biodiversity.



Image 2 - The production of compost helps to improve the quality of soil in UAG and enhance the biodiversity. Photo: Francesca Bretzel



Image 3 - Spontaneous flowers add colours and taste to salads. Photo: Francesca Bretzel

Message to Gardeners

- High biodiversity increases urban gardens' adaptation and resistance to environmental changes.
- Biodiversity helps you to grow organic produce.
- Bees and wild pollinators are worth safeguarding, because they support food webs, attract other species, and increase agricultural production.
- Landraces (local, traditional cultivars) help to promote and maintain genetic diversity, have better survival features and excellent taste, and they also help gardeners to produce different food varieties and maintain rural traditions.
- The use of wild native plant species improves soil qualities, such as fertility and structure.
- The most invasive weeds should be controlled by gardeners, and organic methods should be favoured.
- A pond, a stream, tree branches and dead wood will attract birds and other wildlife.
- Recycling and reuse of natural materials (water, soil, compost, wood) is preferable.

Advice Note

- Create micro-habitats for wild animals and plants.
- Build shelters and boxes for birds, bats, bees and other wild animals.
- Increase diversity by using edible, ornamental and wild plant species.
- Grow landraces (local, traditional cultivars): they are rewarding and you can easily reproduce them.
- Produce your own organic seeds and exchange them with other gardeners.
- Find gardening advisers and join an organization which can help you in organic gardening.
- Use organic, biodynamic or permaculture techniques; add only the necessary organic matter into the soil.
- Learn to identify plants and animals on your site and tell other people about them.
- Native and non-native species can spontaneously emerge in your garden; some of them may be edible or simply enrich biodiversity.
- Control the weeds using natural pest bio-control and avoid pesticides.
- Collect rainwater in barrels or containers and make a pond.

Learn More

Useful links

<http://www.rooftopvegplot.com/>

<https://www.incredible-edible-todmorden.co.uk/>

<http://www.nsalg.org.uk/>

<http://www.ruleworks.co.uk/veg-edible/index.htm>

http://www.wildoxfordshire.org.uk/wp-content/uploads/2014/11/Wildlife_on_allotments.pdf

References

Thompson, K. 2007 Compost the natural way to make food for your garden. New York: Dorling Kindersley



Image 4 - Gardening provides direct experience of biodiversity, Scuola Primaria Natali, Livorno, Italy. Photo: Francesca Bretzel



Image 5 - Hoverflies¹. Photo: Francesca Bretzel

Message to Policy Makers

- Urban allotment gardens should be promoted in planning and land use decisions, because they are a significant part of the urban ecological network, which connects fragmented habitats in the city and supports urban fauna and flora.
- The perception of biodiversity can produce therapeutic effects, increasing human wellbeing.
- Urban gardens across the city can adopt different approaches in their biodiversity agenda.
- Urban gardens can serve as sites for ex-situ conservation of specific wild plant and animal species, and also as gene banks of traditional varieties valuable for human communities and urban histories.
- Human diversity and social interaction are often linked to biodiversity in productive ways through gardening; thereby gardening increases biodiversity-related community values in cities.

Policy Brief

- Encourage gardeners and their community associations to enhance biodiversity in creative and environmentally-friendly ways.
- Support education and information for gardeners, such as courses on organic gardening and avoidance of additional chemical materials.
- Foster social media networks that help gardeners to identify plant and animal species and monitor biodiversity in their gardens; these networks may bring together gardeners, their associations, environmental NGOs, promoters of citizen science, and ICT driven participation in urban governance.
- Increase the interaction between gardeners and public park management staff and other sectors in biodiversity issues. Gardeners can act as stewards because of their knowledge.
- Give talks on gardening and the meaning of biodiversity in schools, neighbourhood events, to colleagues, etc.
- Set up rules in new gardens that enhance biodiversity.

Learn More

Useful links

<http://www.ruaf.org/>

<http://www.gardenorganic.org.uk/>

<http://www.hullhistorycentre.org.uk/discover/hbp/actionplan/habitatactionplans/gardens.aspx>

References

Altieri M.A., Merrick L. (1987). In situ conservation of crop genetic resources through maintenance of traditional farming systems. *Economic Botany*, 41, 86-96.

Blaauw B.R., Isaacs R. (2014) Flower plantings increase wild bee abundance and the pollination services provided to a pollination-dependent crop. *J Appl Ecol* 51:890-98

Goddard M.A., Dougill A.J.H., Benton T.G. (2010) Scaling up from gardens: biodiversity conservation in urban environments. *Trends EcolEvol* 25:90-98

¹**Hoverflies** contribute to pollination and biological control in gardens.

AUTHORS

Ari Jokinen, University of Tampere, Finland

Francesca Bretzel, CNR Institute for Ecosystem Study - Pisa, Italy

Ligita Baležentienė, Aleksandras Stulginskis University, Lithuania

INFO SERIES | ISSUE 1 V. ENGLISH | DATE OF ONLINE PUBLICATION: 20 JULY 2016

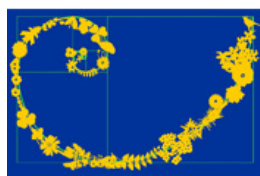


COST (European Cooperation in Science and Technology) is a pan-European intergovernmental framework. Its mission is to enable break-through scientific and technological developments leading to new concepts and products and thereby contribute to strengthening Europe's research and innovation capacities.

www.cost.eu



COST is supported by the EU Framework Programme Horizon 2020



Acknowledgement

This factsheet is based upon work from COST Action TU1201 Urban Allotment Gardens in European Cities, supported by COST (European Cooperation in Science and Technology)

www.urbanallotments.eu



Join urban gardens in Europe

<https://www.facebook.com/groups/825421310826607/>