

The green waterfront of a city - Where are the limits of good planning? Gdansk case

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The paper presents the role of strategic planning of green areas of waterfronts in shaping the image of cities, and the threats to them which may be caused by wrong planning decisions. The case study of city of Gdansk in Poland serves as an example to illustrate both the values and potential of the seashore landscape and the risk of its possible deterioration.

1. Introduction

Strategic planning of green areas plays important role in shaping the image of cities. It requires broad and complex approach to maintain, improve and develop green system as the important element of city structure. Wrong planning decisions, and exceeding the limits of good planning practice, may cause serious threats to green areas and to the city landscape.

The case study of Gdansk's seashore is presented as an example to illustrate the values and potential of fragile landscape, which can be easily destroyed by the inadequate spatial development. Crossing certain frontiers – not only in physical, but also in mental sense – will be presented as a potential threat to the green waterfront of a city.

The goal of the article is to discuss the planning policy of Gdansk related to its green waterfront in the context of sustainable development, and to assess, whether Gdansk meets the challenges of ecocity in this area.

2. The problem of limits

One of the most important questions to pose by urban planner is, whether there are any limits in the world of nearly unlimited technical possibilities, which should not be exceeded during the process of town development? For sure, there are not any longer technological, physiographic or economic limits. We can construct towns or their fragments, using the best available techniques, even in the most difficult circumstances: in the water (Palm Island, Dubai), on the desert (Masdar, Abu Dhabi), or in the middle of nowhere (Las Vegas, USA). In such cases only high costs are the problem, and the risk is taken by developers. Nevertheless, considering all the circumstances and effects, we should admit that some frontiers of planning should not be crossed.

Crossing certain frontiers may lead to uncontrolled urban growth and sprawl, chaotic development, disintegration, accidental mixture of form and functions, esthetic disturbance, ugliness, chaos of architectural banality, and may create ecological barriers, and various **negative environmental impacts** (water, soil and air pollution, flora and ecosystems degradation, vibration, noise disturbance, light pollution...). They all affect the city landscape, because landscape is the manifestation of the changes occurring in various elements of the environment. The landscape, as the synthesis of all elements of the environment, reflects the character and condition of all natural and cultural city elements, including the built environment (Fig. 1).

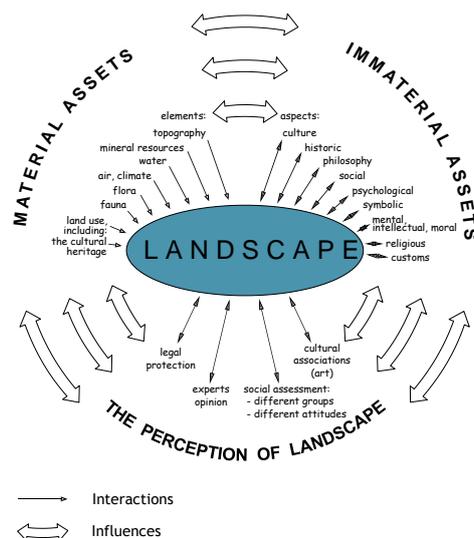


Fig. 1. Landscape – the synthesis of the environment (A. Sas-Bojarska).

The state of the city landscape is a real indicator of sustainable town planning. By protecting the landscape we may improve the quality of life and well-being in cities.

The green areas and city parks play important ecological and social role, so they should become one of the crucial elements of management of metropolitan areas, as well as of governmental and local authorities' policy. It becomes more and more important, especially regarding contemporary trends. The population of towns systematically grows – it is half of world population now, in 2050 it will be 75% [Global City Indicators ...]. So the number of users of city public spaces and green areas, is growing as well. People spend more time in the city because of lifestyle and economic circumstances. The distance to open areas (due to urban sprawl) and the costs of travels (expensive energy) are increasing. At the same time, we predict the growing amount of free time. Therefore, we can observe the growing expectations for the recreation and leisure within the city borders, in attractive green public space, accessible to everyone. They should fulfill the requirements of nowadays social, economic and ecological needs.

The questions to answer in relation to **limits of city growth** should thus be:

- which areas should be excluded from the development, because of environmental and landscape values?
- where and how should we plan the future development?
- to what extent will the city landscape be affected by new development and activities?
- how to predict and mitigate future negative changes?
- what tools should we use for better conservation and protection of the city landscape?
- what is the role of public space in urban planning and how should we plan it?

The answers can help to make better decisions concerning city's sustainable development.

3. Ecocity idea

The fundamental paradigm in decision making process, still seems to be sustainable development. What does it mean in town planning? Complexity of planning (spatial, economic, social and environmental aspects considered together), revitalization, energy saving, environmental protection, public transport system integrated with spatial development, mixed-use development, reuse of space, recycling, considering local circumstances... These and many other aspects are the subject of world-wide discussion as well as of many programs, documents, strategies, rating systems, conferences, competitions and publications.

The document *Ten Principles for Sustainable City Governance*, presented during the world congress of International Federation for Housing and Planning in Copenhagen, Denmark in 2007, presents the need for radical changes, as well as new strategies, models and principles of city governance, supporting sustainable development.

System LEED (Leadership in Energy and Environmental Design) for Neighborhood Development 2009 ND, created by Green Building Council in USA, presents set of environmental standards for the design of buildings, in relation to the neighborhood, surrounding landscape and regional context. It creates guidelines concerning location, design and construction of new developments (residential, commercial, mixed use), related to design and decision-making stage. System stresses the role of local circumstances in defining pro-ecological solutions. System BREEAM (Building Research Establishment's Environmental Assessment Method), created by Building Research Establishment in UK, implemented in 2009, is the "sustainable assessment framework" based on the Regional Sustainability Checklist. The aim of this independent method, used to describe the sustainability of a building, is the assessment of the overall sustainability of a future development (individual buildings, multi-residential and mixed-use developments), at the early master planning stage. One of the sections outlined in the Regional Sustainability Checklist is the ecology, related to ecological enhancement within and around the development, maintaining green corridors and landscaping. BREEAM supports planning system, e.g. allowing efficient use of resources and increasing ecological consciousness.

There are many competitions related to ecological design all over the world. The results of one of them, related to the ecological city of the future, have been described in the book *Self Sufficient City. Envisioning the habitat of the future*, edited in 2010 by the Institute for Advanced Architecture of Catalonia. More than 700 participants from 116 countries presented solutions for implementing the idea of sustainable development. The problem of creation of public spaces as the areas "of freedom and contacts" was stressed as one of most important.

Many authors present the idea of sustainability. Douglas Farr presents the possibilities of pro-ecological design in many scales and aspects, giving examples from all over the world (Farr 2008). He stresses among other factors the need to balance human needs and nature, maintaining ecological corridors, providing walking access to green areas. Herbert Girardet stresses the dependence of man on the environment, and the necessity of lifestyle changes to minimize environmental threats (Girardet 2004). He presents the possibilities of eco-city creation as a challenge for contemporary world, and the socio-economic profits. In the book *Sustainable urban design. Perspectives and examples* (2005) many ways and trends of environmental design are presented, as well as examples from Holland. The need for urban design improvement, as a tool for implementing sustainable development, and the need for improving urban spaces and open spaces have been stressed. The ecological, social and economic aspects, as well as local identity and public participation in contemporary urban planning are underlined. Martin Treberspurg describes the famous example of Linz city in Austria, where the existing city has been extended by building new ecological, densely built district for 10 thousand of inhabitants (Treberspurg 2008). Complexity of design, construction and operation was the base of the success of this model city, combining all pro-ecological features, including public green areas for sport and recreation.

Many conferences in recent years have been related to the city sustainable development: V session of World Urban Forum, Rio de Janeiro, Brazil, 2010 (*The Right to the City: Bridging the Urban Divide*); 46 International Congress ISoCaRP, Nairobi, Kenya, 2010 (*Sustainable City/Developing World*); Expo 2010, Shanghai, China (*Better City, Better Life*); Ecocity World Summit 2011, IX International Ecocity Conference, Montreal, Canada, 2011 (*People. Ecology. Urbanity. Moving Towards Ecocities*); 24. World Congress of Architecture, UIA 2011, Tokyo, Japan (*DESIGN 2050, Environment, Culture and Life*); VI session of World Urban Forum, Napoli, Italia, 2012 (*The Urban Future and the prosperity of cities. Dialog, Network, Exhibit at the World's Premiere Conference on Cities*).

The common goal of all these activities is to help the authorities, developers and designers to implement the ecocity idea in practice. Presented approaches do not reflect all the possibilities related to ecocity, but they give some idea of direction of changes. They all relate directly, or indirectly, to the green areas in the city, and they all stress the need for environmental protection. The result of these efforts will be reflected in the townscape. The idea of ecocity will evaluate and change in relation to environmental, spatial and economic circumstances, as well as the social needs and expectations. One thing we can predict for sure – people will always need green public spaces in close walking distance from their housing estates, and they will always admire attractive city landscape.

4. Gdansk: ecocity?

Gdansk is a thousand-year old city (455 thousand inhabitants) located at the northern coast of Poland, at the seashore. Together with Gdynia and Sopot it creates Gdansk Agglomeration (Fig 2).



Fig. 2. Europe, Poland, Gdansk Agglomeration (A. Sas-Bojarska)

It is the only one of three Polish biggest harbours located just at the seashore, not – as the others – at the rivers estuaries. Gdansk rich cultural heritage, complicated history and symbolic events are known worldwide. It is considered as the World Capital of Amber. Here the Second World War started in 1939. The Solidarity movement initiated great political changes, breaking the communistic system in Eastern Europe. Over half a million of tourists visit it every year, not only because of these tremendous facts, but also due to the amazing Gdansk landscape: 23 km of wide sandy beaches from the east and forested hills surrounding the city from the west, the port cranes, sea and the vessels, and a lot of unique historical monuments (Fig 3). They all are unique not only in Poland attractions.



Fig. 3. Some attractions of Gdansk Agglomeration waterfront. The city is almost invisible from the seashore! (Photo A. Sas-Bojarska)

Planning documents have been established to protect these valuable areas. Obligatory documents at national level are e.g.: *Polityka Ekologiczna Państwa* (2009) [translations of all titles of polish documents are attached in the References]; at voivodship level: *Plan zagospodarowania przestrzennego województwa, Program ochrony środowiska dla województwa pomorskiego* (2010); at local level: *Studium uwarunkowań i kierunków zagospodarowania przestrzennego gminy* (2007) and local land use plans. The supportive documents, established especially for Gdansk region, are e.g.: *Pomorskie Studia Regionalne: Studia przyrodniczo-krajobrazowe województwa pomorskiego* (2006), and *Studia obszarów problemowych województwa pomorskiego* (2004), *Studium Lokalizacji Obiektów Wysokościowych - SLOW* (2008), *Program Ochrony Środowiska dla Miasta Gdańska 2011 z uwzględnieniem perspektywy 2012-2014* (2009); *Studium koncepcji regulacji estetyki miasta - Raport z badań przeprowadzonych wśród przedstawicieli Rad Dzielnic i Rad Osiedli w Gdańsku* (2012); *Pas Nadmorski Zachodni. Studium Funkcjonalno-Przestrzenne* (2010).

One of the main goals of *Polityka Ekologiczna Państwa* is the improvement of the state of the environment, implementing sustainable development, and the protection of natural resources and the biodiversity. Main goals have been formulated in *Program Ochrony Środowiska dla województwa pomorskiego*, including: the improvement of the state of the environment and the ecological safety, enhancing the environmental management and improving the ecological consciousness, the protection of natural heritage and rational use of natural resources. The *Program Ochrony Środowiska dla Miasta Gdańska...* established main goals and challenges, including: elimination of noise disturbance, increasing the ecological consciousness, the protection of natural and landscape diversity and stopping the processes of its degradation. The protection and restoration of valuable natural resources, the limitation of development on the green areas, maintaining city green areas as open spaces, shaping the ecological system of natural areas using land use plans, improving the access to natural resources, including the creation and modernization of touristic infrastructure and the protection of valuable and fragile resources, have been especially stressed. In other documents similar goals have been presented.

One could say, that having such goals and guidelines in so many higher level documents, the environmental protection can be implemented without any doubts or problems. However the practice shows quite the opposite situation, especially at the local level.

Spatial order requires taking into account the specific features of Gdansk Agglomeration structure, like its spatial, technical, social and cultural circumstances, as well as its green area system and the landscape (Baranowski 2001).

But in practice these specific features are often being undervalued, ignored, or they have no chance in the comparison with the investment pressure.

Main reason, observed in whole Poland, is the low ecological consciousness not only of the developers, but also of the decision makers and the society, as well as the complicated, not stabile and not effective planning system.

There is a big gap between two main planning documents at local level: *Studium uwarunkowań ...* (scale 1:25000), which plays strategic role for the municipality, and land use plan (scale 1:1000), a legal instrument for the investment procedures. Moreover, the public participation is often treated as inconvenient duty, therefore the society and NGO's, regarded as opponents who disturb the authorities and hinder the process of decision making, are sometimes not fully informed. Public participation in such cases only pretends to be objective and has no influence on decisions, which were already undertaken before. Moreover, the landscape is being considered as less important element of the environment and of city's planning policy, as value which can't be measured. It is not protected sufficiently, especially if it is not formally declared as the area of outstanding natural or cultural values. All these shortcomings are being observed also in Gdansk, thus influencing the image of the city.

Baranowski argues that contemporary situation in Gdansk may be characterized as the process of accidental, disintegrated activities, aiming to gain local selective effects, with no respect to their influence on the whole system. Environmental costs of new developments are being usually ignored (Baranowski 2001). *Studium uwarunkowań...* enables to implement incoherent development.

The SLOW, prepared by the Gdansk Development Office, is not an obligatory document. It seemed to be the most adequate document related to city landscape protection, but it has been negatively evaluated by many professionals. Baranowski says that the content of this document is based on logical mistake. The study defines the areas recommended, indicated, or excluded from construction of high-rise buildings, but it does not answer the fundamental question: whether the high-rise buildings should be built in Gdansk, and what circumstances should be taken into account. In architecture and urban design, the question “how” (“how and where to built?”), should follow the fundamental question “what to built and what for?” and “what kind of function and structure is recommended due to socio-cultural, environmental, economic, spatial and technical circumstances?” These fundamental questions should be the subject of open public debate, with the participation of NGO’s (Baranowski 2009).

Gdansk coastal belt, the natural green “waterfront” of the city, may serve as an example of defective decision making process that allows for chaotic development.

5. Gdansk seashore case

One of the most important elements of Gdansk landscape is its seashore, very valuable because of environmental, landscape and cultural values. Its development and functioning should take advantage of its unique location and features.

The undeveloped, semi-natural, multi-scale green areas, sandy beaches and dunes between Gdansk and Sopot, form part of Gdansk ecological system. It borders the Protected Area *Natura 2000* of Zatoka Pucka Bay, part of the European System of Protected Areas (Fig. 4).

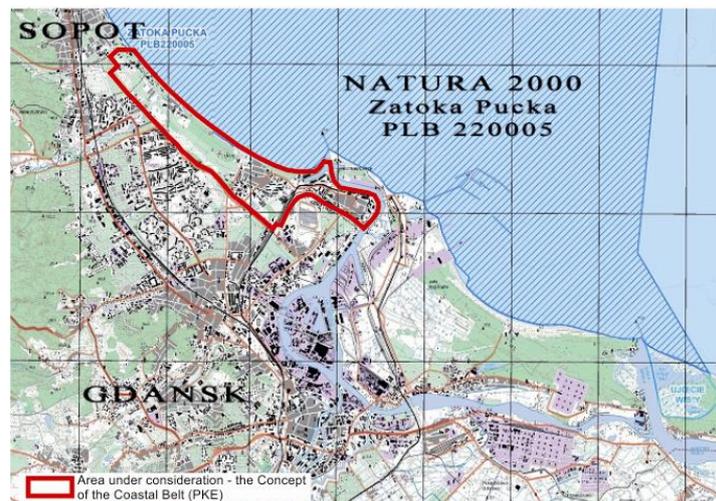


Fig. 4. The area “Natura 2000”, <http://natura2000.mos.gov.pl>, and the Gdansk Coastal Belt.

It is a popular place of recreation for inhabitants of Gdansk Agglomeration and for tourists. At the same time – as very attractive investment area – it is exposed to strong investment pressure and potentially chaotic and environmentally harmful development. Therefore, this area is now a subject of conflict and public debate, followed by many studies, expertises, meetings and workshops.

Due to cultural and landscape role of the waterfronts - shaping waterfront identity of the town, they become the most attractive areas from the economic, social and cultural point of view.

Waterfronts are the exceptional examples of rare spatial values because their dimensions are limited.

They are very attractive to many users with different, often conflicting goals. Therefore, they are often the subject of fragmentation (Baranowski 2001).

Such a situation took place at the Gdansk seashore area. The history of conflict starts in the 1980's, the time of serious economic crisis in Poland. The protection zone of underground water intake at the seashore belt has been transformed by the inhabitants of Gdansk into illegal allotments. After 20 years 800 allotments have been eliminated by the authorities of Gdansk (with some protests). Part of the area was transformed into the Reagan's Park, the biggest park in Gdansk. It became a very popular recreation area for thousands of inhabitants. In 2006, it was awarded as the best public space in Gdansk Voivodship. The rest of the undeveloped area located in coastal belt became very attractive for the investors.

In the meantime, the authorities of Gdansk changed attitude to the policy of coastal belt development. The new *Studium uwarunkowań...* and the SLOW, enabled new development. The policy of privatisation of these green open areas – which should remain public property – resulted in new developments. Two gated communities (gated communities are the subject of criticism for example by BREEAM) and accidental buildings have been built in this area (legally!), causing the landscape fragmentation and imposing physical barriers (Fig. 5). They created a precedence, threatening future decisions. We should stress, that legal building approvals do not comply with the ideas of harmony and sustainable development defined in the planning documents of higher level.



Fig. 5. Gated communities in the seashore area are the examples of dividing not only the space, but also society. They cause the fragmentation of unique public space – common value (Photo: A. Sas-Bojarska).

The *Pas Nadmorski Zachodni...* prepared by the Gdansk Development Office, seems rather to be the catalogue of different concepts, than coherent vision of sustainable development and real guidelines for land use plans. The thesis of this study supports the plans of developers (for example housing estates are presented as a factor increasing touristic attractiveness). The strong opposition of Gdansk inhabitants against high-rise buildings (authors noticed it!) was described as a “problem” of a costal belt, not as the opinion of its users which should be taken into account. Another problem was defined as a conflict with City Historic Preservation Department, not as a real threat to historical objects, which may be caused by investment plans. It shows clearly the attitude of Gdansk Development Office to this area. General guidances presented as a base of the concept pretend to be sustainable,

but in fact they have nothing to do with the final plan, creating real possibilities to build up big fragments of open area of coastal belt.

Therefore new land use plans related to this area (aligned with *Studium uwarunkowań...* and SLOW), accepted by Gdansk authorities, allow for construction of housing estates, leisure and sport centers, multilevel parking facilities and high-rise buildings (hotels, in some parts with no limits of height!) in accidental locations (Fig. 6).

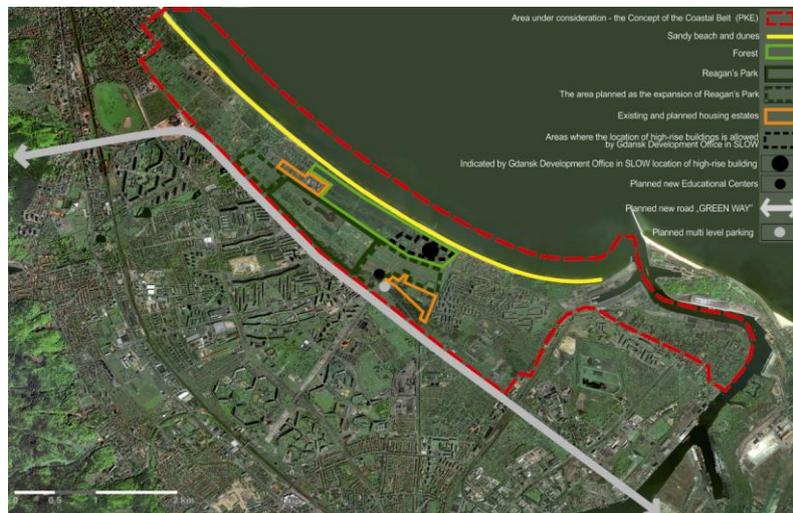


Fig. 6. The Coastal Belt - existing and planned gated communities and planned high rise buildings (A. Sas-Bojarska).

New development may cause serious environmental degradation, e.g. underground water changes, flora degradation, negative landscape impacts, or high traffic growth causing noise and air pollution. But the most serious threat seems to be the fragmentation of open land area, because its dimensions and natural character are the greatest values, especially regarding the close proximity of big housing estates. Therefore, city plans caused serious protests and started public debate on the future of Gdansk seashore.

Polish Ecological Club (PKE) – non-governmental, non-profit organization (the oldest in Poland) was the first institution, which highlighted potential threats and proposed solutions contrary to technocratic vision of city authorities and contrary to commercialization of this unique space. To protect Gdansk seashore, *Spółeczna Koncepcja Zagospodarowania Pasa Nadmorskiego (The Concept of the Coastal Belt)* was prepared in 2010 by PKE and the team of experts. It was the first such a complex initiative undertaken by a non-profit organization in Poland. It was a kind of manifestation against ignoring of public opinion by local authorities (we should remember, that improving public participation and ecological consciousness in decision making process, and supporting initiatives of NGO's and local inhabitants aiming to improve the state of the environment, are still crucial tasks in the *Program for Environmental Protection for Gdansk City!*).

The *Concept of the Coastal Belt* contains natural inventory, social survey, analysis of city plans and urban study (analysis, evaluation, concept and guidelines). During the nature inventory many interesting and protected species have been discovered. The social survey demonstrated that Gdansk inhabitants wish that the coastal belt – as a common value – should remain a public space used for recreational purposes.

The *Concept...* fulfils the guidance concerning the noise disturbance reduction, presented in the *Program Ochrony Środowiska dla Miasta Gdańska*. Coastal belt is the largest area free from noise in walking distance from neighboring big housing estates from 60's and 70's, where thousands of people live (Fig. 7).

External experts evaluated the *Concept...* as innovative, successful voice in public debate, presenting the vision of sustainable development articulated as real public initiative. They stressed that it shows not only the alternative vision of development of this area, but also the alternative way of thinking about the spatial policy, contrary to city planners' way of thinking. The proposal to create great city garden has been evaluated as fulfilling highest European standards. According to their opinion it should therefore be implemented, regardless of formal difficulties and shortcomings of Polish planning system and economic problems.

The same area was the subject of international workshop *Towards Eco-city. Gdansk seashore area development*, organized at Gdansk University of Technology in 2011, and the subject of students projects at the Faculty of Architecture, Gdansk University of Technology. The *Concept...* served students as the source of information. Students' projects were the continuation of the *Concept...* Students identified the existing environmental, social, spatial and transport conditions and threats, assessed the values and potential of the area, created the vision of sustainable development of the whole area and designed some urban / architectural / landscape objects. They presented many ideas and solutions, stressing the values of Gdansk seashore, and maintaining the continuity of green area, as accessible, well organized and attractive public space (Fig. 9). Therefore they showed the alternative possibilities to create the new image of Gdansk ecocity. Unfortunately, authorities are not interested in such solutions for this area.



Fig. 9 The international workshop *Towards Eco-city*, conducted by the author of the article, Gdansk, 2011 (Photo: A. Sas-Bojarska, students).

6. The outcomes of studies

The discussion of the planning policy of Gdansk should relate, among other topics, to its green waterfront.

The assessment of the proposal prepared by Polish Ecological Club, concerning the alternative development of green waterfront, has been compared to city plans. Theoretical and field studies, comparisons with other case studies, and outcomes from the international workshop conducted by the author, as well as outcomes from student's projects, were the basis to formulate the findings. Gdansk does not fulfill the requirements of ecocity, regarding the policy of its seashore development. Landscape values are not protected sufficiently and may be easily destroyed.

The planning procedures cannot respond only to the needs of those who can defend their rights but also should cater for the needs of those who are voiceless: e.g. urban poor, people with health problems and disabilities, minors and the elderly. The open green areas belong to everybody and any laws allowing any form of discrimination and exclusion (like fencing public open green areas and creating gated communities) are not good examples for cities of tomorrow. They are rather dead end ideas and therefore can be labeled as declining model of urbanization, as we can observe in Gdansk's seashore.

When open land is becoming the subject of development, the fundamental question arises: should we destroy the environment and repair it after years? Maybe it is better to take advantage of the potential of a place and develop it respecting the existing values, and to build up other areas, which are not so attractive, or even degraded? Rich cities sometimes create green areas even on contaminated lands (Barcelona, Berlin, Montreal, Jokohama ...). In this context the policy of Gdansk authorities allowing for accidental development and fragmentation of the seashore area of high environmental and landscape values, seems to be a paradox. The best thing to do with this semi-natural area, is to maintain its character and natural state and preserve it for recreation and sport purposes. It has a potential to become unique in Europe, huge City Garden. Unfortunately, it undergoes negative changes, depreciating values and quality of this beautiful seashore area.

But still there is a chance to protect this unique area. We should look for evolving models. Presented study case proves that there is a need of strategic planning of city landscape, at the level of Gdansk Agglomeration. The landscape studies should be connected with the processes of town planning, especially in the context of rapid urbanization, technological and social changes, and increasing consumption and pressure on the environment. Special tools and methods should be implemented, like Environmental/Landscape Impact Assessment. The growing knowledge on potential environmental consequences of different activities is a warning, showing how serious may be crossing the frontiers of planning. It may in consequence destroy nonrenewable resources, and cause irreversible threats to environmental and landscape values. Values, which often decide about the quality of life in the city. Some of the impacts are irreversible and permanent, while some may be mitigated, although it is usually time consuming and costly. It is better to avoid potentially threatening impacts altogether, than to repair landscape changes. The crucial conclusion relates to the duty of predicting environmental and landscape threats related to the development, caused by wrong decisions. There is the need of reinterpreting the approaches related to city landscape, especially to enhance or restore the green and recreation areas within the cities. Therefore there is a demand to consider the limits of good planning.

7. The lesson for future - towards a better city landscape

European Landscape Convention stresses, that *“the landscape contributes to the formation of local cultures and that it is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity”*. Landscape plays an important role in the cultural, ecological, environmental, social and economic fields. Its protection and management can create new jobs. It is a key element of individual and social well-being. On the other hand, any development may accelerate the negative transformation of landscapes. Therefore *“its protection, management and planning entail rights and responsibilities for everyone”*.

The problems of green area degradation urge to define new approach to city development and shaping its landscape. The public debates indicate, that the beauty of landscape becomes important for city inhabitants and is being recognized as a factor influencing the quality of life and the future of the city. It becomes significant in city promotion. Well maintained public space becomes the factor of social integration, counteracting the social exclusion (like famous beaches Ipanema and Copacabana in Rio De Janeiro, accessible to everyone).

The awareness is growing that green public space should be an important factor in city planning strategy and policy. Only long-term planning of city landscape, integrated with urban planning (we may call it strategic landscape planning), may be effective. The possibilities and ways of strategic landscape planning should be individually recognized in every case, with the aim to take advantage of city potential, based on its location, history, cultural and natural heritage, identity and tradition.

Each city has its own conditions and ways of sustainable development. For many cities it is the unique landscape, which should be protected and enhanced as the individual ecocity indicator. Landscape may demonstrate the threats to the city environment, as well as its good condition. Beautiful landscapes reflect a healthy, clean environment and spatial harmony. Landscape preservation and improvement can therefore enhance quality of life, and promotes the idea of ecocities.

The thesis presented in this article may support good practice in urban planning, especially in relation to landscape protection and shaping. The role of public participation in decision-making, and the need of reinterpreting the approaches related to city landscape were stressed. It may influence decisions made by local authorities, concerning the green areas in city planning strategy, to value and better protect what already exists.

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