

**REVITALIZATION OF URBAN COURTYARDS
IN WROCLAW (SOUTHWESTERN POLAND)**

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Abstract

Urbanization processes in Poland usually occur at the expense of green areas. Therefore it seems important to restore biologically active areas in urban courtyards, especially in old and neglected neighborhoods. The revitalization proposal in this paper aims to create a more resident-friendly space in Wrocław. The concept of green areas and small architecture is intended to meet the needs of peoples of different ages and different needs of leisure, taking into account exercise and more passive activities, such as reading outdoors, integration of people, and other pastimes, such as the barbecue.

**REWITALIZACJA MIEJSKICH WNĘTRZ PODWÓRZOWYCH NA PRZYKŁADZIE
WROCLAWIA (POLSKA POŁUDNIOWO-ZACHODNIA)**

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Słowa kluczowe: rewitalizacja, koncepcja zagospodarowania, teren zielony, kwartał zabudowy, zieleń miejska.

Abstrakt

Procesy miejskie w Polsce zwykle przebiegają kosztem terenów zieleni. Z tego powodu ważne jest odbudowywanie terenów biologicznie czynnych wewnątrz kwartałów zabudowy, zwłaszcza w starych, zaniedbanych dzielnicach miasta. Efektem zaproponowanej koncepcji rewitalizacji we Wrocławiu ma być przestrzeń przyjaźniejsza dla mieszkańców. Dlatego nowa koncepcja terenów zieleni i projektowana mała architektura powinny odpowiadać potrzebom mieszkańców w różnym wieku i o różnych potrzebach wypoczynku. W projekcie przewidziano zarówno miejsca na rozwój kultury fizycznej, jak i bierne spędzenie czasu na świeżym powietrzu z książką, miejsca na integrację mieszkańców wśród terenów zieleni i dla miłośników grillowania.

Introduction

In Polish cities, old neighborhoods with pre-1939 buildings are often in very bad condition. Urgent repairs are required to buildings as well as in their courtyards which constitute a common space for residents (BARTOSZEWICZ 2007, WOŁOSZYN 2010). Regardless of the size, courtyards should be a site for the integration of residents, leisure and contact with other people (CARLOS and BALSAS 2007, MEILING et al. 2007, OZUS et al. 2011). The best solution for deprived courtyards seems to be greenery which can create a comforting, aesthetic and biocoenotic space (DOLAN et al. 2011, LORAM et al. 2008); part of the natural system of the city.

After the Polish accession to the European Union in 2004, Polish cities experienced an intensified urbanization of previous agricultural and environmentally active areas on the outskirts of the cities (COX et al. 2008, GASCHET 2002, MODICA et al. 2002, SWIANIEWICZ and KLIMSKA 2005). In addition, new sealed areas emerged in the city centers (i.e., parking lots near new shopping malls, streets and individual parking spaces), as a result of the improved economic conditions and a rapid increase in the number of cars (RZESZOTARSKA-PALKA 2012); the surface area of naturally active land decreased (PRASAD and BADARINATH 2003–2004). Therefore there is a need to restore biologically active areas with a beneficial effect to the local microclimate, biodiversity and soil water holding capacity (CUI and DE FOY 2012, DAVIES et al. 2011, HALPER et al. 2012, LEMONSU et al. 2012, LINDBERG and GRIMMOND 2011). Many Polish cities have already started to revitalize deprived neighborhoods (ZIMNICKI 2005), but it is important to remember that changes in technical infrastructure need to be accompanied by the restoration of urban green structures (PRZEWOŹNIAK 2005). In this way, the rebuilt biologically active areas will become part of the local ecological system in the city.

The aim of this study was to identify ways of revitalizing courtyards through modernization, increased functionality and social participation. The detailed objectives were: cognitive objective, consisting in specifying the condi-

tion and functions of building quarters interiors, and practical objective, which was the recommendation regarding the development of the examined interiors.

Materials and Methods

This study included two courtyards and a square located in the central part of the city of Wrocław, in south-western Poland. The courtyards are bounded by four streets (Sienkiewicza, Piastowska, Reya, Walecznych); one section (area A) is split by Krzywa Street (Figure 1). The total surface area is approximately 6.2 hectares.

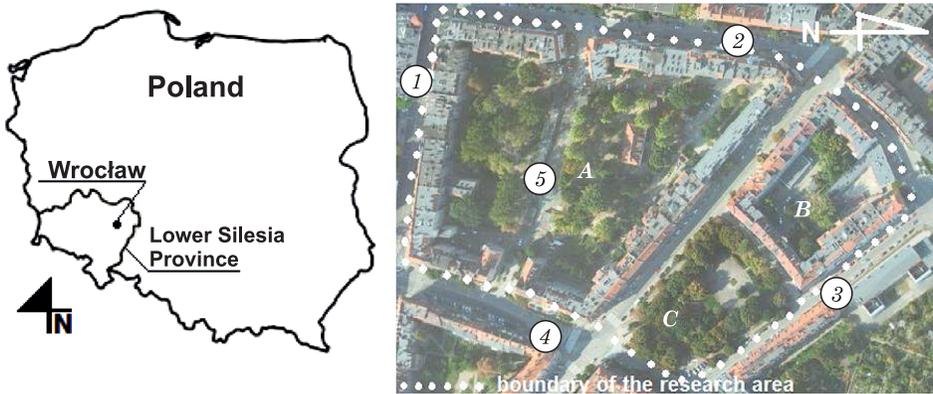


Fig. 1. The location of the research area: 1 – Sienkiewicza Street; 2 – Reya Street; 3 – Walecznych Street; 4 – Piastowska Street; 5 – Krzywa Street; A, B, C – sectors of the research area

The field works were carried out between April and October 2011. The quarters interiors, as well as their nearest surroundings, were observed and their condition was subjectively assessed. All elements of the quarters interiors were considered in the inventory: surfaces, greenery, small architecture objects, construction objects and the nearest surrounding. During the observation, the photographic documentation along with tabular statements were accomplished. In the following stage, the recommendation of the studied area development as the concept prepared both in the descriptive and graphic form, was elaborated.

Basing on results of the Wrocław Social Diagnosis (BŁASZCZYK et al. 2010, SUTRYK et al. 2010), the succeeding assumptions of the concept were adopted: multifunctionality, aesthetic value and participation of the citizens in forming the resident – friendly space for users of different age and needs. During

preparation of the concept, the requirements regarding the location of the construction objects (according to the Regulation of the Minister of Infrastructure dated 12 April 2002 – Concerning the technical conditions to be met by buildings and their location, OJ 2002, No. 75, item. 690), were taken into consideration.

The proposed species of trees and shrubs for planting were in accordance with recommendations for specific sites in cities with a temperate climate (BOJARCZUK and RACHWAŁ 2007, GREINERT 2007). The study were carried out initiative authors.

Results and Discussions

Functional and spatial structure of the research area and the features of buildings

The research area (areas A, B, C) is dominated by housing estates, but also includes premises for services (i.e. trade, hairdressers, shoemaker, pub), a kindergarten and a health center. These are located on the ground floors of buildings, while apartments are on the upper floors. There are no buildings with for only residential purposes. There is a square, a green area available to all. To the north of the study area are allotment gardens available only to their owners.

Current status of the area

Area A is approximately 4.3 hectares. It is split by a street lined with neglected garages and the premises of a kindergarten. The street and all traffic routes, including pavements, have a gravel surface. In this quarter there is low greenery (lawns), bushes (privet hedge and single, randomly distributed clumps of shrubs or bushes) and trees, mainly *Populus alba*, *Populus nigra* (which are also the tallest), some of which are overgrown by mistletoe (*Viscum album*). Moreover, there are growing *Acer platanoides*, *Picea abies*, *Abies alba*, *Aesculus hippocastanum*, *Salix x pendulina* ‘Wender’) and large *Quercus robur* (in the north-western part of the yard). Street furniture includes a few destroyed benches; there is a lack of street lights, litter bins or recreational equipment. Segregated waste containers are placed randomly, while mixed waste containers are standing against the walls of buildings and are exposed, which creates an unsightly view. In this particular courtyard (A), there are two separate and fenced areas – one is the kindergarten playground, the other is

a health clinic. The interior of the courtyard is filled with cars, including some parked on lawns, creating an area unfriendly to pedestrians (Figure 2).

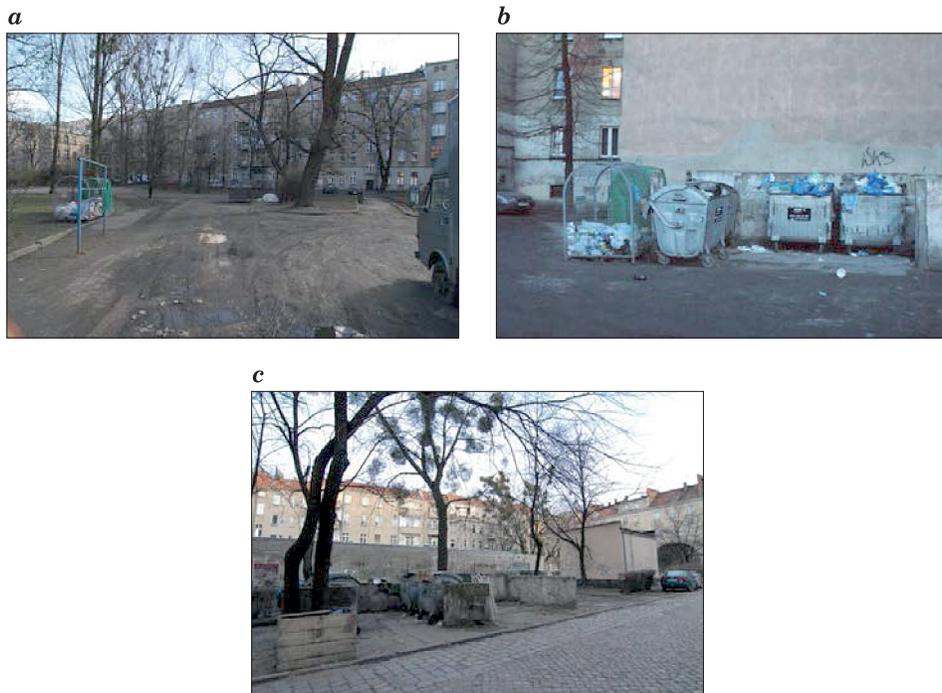


Fig. 2. Courtyards in March 2013: *a* – view from the Krzywa Street to Reya Street; *b* – messy waste management; *c* – one of the two sites for waste containers (phot. A. Zienkiewicz)

Courtyard B has an area of approximately 1.1 hectares. Nearly half of the area is occupied by one-storey buildings for services, workshops and warehouses, usually fenced off from the rest of the yard, so that the area available for residents to relax is very small. This courtyard includes deciduous trees (e.g. *Acer saccharinum*, *Acer platanoides*, *Populus nigra*), plants (mainly privet *Ligustrum vulgare* L. hedges and randomly-growing privet) and lawns with a mesh of footpaths. Recreational equipment includes a sandpit, two swings and benches without backrests. In two places there are bins without covers, while cars are parked on the pavement. The yard is neglected, and definitely is not a pleasant place for integration and recreation by residents (Figure 2).

Area C. In the case of the square, the main problem is the condition of the infrastructure: damaged pavement sidewalks, dilapidated old benches and garbage cans. There are no street lights which reduces safety after dark. The area is used mostly for car parking. Almost the entire area is covered with grass. Low greenery is supplemented by a flowerbed. Medium height greenery

includes mainly shrubs forming hedges (*Ligustrum vulgare*) and new plantings, for example with *Ligustrum vulgare* L. High greenery are trees of all ages, giving considerable shade (apart from the northwestern part of the square). These are mainly: *Acer platanoides*, *Betula pendula*, *Salix alba* 'Tristis', *Abies alba*, and some 15-year-old *Platanus x hispanica*. Greenery is quite neglected, with many trees that were self-seeded. In some places, due to soil erosion, tree roots are exposed. The lawns have well-trodden „wild paths”. The leisure facilities include a badly damaged surface to play chess and cubes for the same purpose.

Recommendations: design concept for the development of separate sectors

Area A. Within Area A we propose establishing several sectors. Sector A-a is the area around a spreading oak (*Quercus robur*). In its center is a roundish square, which leads to two paths paved with bright fine gravel. Around the square are two garden swings and two pergolas planted with *Hedera helix*. Additional greenery includes *Berberis thunbergii*, *Cornus alba*, *Philadelphus coronarius*, *Tamarix ramosissima* and *Rosa rugosa* shrubs. South of the oak we propose to plant *Ligustrum vulgare*.

Sector A-b is adjacent to the kindergarten in the east. The biggest part of this sector is a playground for older children. It would be equipped with ladders, a slide, swings, sand pit and benches. We propose to maintain the currently existing high greenery. The rest of the area is intended to be green, with uneven sidewalk slabs, and sown with grass. The path is to be lined with benches.

Sector A-c comprises lawn with a hoop for basketball. We propose to transform this area into a space for grilling and integration. This is to be achieved with a gazebo, benches and a table. Paths are to be hardened with paving slabs overgrown with grass. In addition, the area will include a toilet for dogs and dog fouling bins (to help maintain cleanliness in other places). High greenery would be supplemented by a flowering tree (e.g. *Magnolia* 'Susan'). We also propose planting high and low shrubs, the same species as in the sector A-a.

Sector A-d includes a formerly fenced and wooded terrain. We propose a square with benches and a pergola. Greenery, mostly preserved and supplemented with the composition of bushes tolerant to shade and low soil pH (due to the presence of conifers), i.e. *Rhododendron hirsutum*, *Thujaopsis dolabrata* 'Nana'. An abandoned and partially destroyed building in this sector would be modernized to become a meeting place for residents.

Sector A-e is the largest part of the area. We propose establishing an elliptical square within the sector. It would be surrounded by a pergola, benches and a garden swing. Within the square is place for a small playground for younger children, with a rubber surface and a place to play chess (tables and seats). The main part of the ellipse will be an outdoor gym with steel maintenance-free devices, resistant to weather conditions. Fragile and dangerous old poplars (*Populus* sp.) would be cut down and replaced with deciduous trees with spreading crowns, high-performing in urban environments, e.g. *Platanus x hispanica* and *Liriodendron tulipifera*. In most shaded places, we propose plantings of shade-tolerant plants such as *Vinca minor* or *Hedera helix*. Also this area should include a fenced area for dogs.

Sector A-f covers the area of the former garages and part of the land currently belonging to the kindergarten. In this project, the sector would be used as a utility and relaxation space. The main idea is to build an underground garage (one or two level), to improve car parking spaces for residents and others, and eliminate the unsightly garages on the surface. This will allow use of the land for other purposes, such as the creation of a local sports center with a football field, multipurpose sport ground (handball, volleyball and two basketball courts) and a social building with changing rooms, toilets, showers and room for table tennis. This area will not only be for young people but also for other residents. In addition, high greenery (old poplars *Populus* sp.) would be replaced with other species (e.g. *Platanus x hispanica*, *Liriodendron tulipifera*, *Acer campestre*, *Acer saccharinum*, *Aesculus hippocastanum*, *Tilia cordata*).

For improved security, area A needs to be illuminated. Unsightly waste containers should be placed in specially designed buildings made of brick. Therefore, in several places in Area A we have designated locations for the containers for waste and sorted waste. In addition, we propose to announce a competition for residents for murals on the two blank walls on the eastern side of the courtyard (Figure 3).

Area B (small courtyard). In the case of Area B, it is necessary to demolish the one-storey warehouses and small business offices and hand the area back to the residents. A smaller part of this area may include parking space, while the remaining part should have a green area, a gazebo, barbecue, benches, table and garden swings. It would be isolated from the parking area by new plantings of conifers (e.g. *Thuja occidentalis* - which suppresses noise well and can be easily formed into a dense hedge). Beside them may also be rhododendrons (e.g. *Rhododendron ferrugineum*). They may be complemented by small trees with looser tops, i.e. *Acer campestre* and *Acer saccharinum*. In the rest of the area the existing greenery should be protected, along with changes and supplementation of street furniture: additional benches, tables for playing

a



b



c



Fig. 3. Concept of development of the study area: a – area A, b – area B, c – area C

chess and for table tennis. It is also necessary to place street lights across the entire area. Containers for mixed waste should be moved into a single and more secluded spot in the western part of the yard, where other containers already stand, into a place sheltered from the wind and rain, accompanied by the segregated waste containers.

In place of the sandbox and swings we plan a playground for children aged 3–14 years as well as benches. One very old poplar (*Populus* sp.) should be cut down and replaced with another deciduous tree (e.g. *Acer saccharinum*). In the most shaded area in the western part of the yard, it is proposed to replace the lawn by ground cover plants (e.g. *Vinca minor*). In the sunny (eastern) part of the yard, we propose a herb garden with mint (e.g. *Mentha | citrata*), oregano (*Origanum vulgare*), basil (*Ocimum basilicum*), tarragon (*Artemisia dracun-*

culus), catnip (*Nepeta cataria*), lavender (e.g. *Lavandula angustifolia*) and wild strawberry (*Fragaria vesca*), for example. Routes for pedestrians should be paved with slanting stone slabs. In place of the current steps we propose a special entrance for the disabled.

Area C, is in the south-east immediately adjacent to area B, is very neglected. Cleanup work is required. A large part of the square (especially the western side) is very shaded by self-seeded trees with dense crowns. They should be made less dense by pruning branches. The square is entered via an archway, part of the frontage of the houses. It is a key element of the proposed axis of observation to be emphasized by tree pruning. The damaged asphalt surface in the interior of the square should be replaced by cobblestones and pavements, and partly with a surface made of bright fine gravel. In the square there will be a place for a playground area for younger children with a rubber surface and a fountain, whose water jets shoot straight from the stone floor (the place where children like to play). Under the existing trees, chess tables have been introduced. There will also be a shelter for bikes and a site for renting city bikes. The central part of the square, which was formerly a large lawn, will be turned into an open green space. The ground will be covered with irregular slabs of sandstone, with compact cushion clumps in between (e.g. species preferring exposure to sunlight: *Stachys grandiflora*, *Thymus serpyllum* 'Coccineus', *Globularia cordifolia* and those tolerant to shade, such as *Lamium maculatum* 'Beacon silver', *Armeria maritima* 'Dusseldorfer Stolz'). The site will include irregularly arranged garden swings, benches and tables. In addition, we propose removing all privet (*Ligustrum vulgare*) hedges due to their low aesthetic value or the unnecessary division of space. Instead, we propose low hedges, for example, made of boxwood (*Buxus sempervirens*). Around the square there will be a large number of benches, new trash cans and new street lamps. The square is also to include a space for dogs with bins for dog fouling.

Urbanization processes in Poland tend to occur at the expense of green areas. The result is a loss of biologically active areas, mostly being turned into parking spaces and residential areas (RZESZOTARSKA-PALKA 2012). Inventory conducted inside the aforementioned courtyards in Wrocław has shown a progressive process of appropriation of urban green areas, mostly for parking spaces. A major problem is the poor aesthetics of these places caused by messy waste management, poor state of infrastructure and a lack of proper care of vegetation.

Urban development may never be performed in perfect harmony with green areas; it is almost always destructive (GREINERT 2007). Long-term urbanization has many negative effects on the human environment in the city, such as air pollution, noise, the problem of disposal and storage of waste, in

addition to the limited space for recreation (KALBARCZYK and KALBARCZYK 2009, MAKSYMUK 2005, PRZEWOŹNIAK 2005). But developing urban green spaces may counteract these effects and help maintain the quality of urban life (CHERNOUSENKO et al. 2000, KABISCH and HAASE 2013). The proposed inclusion of greenery in land development, thanks to its diversity and appropriate distribution, has the potential to fulfill most of the functions of urban green areas.

The most important and desirable features of greenery in the human environment include health-related, social and aesthetic functions (RZESZOTARSKA-PĄŁKA 2012). Green areas stay in contrast with rigid architecture, produce dynamics in the city landscape, changing their form and color throughout the year, creating spaces of different scale and character. In addition, research indicates that these areas have a positive impact on the restoration of mental health (PESCHARDT and STIGSDOTTER 2013). Due to the role of greenery in the city structure it is necessary to support the development of biologically active areas (RYDIN 2010), even though resources of urban green space in densely built-up cities are limited (WU et al. 2013).

Actions taken at various levels of ecological regeneration of the city should also be synergistically connected (ZIMNICKI 2005); they should involve the widest possible group of community and external investors, and attract tourists. In the presented design for the quarters we allow for the participation of citizens in the creation of their living space (murals, or outdoor herb garden). Revitalization of Polish cities should be the main direction of development in the early 21st century because of the failure of the urban structures, inefficient use of space, increasing operating costs, and negative social and environmental phenomena (PRZEWOŹNIAK 2005). The changes proposed within the aforementioned quarters in Wrocław will improve their functionality, and also create a space visually appealing and resident-friendly for people of all ages and tastes. The city should offer an attractive living environment to residents to stop the escape to houses outside the city and the uncontrolled, wasteful and environmentally harmful growth of suburbia (DĄBROWSKA-MILEWSKA 2010, SERUGA 2013). Research carried out in the small towns of South Africa showed that most people felt that having a public green space (PGS) is important (SHACKLETON and BLAIR 2013). Many people also felt that the involvement of local authorities was insufficient to maintain the PGS and showed a willingness to get involved in making or contributing to the development of PGS. The presented concept in this study also allows for public participation in shaping the city.

Conclusions

The effect of the proposed concept of revitalization in Wrocław will be a space more welcoming for residents, as well as more useful to them and more aesthetic. The planned green space, equipment and street furniture are diverse. They should meet the needs of people of different ages and different needs with regard to types of rest. Therefore, we have included places for the development of physical culture and also a passive way of spending time outdoors, such as reading, meeting other people and barbecuing. Those who like working in the garden may take care of those near buildings or the herb garden. The involvement of citizens in the implementation of the concept of revitalization may have additional social effects – they will treat the places as their own, and so respect them. There is, therefore, a better chance for the revitalized spaces to remain in good condition so that they can serve the new generation and create a bond with the place and social bonds among people.

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