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Urban Gardens in Europe

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THE CONTRIBUTION OF URBAN ALLOTMENT GARDENS TO ECOSYSTEM SERVICES

Challenge

Standard urban gardens and green parks are in many cases based on large collections of a few plants. They are able to provide some regulating and cultural services but few provisioning services.

Urban gardens with shortcomings, concerning good practice, reduce the value of ecosystem services. For example, using chemicals is potentially damaging to human health, flora and fauna and may cause a decrease in biodiversity and habitats.

What kind of services and practices can multifunctional and sustainable urban allotment gardens (UAG) offer in comparison to poorly designed and managed gardens?

The aim of this factsheet is to set out basic guidelines, and some detailed information, to help gardeners develop good practice within UAGs. This factsheet suggests processes and action plans, to solve problems and achieve efficient UAG solutions. This is taken into account within a framework of potential positive and negative socio-ecological impacts.

Best practices and technologies can improve UAG ecosystem services. For example there are increasing benefits (quantity/quality/cost) with respect to:

- Habitats provided for a variety of creatures.
- The provision of food/products.
- The regulation of local climatic conditions.
- The opportunity for contact with nature and recreation.

Image 1 (above) - UAG with provisioning and regulating ecosystem services, Poznan, Poland. Photo: Avigail Heller

Image 2 - Provisioning garden, supply of local fresh and healthy food, Cesis, Latvia.
Photo: Avigail Heller

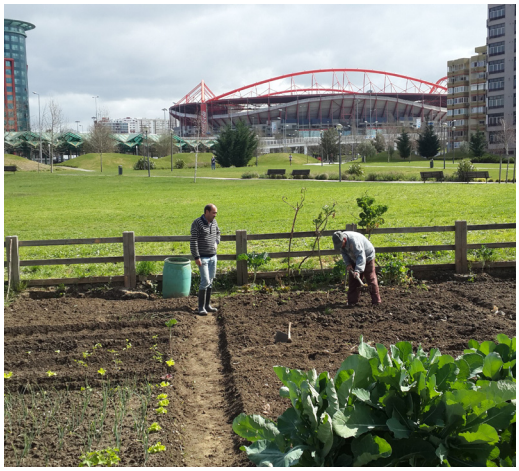

Image 3 - Ecological corridor, Lisbon, Portugal.
Photo: Avigail Heller

Message to Gardeners

The role of the UAG in supplying valuable products. (Provisioning Services)

- Multi-functional spaces bringing new opportunities and challenges for the production of market goods. This is due to their supply of local fresh and healthy food, including medicinal and aromatic plants.

The role of the UAG in improving biodiversity and environment conditions (Regulating Services)

- Create ecological corridors and connect large parks and various gardens in different parts of the city, from the dense urban city centre to its outskirts [1].
- Provide variety of habitats for different creatures and promote biodiversity enrichment by planting a wide range of plants species [2].
- Vegetation (e.g. soil cover and root system) helps prevent physical degradation of the soil (e.g. erosion).
- Preserve soil fertility, avoid nutrient losses and improve decomposition.
- Provide local thermal regulation.

The importance of UAGs to gardeners well-being (Cultural Services)

- Provide an opportunity for community training, farming education and environment protection.
- Create a positive connection, a feeling of belonging to the environment and a feeling of well-being [3] [4].
- Provide landscape and decoration, as ornamental spaces and spaces for recreation.

Advice Note

Gardener plan

- Use protocols to create the garden [5].
- Design the gardens with spaces for both communal and individual gardening.
- Use a variety of plants rather than large clusters of a few types of plants (enriching pollinating and habitats).
- Use nectar plants [6].
- Gardeners must consider the benefits and risks to ecosystem services, thus taking into account: 1) the value (physical or market) of products; 2) the need for a plan comprising sampling and analyses of natural resources; 3) the restrictions and suitability of the land (e.g. slope); 4) the socio-economic conditions, thus assessing factors such as financial resources and energy prices; 5) balanced solutions regarding possible trade-offs between objectives (e.g. economic and environmental impacts of a new device).

Gardener Actions and Practices

- Apply recommendations for sustainable productivity such as plants and plant rotations adjusted to specific land conditions (e.g. soil and water availability and quality) and preferably "organic production methodologies".
- Use recycled organic materials (e.g. waste composting), thus minimizing the use of external and non-renewable resources to increase fertility.
- Use less pesticides and fertilizers for environmental friendly maintenance.

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Image 4 - Habitats and biodiversity, Cesis, Latvia. Photo: Avigail Heller

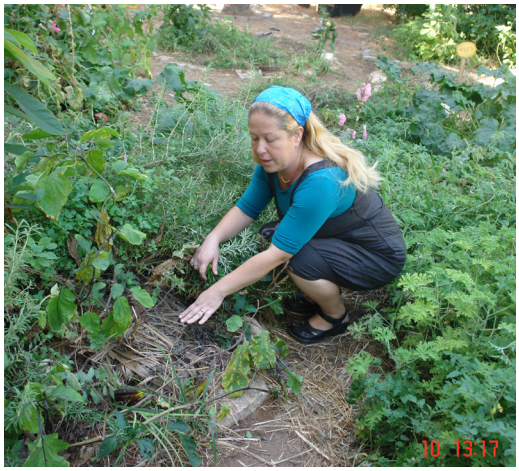

Image 5 - Connection to nature. Haifa, Israel. Photo: Avigail Heller

Message to Policy Makers

- UAGs are spaces which provide significant benefits: provisioning, regulating (including habitats) and cultural services.
- The benefits improve the resilience of cities in relation to socio-economic and ecological challenges.
- UAGs can provide local healthy food and contribute to decreased energy used on food transportation. They offer spaces for leisure, create parts of ecological corridors, reduce urban heat stress [7], and improve soil and water protection by increasing infiltration and reducing runoff (particularly important in situations of shallow and fragile soils), as well as maintaining soil fertility and water quality.
- Considering the unique characteristics of UAGs and how they combine many practices and services, key-policy makers (e.g. municipalities, local public authorities) should include this type of "green infrastructure" in urban and peri-urban planning as a specific socio-ecological system.
- Following the increase of city density and size the establishment of new UAGs must be encouraged in areas where the aforementioned services may also improve citizens' quality of life.

Policy Brief

- Provide an annual (or long-term) budget for planning UAG activities.
- Establish a working group comprising different departments in the municipality (e.g. urban planning, parks and recreation, culture, community and education) and dedicate at least one person responsible for UAG issues.
- Define target groups: socio-economic status, families with children, retirees, immigrants, etc. and assess their environmental awareness and commitment.
- Map open or neglected areas in respect of municipality ownership, marginal areas (e.g. roadsides), areas in existing parks that can be converted, areas in schools and kindergartens and private areas managed by NGOs (non-governmental organizations).
- Implement specific regulations and contracts regarding stakeholders' responsibilities and compromises on ecological behaviour.
- Establish municipality-funded guidelines (community and gardener oriented) with key indicators, standards and thresholds to promote best practice.
- Integrate forms of governance, involving policy sectors and citizen platforms, facilitating the access to multidisciplinary information and promoting training.

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[5] **Levi E., Zeikel A., Galon I. & Lev N.** 2013. The secret of the community gardens. Published by Ministry of Agriculture and Rural Development, Israel (In cooperation with Ministry of Health, Ministry of Social Affairs and Social Services, Ministry of Construction and Housing, Ministry of Environmental Protection, JDC Israel, The Society for the Protection of Nature in Israel & Community Gardens, Israel) (in Hebrew).

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