# Urban Gardens

FC Zenica

**Project indicative:** Z3.2

**Project type:** complex project + policy proposal

**Project starting point:** 0-5 y

**Project ending point:** 10-15 y

**Linkages:** Z3.1

**Estimated costs:** can vary depending on infrastructure work in relation to public spaces (50-150K EUR)

**NBS 3**

## Description of the Study Area

The 33.10 ha area "Odmut, Jalija and Talića brdo" covered by the Regulatory Plan is close to the city centre. The population is 10,797, and the population density is 326 inhabitants/ha.

The basic purpose of the area covered by the regulatory plan is residential and business zone. The existing green area within the plan is 11.40 ha, or 1.05 m2/inh. The population density is a consequence of the high share of housing (mostly collective – multifamily buildings) at an average of 144 inhabitants /ha,

## Challenges

- Openness and awareness of local stakeholders
- Insufficient internal capacities for urban gardening,
- Space limitations

## Relevant Legislation

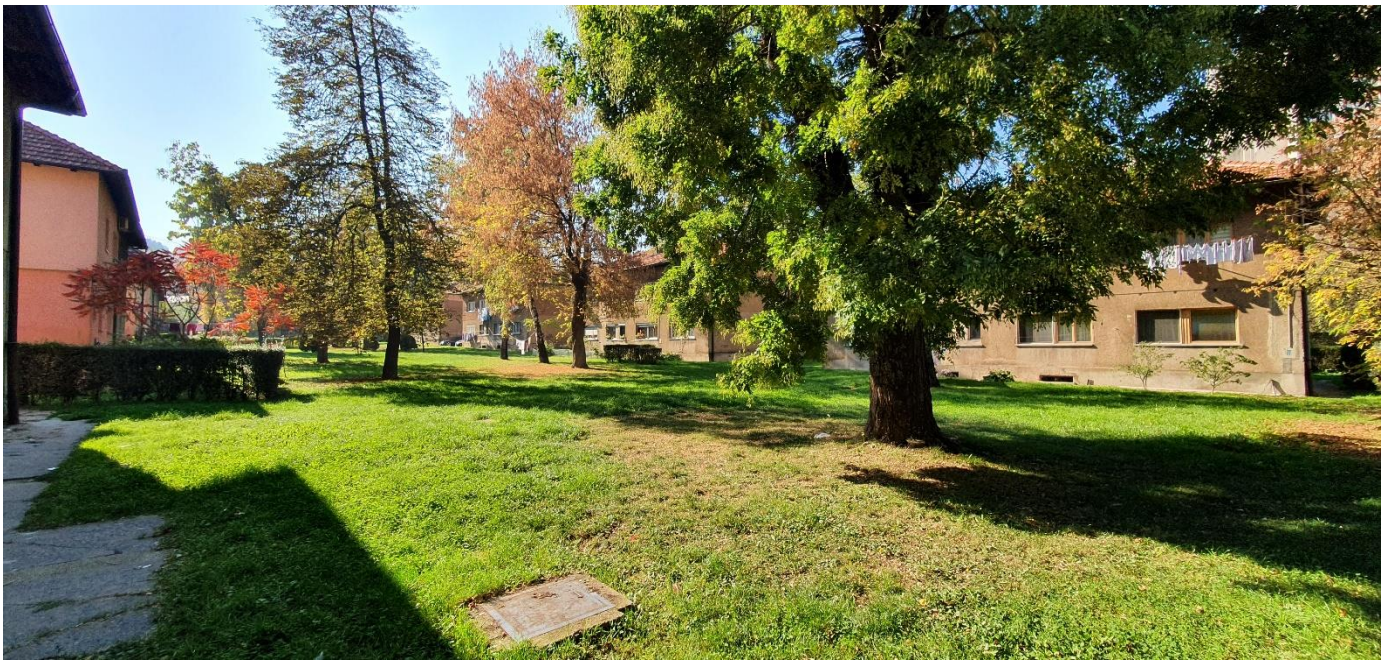
### Local planning framework:

- There is no special legal regulation regarding different types of gardens.
- Spatial planning documents define whether botanical/ therapeutic/urban gardens are built in a certain location.
- Spatial planning can foresee the arrangement of gardens/parks is treated by special design solutions, as is planned for the city park.

### International framework:

- UN's SDG Goal 12 *'responsible production and consumption'*
- The EU Strategy on green infrastructure also deals with newer trends, such as urban agriculture.

"*Through urban food production and through community gardens, which are a powerful tool for education and, in particular, for arousing the interest of young people, the issue of separating food production from its consumption is being addressed in the context of green infrastructure and contributes to the increase of its perceived value. Investments in green infrastructure have a great potential to enhance regional and urban development, including the preservation and creation of jobs*".



Source: Mirza Sikirić

Source: proGIreg Orto Wow Turin

## Vision

## Scenarios

### Do-it-all (best-case)

Urban green islands play a crucial role in mitigating the urban heat island (UHI) effects occurring in cities. Urban gardens policy framework must be developed including all important criteria and guidelines for sustainable urban gardens.

Awareness raising campaigns and educational programs will also be organised to ensure necessary knowledge and skills are acquired by citizens.

In parallel, a database will be set up at city level mapping other sites with similar potential. Certain companies and municipality departments will be appointed to deal with complementary services (waste disposal, workshop organisation, etc). The pilot gardens will be selected and developed along with Green Infrastructure corridors to further extend the green city network. A management committee will be engaged around each community garden. In the next phase, application processes for developing additional community gardens can be launched, based on the lessons learnt from the pilot experience.

Two locations within Area 3 will be implemented as pilot interventions to be replicated in other city areas. Zones with highest intensity of UHI effect will be determined, public consultations and co-design process for each location provided. Project documentation will be prepared, and finances secured.

### Do-something-meaningful

In this scenario, community gardens would fall under legal frameworks in place that enable establishing community gardens in schools, kindergartens, etc. Policies/regulation to establish basic rules on membership and adequate management and use of the garden would be needed. Next step includes mapping available public spaces for such NBS. Lastly, determining an adequate company or institution for maintaining such a garden is crucial. Strong awareness raising campaign accompanying the initiative may facilitate the process.

## NBS intervention specifics

### Typology of NBS3

Community-based urban farms and gardens (in connection to the residential areas surrounding the sites)

- Raised box gardens/ individual productive gardens/allotments/ collective gardens + leisure activities.

Complementary green corridors

- Support green corridors for community gardens - ecological green space with diversity of plants (optionally aromatic plants)

### Description of planned interventions

- Select specific intervention sites and complementary green corridors.
- Develop project documentation according to the legal framework (policy and regulations).
- Assess preliminary operations for site preparation.
- Engage local communities and determine who will manage the urban gardens and who is in contact with Municipalities.
- Organise series of events to communicate, fostering potential new urban gardens.
- Monitor the community gardens through period on-site visits and assessment.

## Operational Objectives

1. **Successful pilot intervention managed by local NGOs**
2. **New community gardens in residential areas**
3. **Implementation of training programme for citizens**
4. **Efficient and flexible local policy for urban gardening**
5. **Developing complementary ecological green corridors**

### Targets

Focusing on quantitative and qualitative indicators:

Qualitative analysis:

- Increase in physical activity (i.e.: average number of days/week when physical activity is reported - at least half an hour)
- Stress reduction
- Social cohesion (perceived safety of the neighbourhood)
- Health (physical health, psychological health, social health - as in socio-economic health and community health) - i.e: no. of fruit and vegetable servings a day, participation in local activities, neighbourhood meetings

Quantitative analysis:

Targets for implementation:

- No. of users of the pilot gardens (and types of users: elderly, adults, youth, etc.): 50
- No. of gardens realised: 3
- No. of complementary green corridors: 1

To be monitored:

- Environmental impact: Improved air quality, reduction of noise levels, local climate regulation

## Actions

1. Chemical quality of the soil – assessment (i.e. cadmium, lead)
2. Send questionnaires to local communities to assess needs (leisure, shades, equipment and tools, etc.)
3. Develop customised solutions for each site.
4. Implement co-designed solutions.
5. Formalise existing informal gardens.
6. Develop a management plan (including organisational aspects) with the local stakeholders (a plan for the incipient phase and the regular activities to be undertaken on site), regardless of whether the gardens are intended to be for-profit or non-profit Implementing the clean energy solutions (i.e. solar panels).
7. Engage residents to produce food locally and in a sustainable manner (in the operations and production).
8. Construction (greenhouse/raised gardens/vertical gardens/urban furniture, etc.).
9. Perform training sessions with residents (possible development of a training kit for efficiency).
10. Monitor the intervention.

## Development stages

**0-5 year** - Choose several locations for pilots and provide good policy/regulation on local level

The project for the construction of the green island of Londža has been implemented, and the final stage is the creation of project documentation for the Youth Center project. After obtaining the necessary permits, public procurement for contractors will be conducted.

**5-10 year** - increase the number of locations of urban gardens.

**10-15 year** - spreading the number as city itself expands

## Partners/Stakeholders

**Beneficiaries:** Eko forum NGO, Forum Građana Zenica NGO, Faculty of Mechanical Engineering, Alba Ltd (utility company), City of Zenica, Zenica-Doboj Canton – cantonal level, Federal Governance – entity level, Public company for spatial planning, Zeka Comerce ltd, Energopetrol ltd.

**Users:** inhabitants on both sides of the river. Employees of the firms nearby. Other citizens that are interested in leisure activities.

Cultivated community garden – after intervention. Source: Cáscais Ambiente

Source: https://grocycle.com/urban-farming/

# Design requirements

## Accessibility

- Connection to main routes around the site, considering most important facilities.
- Ensure parking spots.
- Physical availability (for all users, including those with disabilities),
- Security measures (adequate lighting and fences),
- Accessibility and availability (all community members, regardless of revenue levels)

## Landscaping

Implementing a sustainable landscape design involves using ecologic materials, incorporating pervious mineral surfaces, and establishing plantations to support biodiversity.

*Preliminary community survey:*

- *Appropriate plant selection (based on local climate, soil conditions and water availability).*
- *Adequate irrigation and drainage systems.*
- *Options for diverse habitats for local flora and fauna.*
- *Options for maintenance methods.*

The use of sustainable and environmentally friendly practices such as composting and mulching was not a primary choice; however, it is recommended to conduct an awareness-raising campaign to adapt it. Additionally, the necessary equipment should be made available on-site.

## Security

- Security issues for the crops, buildings, and tools.
- Appropriate illumination (to ensure safety of users and prevent crime), adequate fences or barriers (to prevent unauthorised approach), regular maintenance and monitoring.

## Aesthetics/Ambiance

- Using natural materials

Preliminary community survey:

- Choosing plants and other natural elements that are visually attractive and give a sense of peace.

## Urban furniture and equipment

Municipality should provide tools for the maintenance of the gardens by the communities.

- Water storage and retention
- Composting equipment
- Storage facility

Preliminary community survey:

- Benches or other sitting options, space to tool and equipment to disposal
- lighting for safety and night use
- Other options include fountains or other drinking water sources for users, children's playrooms, facilities for families with young children.

## Annexed functions and activities

- Physical activities
- Leisure activities

Key activities identified through preliminary community survey:

- Community engagement opportunities (workshops in the garden and events for the community)

Other activities identified:

- Outdoor recreation area and free activities (picnics or yoga hours).
- Opportunities for education and development of skills (gardening hours or diet workshops).

# POLICY DEVELOPMENT

## Policy context

### Explanation of policy logic/needs

- Planned interventions can function as pilots, leading to understanding key aspects to be considered within future regulative measures. In addition, interventions should build on the foundations for new policies related to community gardens.

### Formulation of challenges and drivers related to policy adaptation

- Policy needs to be developed and adopted.
- Main challenges include securing adequate experts within the municipality and to define sites suitable for urban gardening.
- Policy will have to define types of gardens, regulations, role of municipality and other stakeholders, entire application process, community garden management, production and monitoring and evaluation.

## Policy Objective & Policy Targets

### Policy extent

- Optimal use of urban resources ('natural capital') facilitating the overall advance of the city and its dwellers from a social, environmental, and economical point of view.
- Valorise existing underused/unused green spaces,
- Update operational practices.
- Engage & educate, capacity-building.

## Policy Proposal

### Value proposal

- Promotion of health and wellbeing at individual and collective level
- Responsible food consumption
- Provide and coordinate services and programs that contribute to the health and wellbeing of residents and communities.

### Impact evaluation

Periodic assessment of the designated urban gardens includes biannual/annual examinations of: the current state of the garden,

- no. of users, other needs, and comments from the users,
- evolution of 4.2 Targets as defined in the previous subchapter.

## Policy requirements/guidelines

Definitions

1. Procedures - staff selection, site selection, soil quality assessment developed before land is designated to urban gardening.
2. Types of community gardens

Raised beds gardens, rooftop gardens, vertical gardens, container gardens, allotment gardens, food forests, etc.

3. Design regulations (operations and amenities, public access, and use)

- Plot size
- Accessibility standards
- Soil and drainage, odours, access to water and water conservation (using rainwater), sun exposure (min. 6h/day)
- Parking
- Fencing and additional structures
- Permitted structures: sheds, shading structures
- Composting regulations

4. Role of the Municipality

Municipal roles and responsibilities: capacity building, assistance, application process coordination, maintaining communication with gardeners, developing participative processes, undertaking initial site preparation, providing waste management services, certain tools, and equipment etc.

- Developing a database of potential sites to be transformed into community gardens (public and private)

* If permitted to develop community gardens on private land, separate procedure should be developed

- Funding provision for non-profit community gardens, incipient initiatives, enhancing operations; informs on the possibility of accessing other sources of funding
- Networking events for impact evaluation

Periodic assessment of the designated urban gardens biannual/annual examination of the current state of the garden; no. of users, other needs and comments from users; evolution of targets as defined in the previous subchapter.

- Municipal/regional land provision

5. Application process - user agreement

- Permitted and prohibited actions and activities
- Safety measures

6. Community garden management (Governance)

- Partnerships are encouraged: community groups, gardening organisations, NGOs, businesses, other enterprises, health institutions, educational institutions
- A separate entity can be set up to distribute certain responsibilities (such as gardener registration, program supplies, etc.)

7. Utilities, maintenance

(Including prohibitions)

- Fertilisers, chemical pesticides, insecticides, herbicides, fungicides
- Noxious, intrusive plants, tall plants that could shade other plots
- Presence of animals: prohibited altogether/permits for certain species (such as bees or fish).

8. Production use

- Selling (not for personal gain, but for garden-related projects), donating, cooperation with Food Banks/local markets

9. Monitoring and Evaluation

- Community garden policy should be reviewed periodically (1-2 years),
- Periodic meetings with the working groups and review of applications