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Research paper

SOCIAL BENEFITS OF URBAN AGRICULTURE IN PUBLIC OPEN SPACES: EXPERIENCES FROM GERMANY

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Abstract

Contemporary cities face numerous challenges related to the degradation of public open spaces, the decline in the quality of urban life, and the weakening of social ties among residents. In this context, urban agriculture is increasingly recognized as an instrument of urban regeneration, as it enables the spatial, ecological, and social renewal of neglected and underutilized public open spaces. In addition to its ecological and spatial-functional benefits, urban agriculture contributes to strengthening social cohesion, social inclusion, citizen participation, and the sense of belonging to the local community. The aim of this paper is to highlight the social potential of urban agriculture in the regeneration of these spaces, particularly through the development of shared activities, cooperation, and social interaction among users. Special attention is given to two examples of good practice from Germany — Internationale Gärten Göttingen and Prinzessinnengarten — which were selected as relevant examples of the transformation of degraded spaces into community urban gardens. In this way, the paper emphasizes the importance of urban agriculture as both a spatial-functional and a social instrument for the regeneration of public open spaces.

Key words: *urban agriculture, social regeneration, public urban spaces, Internationale Gärten Göttingen, Prinzessinnengarten*

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1. INTRODUCTION

Contemporary concepts of urban development increasingly emphasize the importance of preserving, improving and activating public open spaces, especially in conditions of intensive urbanization, spatial degradation, reduced availability of green areas and more pronounced social fragmentation of the population. Public open spaces play an important role in everyday life of the city because they enable outdoor living, meetings, communication, recreation and various forms of collective activities. However, in many urban environments these spaces remain underutilized, neglected, monofunctional or poorly connected to the needs of the local community.

Urban agriculture is increasingly seen in contemporary urban and planning discourses as an instrument of sustainable urban development and regeneration of public open spaces [1,2] because in addition to food production, it contributes to the ecological improvement of the urban environment, more rational use of land, the development of environmental awareness and the improvement of the quality of life of residents [3] Of particular importance within urban agriculture are communal urban gardens, based on the collective engagement of users in the process of arranging, using and maintaining space. Collective gardening is a form of joint action of residents, within which they voluntarily participate in the shaping of public open spaces, food production and the organization of joint activities [4,5]. In this way, communal urban gardens become more than a space for food production - they function as spaces for meeting, cooperation, learning, exchange and social integration.

The subject of this paper is the analysis of urban agriculture as an instrument of social regeneration of public open spaces. The paper specifically discusses the social benefits that arise through the application of urban agriculture, especially through shared urban gardens as spaces of collective gardening. The focus is not only on the physical transformation of space, but primarily on its social activation, i.e. on the possibilities for urban agriculture to contribute to strengthening social cohesion, citizen participation, inclusion of marginalized groups, intergenerational and intercultural exchange, education and development of a sense of community belonging. The aim of the paper is to highlight the potential of urban agriculture in the process of regeneration of public open spaces, with special emphasis on its social benefits and experiences from Germany.

2. METHODOLOGY

The research is based on a qualitative approach that includes an analysis of relevant scientific and professional literature, case study analysis and comparative analysis of selected examples of urban agriculture in Germany. The Internationale Gärten Göttingen and the Prinzessinnengarten in Berlin were selected as case studies because they represent internationally recognized examples of urban agriculture with significant social impacts while reflecting different organizational and spatial models. The analysis was conducted according to the following criteria: 1) the context of the project; 2) the

spatial framework and the way the space is used; 3) the users and the organizational model; 4) social effects; 5) the contribution to the regeneration of public open spaces. These criteria were selected to enable a systematic comparison of the case studies and to evaluate their contribution to the social regeneration of public open spaces.

The literature review included journal articles, conference papers, books and official project documentation related to urban agriculture, community gardens, public open spaces and social sustainability. The selected case studies were analyzed according to five predefined evaluation criteria in order to identify their similarities and differences. The findings obtained through the comparative analysis served as the basis for identifying the social benefits of urban agriculture and evaluating its role in the regeneration of public open spaces.

3. URBAN AGRICULTURE AND SOCIAL BENEFITS IN PUBLIC OPEN SPACES

Urban agriculture encompasses various activities of food and plant resource production in urban areas, with this paper focusing on communal urban gardens as participatory forms of public open space use [1]. Its application contributes to the activation of neglected and underutilized areas, their functional and ecological transformation, and the strengthening of social functions of space [2].

In addition to ecological and spatial-functional aspects, urban agriculture has the potential to transform public open spaces into places of meeting, cooperation, shared learning and local networking [1]. In this regard, it encourages social cohesion, citizen participation, social inclusion, intergenerational and intercultural exchange, education and the development of a sense of community. Through the shared use and maintenance of space, users become active participants in its shaping, thus urban agriculture contributes to the social regeneration of public open spaces and the improvement of the quality of urban life.

3.1. Social cohesion and participation

One of the most important social benefits of urban agriculture is the strengthening of social cohesion through joint activities such as planting, maintaining plants, landscaping, organizing workshops and exchanging products [6]. These activities develop trust, solidarity, mutual assistance and a sense of shared responsibility. Unlike public open spaces that are used mostly passively, shared urban gardens encourage everyday interaction between users and contribute to the development of neighborly relations [7]. At the same time, urban agriculture encourages the active involvement of citizens in the process of shaping, using and maintaining public open spaces. Through joint planning, organizing activities and daily care of the space, users take a more active role in the direct management of the urban environment. This transforms public open space from a space of passive use into a space of active civic engagement.

3.2. Inclusion, intercultural exchange and education

Urban agriculture can play a significant role in the inclusion of social groups that are often underrepresented in the public life of the city, such as the elderly, the unemployed, people with disabilities, migrants, children, young people and residents of lower socioeconomic status (Figure 1) [8]. Communal urban gardens provide an informal, open and accessible framework for their inclusion in local community activities, with social inclusion arising from joint work, direct cooperation and everyday interaction [9].



Figure 1: Social inclusion of marginalized groups through activities in community urban gardens
https://www.pexels.com/photo/group-of-smiling-people-sitting-together-5029775/
https://www.pexels.com/photo/woman-in-wheelchair-watering-garden-outdoors-33768885/
https://elmmagazine.eu/community-gardens-as-a-playground-for-social-inclusion/?utm

At the same time, communal urban gardens encourage integration and intercultural exchange. Older users pass on experiential knowledge about growing plants, while younger users contribute new ideas and modern ecological approaches [2] (Figure 2).



Figure 2: Intergenerational cooperation and knowledge exchange in community urban gardens
https://www.lewisginter.org/event/rhythm-blooms/twitter-ginter-urban-gardeners-2_edited-1/
https://www.pexels.com/photo/man-and-woman-standing-at-their-vegetable-garden-7658777/

Urban agriculture has a strong educational function because it enables direct learning through practical work and workshops. Users gain knowledge about food production, seasonal processes, healthy eating, composting, soil conservation, rational water use, biodiversity and the importance of green spaces in urban environments [9]. This is particularly evident in work with children and young people, through school gardens (Figure 3).



Figure 3: Educational role of urban agriculture through school gardens
https://inhabitat.com/more-than-50-of-new-york-citys-public-schools-now-have-gardens/
https://www.actionforhealthykids.org/school-gardens-here-we-grow/
https://agrilifetoday.tamu.edu/2021/06/10/youth-gardening-programs-grow-great-kids/

3.3. Sence of belonging and social regeneration

Urban agriculture contributes to improving the quality of life of users through outdoor activities, contact with nature and joint activities that positively affect physical and mental health [10]. At the same time, participation in the design, use and maintenance of shared urban gardens encourages the development of a sense of belonging to the space and the local community, as well as the creation of a local identity through joint events and activities. By linking spatial planning, ecological improvement and active citizen participation, urban agriculture represents a significant mechanism for the social regeneration of public open spaces. Its value is reflected not only in the physical transformation of space, but also in strengthening connections, social cohesion and shared responsibility for space while creating local identity.

The following paper analyzes selected examples of good practice from Germany, which serve as illustrations of the various ways in which urban agriculture can contribute to the regeneration of public open spaces, primarily through strengthening social cohesion, inclusion, participation, and a sense of belonging to the local community.

4. CASE STUDIES

The examples of *the Internationale Gärten Göttingen* and *the Prinzessinnengarten in Berlin* were selected for case studies as internationally recognized projects that demonstrate the potential of urban agriculture with a focus on the social aspect through different organizational and spatial models.

4.1. Internationale Gärten Göttingen

The International Gardens of Göttingen (Figure 4) represent one of the first and most significant examples of intercultural urban gardens in Germany.



Figure 4: Internationale Gärten Göttingen: Community gardens promoting social inclusion and intercultural exchange http://internationale-gaerten.de/

- **The context of the project**

The project was launched at the end of the 20th century, in 1996, on the initiative of migrant and refugee families who, faced with social isolation and difficult integration into the local community, recognized the urban garden as a space for meeting, cooperation and mutual support [11]. *The Internationale Gärten* e.V. association was officially founded in 1998 with the aim of encouraging social integration, connecting and including migrants and refugees with the local population.

- **The spatial framework and the way the space is used**

Today, activities are carried out within three urban gardens in the territory of Göttingen, covering a total area of about 1.1 ha, which bring together a large number of users from different social and cultural backgrounds [11]. The space is organized through shared garden plots, gathering spaces, educational activities and joint events. In addition to the production of fruit, vegetables and herbs, the shared urban gardens serve as places for everyday socializing, organizing cultural events and exchanging experiences among users.

- **The users and the organizational model**

The beneficiaries come from different countries and cultural backgrounds, including migrants, refugees and local residents. The management of the space is based on a participatory model, with the beneficiaries actively participating in decision-making, organizing activities and maintaining the space. Such an approach encourages the development of shared responsibility and long-term sustainability of the project.

- **Social effects**

The special value of this project is reflected in the fact that urban gardens are not viewed exclusively as production spaces, but as places of social interaction, knowledge exchange and community building (Figure 4). The contribution of this project is also reflected in the strengthening of social inclusion and intercultural exchange. Working together in the gardens enables the establishment of contacts between people of different backgrounds, reduces social isolation and contributes to the building of mutual trust. The project also has a pronounced educational role through workshops, activities for children and the promotion of sustainable practices.

- **The contribution to the regeneration of public open spaces**

The Internationale Gärten Göttingen are an example of how underused public open spaces can be transformed into active places for social interaction and collective action. Their significance goes beyond the physical design of the space, as they contribute to creating a more inclusive urban environment, strengthening local communities and improving social sustainability. In this way, the project is an example of urban regeneration through a participatory approach, in which the users themselves actively participate in shaping and maintaining the spaces they use. This model contributes to creating a more inclusive, resilient and sustainable urban environment.

4.2. Prinzessinnengarten

Prinzessinnengarten in Berlin (Figure 5) also represents one of the most significant examples of the application of urban agriculture in the function of sustainable urban development and social regeneration.

- **The context of the project**

The project was launched in 2009 in the Kreuzberg district of Berlin, on the neglected city plot of *Moritzplatz*, as a civic initiative aimed at revitalizing a neglected urban space [12]. The basic idea was to create an open space for food production, education, social activities and strengthening the local community through communal gardening.



Figure 5: Prinzessinnengarten> Mobile urban agriculture and participatory regeneration of public open space https://somethingcurious.wordpress.com/2011/06/08/prinzessinnengarten/ https://www.berlin.de/en/urban-gardening/community-gardens/9227217-9521509-prinzessinnengarten.en.html

- **The spatial framework and the way the space is used**

The specificity of the project is reflected in the application of a mobile model of urban agriculture based on growing plants in mobile containers, crates, planters and recycled pots. Such an approach allows for flexible land use and adaptation to changes in the urban context. The space is organized as a multifunctional entity that, in addition to areas for growing vegetables, fruits and herbs, includes spaces for workshops, educational programs, public events and various forms of social interaction. In this way, the Prinzessinnengarten functions as a multifunctional public space that combines ecological, social and educational content.

- **The users and the organizational model**

The project beneficiaries include residents of different age, social and cultural groups, as well as representatives of educational institutions, civil society and local initiatives [12]. The organization and management of the space are based on a participatory model, which involves the active involvement of users in planning activities, maintaining the space and making decisions. Such a model contributes to the development of cooperation, strengthening social responsibility, knowledge exchange and collective management of common resources.

- **Social effects**

The project analysis indicates a significant contribution to strengthening social cohesion and citizen participation in the use and shaping of public space. Through joint activities, workshops and public events, contacts are established between users of different backgrounds, generations and interests, which encourages social interaction, exchange of experiences and the development of local support networks. The project also achieves a significant educational function by promoting sustainable food production, environmental protection, biodiversity and responsible resource management. In this regard, urban agriculture becomes a means of informal education and encourages the development of environmental awareness.

- **The contribution to the regeneration of public open spaces**

Prinzessinnengarten in Berlin is a significant example of the regeneration of public open space through the temporary and flexible use of urban land. The transformation of a neglected urban plot has created an active public space that encourages social interaction, citizen participation and local community development [12]. Of particular importance is the demonstration of the possibility of the process of regeneration of

public open spaces through the active involvement of the community, i.e. users, in the creation, use and maintenance of the space. In this regard, the project can be seen as a relevant model for contemporary urban planning practice aimed at sustainability, inclusiveness and social resilience of urban environments.

4. DISCUSSION

The results of the case study analysis confirm the theoretical assumptions about the significant contribution of urban agriculture to the process of social regeneration of public open spaces. They are not only reflected in the physical improvement of the space but also in the strengthening of social ties and the activation of local communities. Although the Internationale Gärten Göttingen and the Prinzessinnengarten in Berlin were created in different urban and social contexts, both examples point to the importance of a participatory approach in the process of using and managing space. Their common feature is the active involvement of users in the design, maintenance and use of the space, which encourages social cohesion, the development of a sense of belonging and the creation of local cooperation networks. In both case studies, urban agriculture goes beyond its primary production function and becomes a means of social interaction, informal education and the development of sustainable patterns of behavior.

In the analyzed examples from Germany, certain differences were also observed (Table 1). *Internationale Gärten Göttingen* is primarily focused on the social inclusion of migrants and refugees, with the common urban garden functioning as a space for intercultural exchange and integration of different social groups. On the other hand, *Prinzessinnengarten* emphasizes the participatory regeneration of neglected urban space through a flexible land use model, with a strong educational and ecological component. While the first case study is dominated by the social-integrative aspect, the second emphasizes the potential of urban agriculture as an instrument for activating unused public open spaces and developing civic initiatives.

Table 1. Comparative analysis of case studies according to research methodology criteria

Criterion	*Internationale Gärten Göttingen*	*Prinzessinnengarten, Berlin*
Project context	Initiated by migrants/refugees (1996) for social inclusion	Civic initiative (2009) to regenerate abandoned urban land
Spatial framework and use of space	3 communal gardens, organized through shared plots and social/educational spaces	Flexible, mobile urban agriculture using containers and movable planting systems
Users and organizational model	Migrants, refugees and local residents; participatory NGO-based management (Internationale Gärten e.V.)	Local residents, civil society, institutions; participatory community-based management
Social effects	Strong intercultural exchange, social inclusion, reduces isolation, community building	Increased civic participation, intergenerational exchange, social interaction and network building
Contribution to the regeneracion of open spaces	Transformation of underused areas into inclusive social and intercultural spaces	Activation of abandoned urban land into multifunctional, adaptive public space

The analysis shows that the success of such projects does not depend solely on the spatial characteristics of the location, but primarily on the degree of user involvement, the organizational management model and the continuous development of joint activities. In this sense, the analyzed examples confirm that urban agriculture can contribute to the creation of more inclusive, sustainable and socially active public open spaces.

The comparative analysis also indicates that the successful implementation of urban agriculture projects depends on several contextual factors. Long-term institutional support, the availability of suitable public land, active community participation and effective organizational management appear to be essential for maintaining the social functions of shared urban gardens over time. In addition, differences in legal frameworks, governance structures and local social conditions may influence the transferability of these models to other urban environments. Therefore, although the German examples demonstrate significant social benefits, their application should be adapted to the specific characteristics and needs of each local context. These findings suggest that urban agriculture should be considered as an integral component of urban regeneration strategies, particularly in cities seeking to strengthen social cohesion, community participation and the multifunctional use of public open spaces. Overall, the analysis confirms that urban agriculture represents a valuable planning instrument that can contribute to more inclusive, participatory and socially resilient public open spaces.

5. CONCLUSION

The paper, after reviewing the research results, confirms that urban agriculture is an important instrument for the regeneration of public open spaces, the effects of which go beyond food production and include numerous social, educational and environmental benefits. The analysis of relevant literature and selected case studies from Germany has shown that urban agriculture can play a significant role in the regeneration of public open spaces by strengthening social cohesion, citizen participation and the development of local communities. Although they originated in different social and spatial circumstances, both projects confirm that the active involvement of users is a key factor in the successful transformation and long-term sustainability of the space.

The results of the comparative analysis indicate that urban agriculture has significant potential for application in contemporary urban and planning practice, especially in the context of sustainable urban development and regeneration of public open spaces. It can contribute to various aspects of social regeneration – from the integration of migrants and the promotion of intercultural dialogue, to the activation of neglected urban areas and the development of participatory models of spatial management. At the same time, the analyzed examples show that communal urban gardens go beyond their production function and become places of social interaction, education and joint action.

Although this study is based on a qualitative analysis of two selected case studies from Germany, the findings provide useful insights into the social potential of urban

agriculture in the regeneration of public open spaces. Future research could expand the comparative analysis by including additional case studies from different European countries and applying quantitative methods to further investigate the social impacts of urban agriculture in different urban context.

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