

INFLUENCE OF GREEN AREAS ON URBAN LANDSCAPE

Joanna Agnieszka Pawłowicz

Chair of Civil Engineering and Building Constructions
University of Warmia and Mazury in Olsztyn

Key words: urban landscape, town planning, urban green areas.

A b s t r a k t

Nature plays an important role in proper development of a town. Consequently, town planners should realise that there are certain limits which must not be crossed or else the balance between particular elements of urban space may be disturbed.

Town planners, whose aim is to maintain the equilibrium, especially at the point of contact between development – nature – quality of human life, should be interested in buildings, their purpose or street layouts as much as in green areas, which are an indispensable part of a town's design, whichever form it takes, be it a single tree, a green square, a park or a forest.

WPLYW ZIELENI NA KSZTAŁTOWANIE KRAJOBRAZU MIEJSKIEGO

Joanna Agnieszka Pawłowicz

Katedra Budownictwa i Konstrukcji Budowlanych
Uniwersytet Warmińsko-Mazurski

Słowa kluczowe: krajobraz miejski, urbanistyka, zielen miejska.

A b s t r a k t

Duże znaczenie w prawidłowym rozwoju miasta ma przyroda. Oznacza to, że urbanista powinien sobie zdawać sprawę z istnienia granic, których nie należy przekraczać. Ich naruszenie może się wiązać z zachwianiem równowagi między poszczególnymi elementami przestrzeni miejskiej.

Urbanisci dążący do zachowania równowagi, zwłaszcza na styku: rozwój – natura – jakość życia człowieka, powinni się zainteresować nie tylko zabudową, jej przeznaczeniem, czy układem ulic, lecz także roślinnością, która jest nieodzowną częścią kompozycji miasta, bez względu na to, w jakiej formie występuje: jako pojedyncze drzewo, skwer, park czy nawet las.

When town planners use the term “urbanised area”, they most often refer it to a town, i.e. an area where the space has been designed, buildings and other constructions have been raised alongside necessary technical infrastructure, for example streets and pavements, so as to provide local residents with the best possible conditions for life and work.

The term “urban green areas” has a broad meaning, encompassing all types of areas within a town which are naturally or artificially (i.e. planted by man) covered with plants.

Urban green areas also include groups of trees, woods and open water bodies found within the administrative borders of a town (Fig. 1).



Fig. 1. Olsztyn – the Municipal Forest and a foot path along Długie Lake. Summer 2004
Source: the author's photo.

The natural environment determines an ecologically oriented town design process, which means that when shaping the space a town planner should realise that there are certain limits not to be crossed. Breaching these limits can disturb the balance between particular elements of animate and inanimate nature.

The ecological aspect of town designing is also connected with sustaining the balance, especially at the point of contact between spatial development, nature and quality of human life. Eco-friendly civil engineering is closely connected with planning both buildings and their purpose as well as the surrounding space. When properly shaped, the surrounding space has good influence on people's well-being and life comfort; carefully designed composition of green areas, be it a single tree, a green square, a park or a forest, gives aesthetic pleasure (Fig. 2).



Fig. 2. Chelmino – a park in a former castle moat. Autumn 2009

Source: the author's photo.

Ecology in town planning manifests itself in such aspects as taking great care to ensure that a town can “breathe”. Developed town areas are composed of different types of urban fabric in a grid of roads and streets, which can cause accumulation of exhaust fumes and generation of smog (Fig. 3). A good plan of the network of streets and how they developed can create conditions for their natural airing. This effect can be achieved by creating open spaces, where air can travel freely from innertown and suburban green areas, for example forests, from which air is “pumped” into the centre of the town.

Another good solution is to plant low- and high-growing plants around buildings, squares and communication passages because such green areas can protect residents from noise and exhaust fumes. Besides, groups of trees and shrubs have a recreational function, making the urban landscape more attractive, which has great influence on the health and well-being of local communities (Fig. 4).

Reflecting on the ecological approach to the development of urban areas, one should keep in mind the fact that it is not always possible to interfere with the present plan of streets and buildings. Moreover, the existing green areas can be threatened with elimination simply because they grow in attractive sites in a town, which can attract developers interested in purchasing and developing such land plots. For the town's authorities, a prospect of selling some land



Fig. 3. Kraków – Nowa Huta. Insulating green plants along a street
Summer 2008. Source: the author's photo.



Fig. 4. Olsztyn – green areas near the Old Town. Spring 2009
Source: the author's own photo.

can also be tempting because land in the town can be expensive owing to the existing technical infrastructure. As a result, we often experience shortage of available land to create a park or at least a small green square or a lawn.



Fig. 5. A creeper on a tree. Summer 2004

Source: the author's photo.

In order to maintain proper proportions between land covered by plants and a developed area, one should first of all ensure that green areas are integrated with the town's structure, so as to preserve the symbiosis between urban tissue and elements of animate nature. A high ratio of biologically active surface area can also be attained by arranging plants in flower beds on lawns, plants on balconies and terraces, as well as growing climbing plants on walls, pillars and other elements of the urban landscape, which can support and help to exhibit plants (Fig. 5).

Climbing plants enable us to spread ecologically green plants over large areas of walls of existing buildings at low technological outlay. This eco-friendly approach to shaping urban space makes it possible to improve microclimate and enables plants and animals to grow and develop even in highly urbanised terrains (Fig. 6).



Fig. 6. Olsztyn – the university campus in Kortowo – a facade of a building overgrown with creeper
Spring 2009

Source: the author's photo.

Green plants climbing walls of buildings can also help to reduce emission of heat, the so-called oven effect, which appears when elements of a building, due to their high capacity of absorption, accumulate large amounts of heat during the daytime, then emitted in the evening.

With tree and shrub plantings it is possible to air built areas and to maintain optimum humidity conditions in a town. Plantings also help to improve soil and water conditions in a town.

Overgrown with green plants, the ground is more stable and resistant to erosion. Roots of plants maintain the stability of the ground. They also help to absorb precipitation water from the surface of land, which prevents groundwater logging and local floods, especially in land depressions.

Urbanised area undergoes transformations triggered by changes in functions of a town expected by local communities. Modern civil engineering practice has pushed nature outside the town's boundaries. Fortunately, as it is now fashionable to be eco-friendly, which means that today town residents expect the urban landscape to be formed not only of such materials as concrete, steel, glass or tarmac, but also with components of animate and inanimate nature. Moreover, the use of natural materials for constructing certain elements of urban structure is sometimes imposed by the location itself. For

example, building objects of garden architecture in parks or woods using timber logs is a natural and obvious choice (Fig. 7).



Fig. 7. Olsztyn – a recreational square in the Municipal Forest. Winter 2009

Source: the author's own photo.

It is undisputable that green areas are an important component of an eco-friendly management of urban space, and the question of how they are handled is associated with our wish to live comfortably, in accord with the natural environment and principles of aesthetics.

Accepted for print 20.08.2010

References

- CHMIELEWSKI J.M. 2001. *Teoria urbanistyki w projektowaniu i planowaniu miast*. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa.
- ŁUCZYŃSKA-BRUZDA M. 1999. *Elementy naturalne środowiska*. Politechnika Krakowska im. T. Kościuszki, Kraków.
- PEŚKI W. 1999. *Zarządzanie zrównoważonym rozwojem miast*. Arkady, Warszawa.
- BAUMANN R. 1991. *Domy w zieleni*. Arkady, Warszawa.