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# GREENING AS AN APPROACH FOR URBAN RENEWAL OF SHRINKING CITIES

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#### **ABSTRACT**

Nowadays, many European, American, and Australian cities are faced with the problem of shrinkage, manifested through demographic decline, economic loss and perforation of urban tissue. In the face of the shrinkage process, there are many challenges that cities and planning faced with. This paper presents "greening" as a new approach for urban renewal of shrinking cities. Through the review of the greening models implemented in developed countries, the paper examines "greening", understood as a tool for the improvement of the quality of built, natural, and living environment, i.e. an opportunity for qualitative changes within these retired cities regarding their chances of recovery and success. Lessons learned from these examples offer guidelines and recommendations for the reframing of urban planning in the context of Balkan shrinking cities.

Keywords: shrinking cities, greening, urban planning

## 1. INTRODUCTION

The interaction of negative social and economic factors at the global level, in the late twentieth and early twenty-first century, resulted in the polarisation of spatial development that produced the global cities which managed to integrate into the global network, but also led to an increase in disparities between cities and the emergence of global phenomenon of shrinking cities. Research shows that the phenomenon of urban shrinkage is increasingly widespread in Central and Eastern Europe, the United States, developed countries in Asia, North America and Australia (Rieniets, 2006). Data on the state of European cities show that many of them have entered the shrinkage process in the 1960s and that the phenomenon of stagnation in the period of the 1990s was more pronounced than the phenomenon of growth and development of cities (Turok & Mykhnenko, 2007). Conducted research on the territory of Serbia (Djukić, Antonić, & Vujičić, 2017) and Bosnia and Herzegovina (Vujičić & Đukić, 2015) show that this problem does not only affect Europe and the developed countries, but also that urban stagnation is a more dominant process than the process of urban growth and development in Balkan countries.

The consequences of urban shrinkage are manifold. Population decline and economic downturn led to the decreasing demand for housing, social infrastructure, and commercial facilities, thus creating a surplus in the built environment (Rößler, 2008) This surplus is manifested through the increasing number of vacant lots and abandoned buildings, derelict and unused spaces, i.e. different types of brownfields calling for the action. A drop in population density directly affects the built environment and led to the transformation of the urban fabric, called by Lütke-Daldrup (2001) *perforated city* (Lütke-Daldrup, 2001). This paper put the focus on these perforated urban areas, understood as a resource and field suitable for implementation of the greening concept. In that sense, the paper examines not only the spatial concept of the greening but also the accompanying background processes that enable the success of its realisation. Exploring the experiences of

developed countries in this field, the paper defines recommendations for implementation of the greening concept, applicable in the context of Balkan shrinking cities.

# 2. GREENING - APPROACH TO THE IMPROVEMENT OF QUALITY OF LIVING ENVIRONMENT IN SHRINKING CITIES

Under stagnation conditions, planning is compelled to change its approach. Growth is not in focus here than solving the accumulated problems in different spheres of local community life. In other words, planning is not development-oriented, but rather to problem-solving. The urban restructuring of shrinking cities should focus on improving the quality of life in these cities and supporting the sustainable development in affected areas through the implementation of the greening concept. However, such a strategic approach even in developed countries is also faced with a number of obstacles in various fields: planning, management, maintenance, finance, and legislation. The greening concept appears as a new approach, a response to the problems within the built environment, recognized through a large number of abandoned and dysfunctional spaces. However, the question is whether it is justified in conditions where local budgets are declining and the number of inhabitants and jobs is decreasing. In face of this conditions, we have to ask ourselves: why greening, how to implement it, and with what resources?

# 2.1. Greening

There are a wide variety of greening models that differ in terms of shape, size, function, relations between public and private, the extent of participation, type of users, etc. but all models share the same idea and goal of bridging the gap between people and nature in built environment. One of the most promoted model of greening all around the world is so-called community gardening. Gardens are accepted as a model that contribute to: the gathering of neighbours, integration of social disadvantaged group such as homeless and migrants, promotion of healthier eating, rise of ecological awareness. Some authors divide it in two main categories: individual-plot, i.e. allotment gardens and colective gardens (Alberta Health Services, 2016). The most common type is so-called "neighbourhood garden" in which free plots are rented to members at annual basis to plant vegetables for their own use. There are also other types such as residential, institutional and demonstration (Marin Master Gardens, 2018). Residential gardens are typically shared among residents in apartment communities. It is organized and maintained by residents living on these premises. Institutional gardens are defined as a model embedded to public or private organizations that offer numerous beneficial services for residents such as, for instance, different types of rehabilitation or skills development. Demonstration gardens are used as polygons for education and recreation. This concept of gardening offers seminars, presentations, and training, as well as provides help necessary for operating and management of communy gardens (Marin Master Gardens, 2018).

#### 2.2. Challenges of greening in shrinking cities

In order to understand the complex structure of influencing factors contributing to or preventing the implementation of the greening concept in declining cities, a review of key aspects: space, governance, finance, and legislation is provided below.

The urban environment radically changes its functional and spatial, physical patterns in shrinking cities. This research distinguishes two key patterns of urban form, which are reflected through the process of urban transformation of shrinking cities. First, compact city characterized by densely populated and built urban areas, mixed land use and clear boundaries between built areas and non-urban green belts (Jenks, Burton, & Williams, 2005; Jenks & Burgess, 2004). The second is perforated city characterized by random, dispersed gaps that have emerged as a result of the demolition of abandoned buildings (Lütke-Daldrup, 2001). The process of urban transformation from compact to perforated city and accompanying the demographic and financial flows, as well as the challenges facing these cities, are symbolically represented in figure 1. In the spatial level, intensive urbanization has produced more or less compact cities where the growth of requirements for construction threats the green spaces of the city. The population loss and the economic downturn led to the degradation of the urban fabric, the decline of facilities and land. In response to this problem, many European cities have developed the programs of demolishing of ruined buildings. However, the negative perception associated with these areas and generally shrinking cities has not been missing. Therefore, the emptiness created at places of demolished buildings are recognized as a resource suitable for the development of green spaces, and greening is accepted as a strategy for strengthening the positive image of these cities and areas.

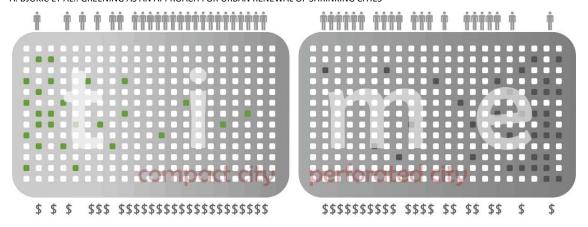


Figure 2: From compact to perforated city (Ilustration: Tijana Vujičić)

One of the key parameters for investing in space, in the political and administrative domain, is the level of utilization of a given space. Negative demographic changes bring different intensity and way of using green spaces. Unlike the densely populated areas where the value of the green spaces are under the threat of overcrowding, conflicting interests, and vandalism, in the less populated cities, the decline in the quality of the use of green spaces is characterized by insufficient use and lack of social interaction. The insufficient level of use of green spaces, both existing and potential, directly affects the level of financial investments in the establishment and maintenance of these areas. Therefore, one may conclude that the decline of the population directly affects the financial arrangements of local authorities focused on the realization of the concept of greening. In the conditions of reduced budgets and reduced demands, the extinction and decay of existing green spaces are certain, while the greening of new empty spaces is questionable.

Accepting stagnation as the reality of a large number of cities, many of developed countries have changed and adapted the legislative framework in order to help the recovery of affected areas and to make improvement of the planning system. However, there are a large number of legal restrictions in these countries regarding the conversion of construction land into green spaces. One of the key obstacles that Rößler points to is the remaining building rights on formerly built properties and the high value of land. The involvement and mediation of representatives of national, regional and local authorities in these processes are necessary (Rößler, 2008).

Understood as an opportunity to improve the quality of life and the urban environment in cities affected by urban shrinkage, greening as an idea and concept become a part of different strategies. Meanwhile, the new patterns and types of green spaces began to spontaneously develop in practice. Strategically observed, there are two different approaches: temporary and permanent greening (Rößler, 2008). Which concept will be developed, greatly depends on various economic and legal limitations. Decision making about the demolition of abandoned buildings and the realization of new green areas on this land are conditioned by these factors. Therefore, implementation one of the greening concepts, temporary or permanent, depends on the interests, opportunities, and needs of community. According to Rößler, experience shows that temporary greening has developed spontaneously and it has been conditioned by the lack of interest for the building. Although this led to the regeneration of affected areas, new investments, and activation of the surrounding built space, in the long run, their sustainability and survival were not guaranteed. Unlike temporary greening, permanent greening required systemic approach, planning, and management of this area. Involvement of local authorities and planners was indispensable. Local authorities assisted in regulating property rights and provided financial support, while planners developed greening strategies understood as a means to improve the quality of living environment (Rößler, 2008).

## 2.3. Type of green space applicable in shrinking areas

Different types of green spaces have been developed during the process of urban restructuring of shrinking cities. Depending on the size of the affected territory and the available financial resources, different models of greening have been implemented. Differences between types can be traced through 1) spatial patterns of organization and applied plant species, 2) the size of the territory, 3) funds necessary for the realization, 4) citizen involvement, and 5) maintenance models.



Figure 3: Typology of green space (Ilustration: Tijana Vujičić according to Rößler, 2008)

Rößler distinguishes four basic types of greening: urban forestry, urban agriculture, urban gardens and urban wilderness (Figure 3) (Rößler, 2008). Urban forestry is one of the cheapest greening models with very low maintenance costs. It also represents a method for the preservation of urban form. Empty holes at the site of the former residential buildings are filled with trees, so-called "green walls" (Rößler, 2008, p. 150). These natural structures contribute to the visual and aesthetic integration of fragmented space, and the morphology of the urban blocks. Urban agriculture appears as an alternative to building and response to the problem of the financial profitability of new land use. It has mostly developed in response to climate change, and through energy crops as renewable sources. According to Robler, acceptance of the concept of urban agriculture by the inhabitants has not been sufficiently researched, and emerging spatial patterns of urban agriculture within the urban blocks are similar to the rural ones. Contrary to the previous two types of greening, which are largely within the jurisdiction of the municipalities, urban gardens have developed as a new type of greening driven by community and individuals. The need for part of a private green space close to high rise buildings is one of the main factors that led to the development of this model. There are many examples of gardens in Europe and North America, not only in declining cities, as well as official programs that have supported this model of greening. The measure of allotment of free space for the gardens has produced many benefits recognized by the community: 1) strengthening social cohesion and interaction between different social groups and generations, 2) healthy food production, 3) activation of empty spaces - greater use of abandoned areas, and 4) reduction of maintenance costs. Model of urban wilderness has not experienced great application. However, it has been discussed between experts as a model applicable in situations of large free space, lack of users and shortage of money. Warning of the negative effects of this approach, such as a negative perception of decay, the question of urban form, uselessness, and bad accessibility to these spaces, Rößler emphasizes: "missing idea or money should not be sold as ecological value" (Rößler, 2008, str. 151).

#### 3. GREENING OF SHRINKING CITIES IN THE BALKAN COUNTRIES

In the Balkan countries, awareness of shrinking cities is growing. However, the raising of public awareness is exclusively associated with demographic and economic factors, while negative spatial changes resulting from these flows are little or no analyzed. The sudden, extensive migrations of people to developed western

countries during the past few years put the problem of depopulation as a key symptom of shrinkage in focus of the public arena. Such sudden and radical negative demographic changes help to raise awareness, but it is forgotten that many other, slow and longlasting processes have caused this trend. A chain of negative changes, from economic decline, falling of living standards, through the decline in natural population increase, to an aging population, is also very important causes of stagnation of cities. Most affected cities are the smaller peripheral ones. A very small number of experts and researchers deal with the spatial consequences of these processes. In the absence of vision and money, this topic is more likely to be avoided, while the themes of growth and prosperity continue to be unjustifiably emphasized.



Figure 4: (a) Industrial brownfield, and (b) Residential brownfield (Photo: Tijana Vujičić)

In such conditions, the development of the greening concept seems like an unattainable dream. Namely, Balkan countries are far from approaches and measures implemented by developed West countries. First, there is no information on abandoned estates and land, and there is no clear picture about the extent of the affected areas (Figure 4.) (Đukić, Simonović, & Vujičić, 2014). Second, in situations of reducing municipal budgets, the topic of urban renewal of shrinking areas does not come to the agenda. Beside all other difficult issues and problems facing these cities, greening seems to be a luxury. The assumption is that the advocacy of this idea would open up a number of questions by local authorities such as cost-effectiveness, maintenance, property relations etc. In the political arena, green spaces are not as much important as construction, jobs, incomes, infrastructure, and services. Additionally, demolition inevitably has a negative connotation unacceptable for politicians. Third, the demolition of existing abandoned facilities occurs only if there is interest in new construction. If there is no interest, the status quo is retained, because demolition requires certain finances and (non-existent) means. Thus, affected areas decay more and more and degrade the image of cities. Demolition for the sake of greening is almost utopian. It has not been recognized as a chance for cities' recovering and opportunities for improving the quality of life (environment). Fourth, same as in the Western countries one of the important obstacles in the regeneration of these areas in the Balkan countries are property rights and acquired building rights. In addition, the specificity of the Balkan mentality is a strong emotional attachment to property. Therefore, very often owners refuse any intervention on their property, even if ruin objects threaten the security of citizens. Fifth, there are no any programs dealing with the problems of declining cities, as well as the visions of their regeneration, neither at the local or state level. The concept of greening in shrinking urban zones has not been recognized. If there are certain activities on the creation of green spaces within affected areas, it is mainly isolated examples initiated by individuals or certain social groups (Figure 4).



Figure 5: Visitor Center Pecka, Bosnia and Herzegovina – example of the regeneration of old abandoned school (Photo: Boro Marić)

#### 4. CONCLUSION

Experiences of developed western countries show that the concept of greening is one of the major approaches to urban renewal of declining cities. Understood as a chance to improve the quality of life, this concept has been widely used. Return to nature, the experience of rural life in urban areas, the production of healthy food, the strengthening of social cohesion and interaction, ecological recovery of affected areas, are key factors for the implementation of this concept in shrinking cities. Developed countries have implemented the concept of greening through different, more or less organized and managed models: from urban forestry, over urban agriculture and gardening to urban wilderness. Benefits that are realized are multiple, and differ from type to type. However, experiences gained through the background processes that follow and enable the implementation of the greening concept are more important lessons for the Balkan societies. How to realize the concept of greening is a more important question than, which model of greening should we apply.

In the complex structure of the various negative factors that characterize the image of shrinking cities in the Balkans (demographic, economic, legal, social, institutional, ecological and spatial), it is necessary to research, think, apply and adjust foreign practices to the local context. First, it is necessary to identify the extent and scale of stagnation in declining cities. Second, the creation of the integrated strategies for urban renewal is one of the best and recommended approaches. It would enable a comprehensive view of different aspects. Greening is seen here as a chance to recover the cities from crisis and opportunities for improvement of the living environment. The assumption is that such changes within urban zones will stimulate their recovery and attract the residents from the region and other towns to those areas. Third, in the shortage of financial resources and in times of crisis, every single initiative is welcomed and should be supported by the municipalities. The emerging practices are experimental in their nature and they offer the most opportunities for learning and improvement of approaches and processes. Fourth, the experiences of developed countries show that the demolition of abandoned facilities is inevitable. The urban form in shrinking cities is significantly degraded, and the value of land decreases day by day. Therefore, local, as well as, national authorities should work on promoting and accepting such ideas before it comes to the agenda. The assumption is that this idea will not be accepted and that examples of good practice in the local context will help to understand the importance of this approach. Fifth, if the idea of demolition would be accepted, it was necessary to adjust the legal framework, especially in the field of property rights and building rights. Involvement of both local and national authorities is needed in this part, and a collaborative approach is recommended. Sixth, only if the minimum conditions for the implementation the idea of greening (in different, previously mentioned, areas) was ensured, more intensive application of this concept could be expected. Nevertheless, it is certain that in the Balkans' countries, the single initiatives will emerge as a response to the recognized needs of the community, while systemic access will be delayed. Furthermore, this concept, recognized by specific strategic orientation to the urban renewal of the shrinking areas, will not be implemented by all cities. Therefore, we have to wait to see which strategic orientation will contribute to positive demographic, economic and spatial changes, i.e. mitigation of stagnation.

To sum up, the experiences of developed countries show that the greatest obstacles to the implementation of the greening concept are found in the legislative, financial and planning framework. In this context, it is necessary to develop strategies that will comprehensively analyze needs and opportunities; costs and benefits, as well as define short-term and long-term horizons and finally justify advocating of the greening idea.

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