INTEGRATING AND EXPLOITING DANUBE'S LANDSCAPING POTENTIAL IN INTEGRATED URBAN DEVELOPMENT - CASE STUDY FOR CĂLĂRAŞI CITY

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Abstract

The majority of the cities worldwide were built next to water. The need for water consumption, water transport, water-based industry, water defense etc. influenced a city's history and development. However, the last decades show a continuing concern for the aesthetics of a city's waterfront.

Based on the idea that “waterfront is an extraordinary resource for a city, to be used ‘strategically’ to revitalize and reinforce its economy and to ‘build’ or consolidate its specific ‘image’ (Bruttomesso, 2006) cities on the Danube developed major waterfront reconstruction programs. However, Danube's landscape potential in Romanian cities is seldom exploited. Calarasi city's new urban projects now include the redevelopment of both its Danube riverfront and its main arteries. The aims are to revitalize a former industrial city image and to invite the people to regain both the city's riverfront and its unexploited public spaces.

To this end, research was conducted on both the city's inhabited structure and on the urban unexploited landscape potential. The results and diagnosis led to drawing strategic directions on future urban landscape transformation and on applying concrete concepts for landscape management.

The strategy proposes incorporation of old, new and future social-urban poles into a modern and coherent urban system. Detailed solutions have been proposed for key urban development areas and for small squares and green strips alike.

Key words: waterfront, Danube, potential, unexploited.

INTRODUCTION

While inner-city park lakes became part of a city's esthetics, one's riverfronts were often neglected in favor of industry, transport or even defense. Recent years paradigm shifted as riverfronts are nowadays seen as "a extraordinary resource for a city" (Bruttomesso 2006) to be used to revitalize an urban area's image and also to both satisfy economical and social needs.

"The need that people have for water is vital and profound"(Alexander et. al., 1977) is a statement best illustrated by the results of urban planning projects like "Paris Plage" and the Aarhus promenade (Gehl, 2012). Due to the fact that "life forms around the water's edge" (Alexander et. al., 1977), opening the water edge to the city by transforming it into a waterfront park or promenade will result in livable, crowded pedestrian areas. This may lead to economical, demographical and even a life quality boost in nearby areas.

Figure 1. Calarasi Danube waterfront (www.googleearth.com)
While in western countries, the Danube waterfront is being remodeled and rehabilitated, the Romanian Danube riverfront is poorly engineered. Projects similar to the ones in Budapest, Bratislava or Wien may be successfully applied in the case of riverside cities from Romania. Though small steps have been made in order to refurbish waterfronts in cities like Giurgiu, Galati, Braila, Tulcea etc., non had matched the results of projects like "Paris Plage" on the Sena river.

Interdisciplinary approach was conducted in Calarasi in order to solve contemporary urban needs. Special attention was paid to the unused, existing potential of the urban landscape, by implementing new urban development politics in order to rehabilitate the city's image and urban comfort.

MATERIALS AND METHODS

Analysis were conducted in order to be able to develop a strategy for a urban rehabilitation project proposal. To this end, social studies and analyses of the existing frontage, current city functions, town history, vegetation, climatic conditions, polarizing areas, etc. were conducted. Based on in situ observations, questionnaires, diagrams and analyses, the proposed strategy was inspired by Jan Gehl conclusions and theories (Gehl, 2012) and by the present use of space.

SWOT analyses emphasized the need for new urban centralizing poles to be added to the existing ones in order to define a logical urban structure to cope with the people needs. Entitled "Revitalizing the territorial pole system - green mobility" the strategy proposed linking the existing major polarizing pedestrian poles with newly designed ones, thus creating a green-human-urban-system. In contradiction with the city geometrical-plane structure and according to the sinusoidal water aspect of the nearby Danube, the idea was to create a FLUID corridor that will bring both the urban and the natural into the cityscape.

The concept and the strategy were developed around principles like "unity in diversity", long-term urban landscape quality management and also included the "jardins partagé" concept into a city driven in the past mostly by heavy industry.

The "jardins partagé" principle and concept was applied in areas surrounded by blocks of flats and in places with low public interest for formal gardens. Due to the fact that some public urban spaces were used by people for planting seasonal vegetables or flowers, the areas used for this purpose were enlarged. By scarcely planting a few fruit trees or shrubs in certain small urban areas, people are indirectly invited to personally use that space as their own private garden by maintaining and personalizing it, thus stimulating both the people and the municipality for a better and cheaper use of fragmented urban spaces.
Other unused urban spaces were reconverted into playgrounds, plazas, small formal gardens or vegetable gardens according to the needs of the people living nearby thus creating new small urban poles to be linked with the major ones composed by urban parks, large plazas, markets and stations. Most of the urban furniture was designed according to the needs of the people, the type of design approach and in accordance with the proposed concept and strategy.

RESULTS AND DISCUSSIONS

Starting from the eastern end of the city and ending with the urban Danube waterfront, the cityscape was reshaped in order to cope with the contemporary needs of the people. New street alignments were inserted into the landscape, strategically separating the road from the pedestrian. The rhythm of the street alignments is interrupted by occasionally ramps and pergolas that were inserted in order to solve level differences. Tangent and nearby unused spaces were reconverted and redesigned to contribute to the city refurbishment.

A former abandoned green stripe that used to be seen psychologically as a barrier between the road and a series of ANL houses was restructured as a fluid and coherent space. Fragmenting the space through vegetation and circulations led to unify the former stripe.

An urban square entitled "The Flower Park" was refurbished in order to be able to confirm its name. The strategy was to create a green amphitheatre opened to a all-season people-and-plant color scene.

A children playground was restructured by separating different age playgrounds through alleys and vegetation.

Next to the main polarizing center of the city, the central market, unused spaces were reconverted into modern urban squares. Circular planters and benches psychologically directs pedestrians towards the newly refurbished marketplace.

The market and intersection were refurbished so that they become a whole. Unused space found between the market itself and the intersection was redesigned as a public urban square with a fluid-based, modern design. The vegetation and mineral composition, ramps and benches converge towards a central point in
which a circular basin was placed. The basin is based on a principle similar to the one of the communicating vessels.

![Figure 7. The central market design proposal by Amuza Raluca, Bratu Maria, Gudumac Elena, Lazareanu Daniela, Mexi Alexandru](image1)

![Figure 8. The market plaza design proposal by Amuza Raluca, Bratu Maria, Gudumac Elena, Lazareanu Daniela, Mexi Alexandru](image2)

Former unused urban structures were reconverted into public scenes, amphitheatres, benches, planters etc. Small urban squares were redesigned in order to transform them into small urban poles.

An urban square entitled "Intimate Park" was, alike the "Flower Park" refurbished in order to confirm its name. To this end, mineral, circular alveoli doubled by vegetation were created in order to create intimate spaces.

![Figure 9. Refurbished unused urban objects by Amuza Raluca, Bratu Maria, Gudumac Elena, Lazareanu Daniela, Mexi Alexandru](image3)

The unused urban square next to the train station and to the student hostels was transformed into a urban garden in which most of the vegetation consists in fruit trees and shrubs.

Two city parks are redesigned as to form a single green, large, social, urban public composition in which the barriers between the city and the park and between the park and the Danube be eliminated.

One of the parks, entitled "Parcul Dumbrava" (Grove Park) was transformed according to a modern romantic landscape style. Based on the idea of "urban forest" the park was redesigned as a suburban grove. The main attraction point of the park is the round basin, one to be used as a water feature in summer and as a rink in winter.

The second park, entitled "Central Park" represents an extension of the Grove park. The park is redesigned in a mix, contemporary and modern romantic style, offering a contrast between large planted spaces and a central large lawn that opens perspectives to the Borcea Danube canal.

Concerning that "the land immediately along the water's edge must be preserved for common use" (Alexander et. al., 1977), the strategy was to create both a park and a modern waterfront...
similar to the Rhone River Banks in Lyon, France (www.landezine.com) or the Sea Organs in Zadar, Croatia, (www.landezine.com) where people can touch and feel the water.

"According to the importance and the character of the water feature, the entire composition, or just parts of it are conceived in such a way to create a dominant perspective and a series of serial views of the water [...]. To this end, the relief and the vegetation must be modeled according to the water perspectives [...] placing artificial objects on the edge of the waterfront" (Iliescu, 2006).

In accordance to the statement above, the new design of the park was completed by a series of decks that will be accessible according to the water level of each season.

CONCLUSIONS

In order for the city to fully use its Danube waterfront potential, the image of all the major arteries and parks is to be refurbished. A green urban system is to be inserted into the city in order to make a connection between the water and the buildings, and furthermore, to create a social and ecological corridor within the city.

"To make the space functional, it needs to be accessible to all, linked to other green spaces in the city [...] and to offer a variety of programs, tailored to the needs for recreation and that is attractive to visiting." (Lazovic and Blaskovic, 2012).

 Having the space be accessible to everyone, beside creating space function and design for different age and social groups, ramps for baby strollers and for the handicapped were inserted.
wherever needed. Also, in terms of accessibility, parking lots were inserted on all major arteries and nearby urban polarizing spaces, without altering the new cityscape.
In conclusion, the importance of the Danube waterfront in Calarasi can and should be refurbished and redesigned in order to both rehabilitate the image of a former industrial city and to improve the life quality within the city by creating green corridors between parks, blocks of flats, streets, parks and waterfronts and by redesigning the system of the urban polarizing areas.

REFERENCES