“Linden Romance”, a Sustainable Urban Rehabilitation Project on the Banks of Bahlui River

Calin CORDUBAN\(^1\), Dorina ISOPESCU\(^2\), Aura DUMITRASCU\(^1\) and Razvan NICA \(^1\)

\(^1\) Faculty of Architecture “G.M. Cantacuzino”, Technical University “Gheorghe Asachi”, Bd. Dimitrie Mangeron, nr.43 700050, Iasi, Romania; alin_corduban@yahoo.com
\(^2\) Faculty of Civil Engineering, Technical University “Gheorghe Asachi”, Bd. Dimitrie Mangeron, nr.43 700050, Iasi, Romania; dorina_isopescu@yahoo.co.uk

Abstract. The article presents a proposal for the placement of workshop modules for visual artists and artisans from Iasi on the left banks of the Bahlui River. Here, the artists will conduct their creative activities and also fulfill the function of exhibition and sale. Ample decks link the modules between them and with the river, creating the premises for a wide range of open-air activities. The Bahlui River that flows through the city of Iasi is currently the object of a major project for riverbed consolidation in order to prevent floods, thus offering the opportunity to rehabilitate this site with landscaping that would better integrate the river with the town. The path, on the banks of the river, on the section connecting the Podu Ros neighborhood to the Tudor Vladimirescu complex is rather monotonous. Apart from benefiting from the intense pedestrian traffic, the goal for the modules’ placement is to achieve a space to mark the youthful character of the area, and that would constitute a landmark. The concept behind the project is the linden tree. The location’s natural landscape is embellished by the presence of linden trees, so, with this project, it was intended to mimic and reflect this symbol in a modern manner, incorporating it in architecture with an exposed structure that interprets this pattern. The article presents an analysis of the location, a review of tendencies for landscape design on the banks of rivers and integration of natural motifs in architecture as well as a detailed presentation of the “Linden Romance” project, focusing on urban rehabilitation issues. Drawing from the successful experiences of other projects, the “Linden romance” project intends to give new life to an important path in the city.

Keywords: landscape architecture, sustainable, urban rehabilitation, wood structure, ephemeral, golden ratio.

INTRODUCTION

The project “Linden romance” proposes the placement of small modules on the left banks of the River Bahlui intended for various creators from Iasi to serve as workplaces and also fulfill the function of exhibition and sale. Thus far, artists from Iasi do not have adequate spaces for holding creative and marketing activities. A modular development set in the center of the town would stimulate the creative business in the city by accentuating the marketing dimension of this sector. As we are all aware, a contemporary creator, an artist, has to promote himself. This concept, so well understood by Salvador Dali, who once said ironically, “What matters is that people talk about me, even if they say nice things”, was further developed by Andy Warhol and became a sine qua non condition for today’s artist’s condition. Unfortunately, most of Romanian artists and artisans do not have a marketing background or the skills needed to promote themselves. This space we have envisioned has a double purpose: one to provide adequate conditions for creative process and second to act as a showcase, an expressive landmark for the marketing benefit of artists and artisans and for the urban dynamic of the city itself, as Figure 1 depicts.
Fig 1. Proposal for modular elements on the banks of Bahlui River for artists from Iasi.

The Bahlui banks, on the section connecting the Podu Ros neighborhood to the Tudor Vladimirescu complex, creates a path recurrently cruised by students on their daily route from dormitories to faculties. Despite the architectural value of some buildings, this axis is rather monotonous. The placement of the modules here was motivated by two reasons: the intense traffic of students and the need for a landmark that would bring people together in the area. 

The concept behind the project is the linden tree, and, as the Bahlui banks benefit from the presence of these species, with this project it was intended to reflect this symbol in a modern manner. As such, the structure for the modules replicates the motif of the canopy and also the pattern of the flowers.

The workshops are organized in modules laid on the banks of the river, in the proximity of the sidewalk. Only two types of modules were proposed in order to gain a higher economic efficiency in the building process. To avoid monotony the placement of the modules was proposed in a discontinuous arrangement. The constructions are glazed to maximize lighting and to create extrovert spaces that invite in those who pass, thus delineating a lively location in the heart of the town. The architectural solution can be included in the style of minimalism and eco-regionalism, with finishes in glass and wood. Ample decks link the modules between them and with the river, creating the premises for a wide range of activities and manifestations in the open-air. At night, colorful lights will light the modules in order to animate the route and to accentuate the character of landmark intended by this insertion.

METHODS AND MATERIALS

The Bahlui River crosses the town of Iasi, historically delimitating the city, with marshes on its sides that acted as barriers in medieval times. The ample development of the town following World War II, led to the draining of these marshes and towards the development of neighborhoods. The section of the river considered for this project is occupied on the left bank by the faculties that form the “Technical University of Iasi”, built from the early 60’s until presently and on the right bank by a residential area, consisting of multi-storey
apartment buildings, built in the 60’s and 70’s. Figure 2 presents the area above described, and the proposed location for the modules.

![Fig 2. Part of Bahlui River banks studied for “Linden romance” project location.](image)

The area studied for the location of the workshop modules is part of the left bank of the river, on the side with some of the faculties that form the “Gh. Asachi” Technical University of Iasi. The sidewalk in this area has recently undergone extensive works to include a bicycle track and represents a highly cruised path by the thousands of students on their daily route from the campus to the faculties. Despite the architectural value of some faculties and the distant view of the “Cetatuia” Monastery, this axis has little else to offer in terms of points of interest. Thus, it becomes a monotonous route, which, apart from its functional role, of connecting two centers of interest, does little else for the dynamic of the town, as Figure 3 depicts. The river itself is in no way connected to the sidewalk, remaining thus, a secondary element.

![Fig. 3. Presentation of the present situation. Sidewalk and river bank of Bahlui River](image)
Many projects have focused, especially in the last decade on incorporating the rivers that flow through the towns into the dynamic framework of the city with landscaping projects, as an integral part of urban redevelopment. With respect to the principles of sustainability and also the Landscape European Convention, water is not only a key natural resource, but also the presence and crossing of rivers in cities determines concerns regarding accessibility, increased aesthetic and landscape value and contribution to urban attractiveness. As such, urban riverside areas can provide an enormous potential in terms of recovery and rehabilitation, bringing together programmes of urban regeneration with environmental, socioeconomic and aesthetic improvement (Batista e Silva et Al., 2005). Within the European Research Project URBEM (Urban River Basin Enhancement Methods), the authors developed a methodology for the evaluation of the aesthetic performance of urban rivers, considering their potential for the urban river rehabilitation. Regarding the aspect of urban environment, five fundamental viewpoints were identified as being the main issues that contain a wide variety of aspects describing the aesthetic value of city-river landscape:

- Urban space quality;
- Cultural heritage;
- Activities on riverfront;
- Accessibility;
- Pollution (www.urbem.net).

The aspect of “Urban space quality”, refers to issues of visual permeability of built space, the need for landmarks, as physically perceptible reference points on the landscape, the quality of built space in the river-corridor (quality of construction and maintenance, healthy conditions and the presence of basic infrastructures). It is also important to have public utility spaces, preferably on both river sides, that provide a balance between public open areas and private open areas, leading to the equity of access to the aesthetic values.

It is also important to consider the issue of “Human Activities in the Riverfront”, defined as an intense human contact with the river that increases the potential of interaction between people and the watercourse. Diversity of uses and distinctiveness enriches the urban landscape and indirectly influences aesthetics (Batista e Silva et Al., 2005).

Many towns and cities owe their existence to water, with a historical development along rivers. The increase of accessibility, as an indirect factor that makes more or less possible the people’s enjoyment of the aesthetic values of urban waterfront, has recently become a major concern for many cities, as the following examples demonstrate.

The project “Green River Project Brateevo”, that has been awarded the Russian National Award on Landscape Architecture in 2011, is aiming to change Brateevo, a Soviet high-rise block district along Moscow river, into a vibrant and green part of the city by linking green spaces structures to the urban tissue, while activating public domain. The main objective of the project was the creation of an active waterfront, in the context of a stronger identity for the areas surrounding the river, as presented in Figure 4. The landscapers involved in this project, OKRA landscape architects, wanted to differentiate two main areas, by creating a contrast between a north side, with promenades along the river, and a more natural ecological zone on the east side, having long boardwalks towards the river. On the large scale the green areas offer a potential for new recreational use, fitting in requirements of Moscow’s inhabitants. Revitalizing the edges, related to a built program will emphasize the green areas. Better access to the area is planed by providing an urban green structure. Improving linkages to adjacent green and water structures offers an opportunity to upgrade the Moscow
Riverfront and Gorodnya parkland, since they will become part of a larger system. The joint Russian Dutch project is a complex endeavour aimed at maximizing the ecologic and landscaping potential of the river, by making it an intrinsic part of the “living city” (http://www.archdaily.com/180699/green-river-brateevo-okra-landscape-architects/).

Fig. 4. “Green River Project Brateevo”, a sustainable green development as an integral part of urban redevelopment. (http://www.archdaily.com/180699/green-river-brateevo-okra-landscape-architects/)

Fig. 5. Building Tirana’s Green Future: Tirana Northern Boulevard and River Project / Cino Zucchi Architetti (http://www.archdaily.com/222100/building-tiranas-green-future-tirana-northern-boulevard-and-river-project-cino-zucchi-architetti/)

A recent project in the center of Tirana, by Cino Zucchi Architetti, in collaboration with One Works, Gustafson Porter, Buro Happold London, and Antonello Stella Architects, focuses on the voids around the river Ishëm, rather than the buildings as catalysts of new urban regeneration. In doing so, their design aims at attracting public and private functions around a sequence of green spaces of high environmental quality. The extension of the
boulevard into a lively green promenade progressively opens up to the beautiful landscape of
the hills across the Tirana river, as Figure 5 suggests (http://www.archdaily.com).
The new portion of the boulevard brings the landscape which surrounds Tirana into the heart
of the city fabric, capitalizing on the river layout, generating a new urban environment
able of hosting all the activities and needs of a fast-growing capital and to constitute a vital
and dynamic backdrop for the daily lives of its citizens.

A project recently completed in New York, in 2011, the Hudson River Education Center And Pavilion by Architecture Research Office, also aims of better integrating the river in the framework of city life, by increased accessibility through creation of leisure dedicated spaces and environmental integration of green areas. This project for the Scenic Hudson Land Trust consists of two separate structures in a public park on the Hudson River in Beacon, New York: a new boat pavilion, Figure 6, and an arts and environmental education centre created with the restoration of a historic barn. The two buildings, standing at about one hundred meters apart, are integrated within the park designed by Reed Hilderbrand Landscape Architects. The architecture is on track to achieve LEED gold certification, in a four levels of certification system, where platinum is the best certification, awarded for 80 points and above and gold is second best, awarded for 60–79 points (http://www.archdaily.com).

![Figure 6. Hudson River Pavilion / Architecture Research Office.](http://www.archdaily.com/197073/hudson-river-education-center-and-pavilion-architecture-research-office/)

While the Education Center is an iconic destination, the boat pavilion has a double role, also acting as a protection from the expansive Hudson River. The roof is a horizontal plane of corrugated steel set parallel to a large wood deck that functions as boat launch. The textures, patterns, orientation and details of the corrugated steel, wood deck and bar grating are brought together to create an elegant composition (http://www.archdaily.com).

**PROJECT CONCEPT AND DESCRIPTION**

The linden tree formed the basic concept behind the project. This species is characteristic for the town, its presence becoming over time a subject of inspiration for poets and artists that gave it a symbolic status, the most renowned, the case of Mihai Eminescu, whose romantic poetry involving this particular species led to the attribution in modern times of an important landmark, a linden tree in Copou park, that bears his name and constitutes an important site for the town. The Bahlui banks have, as many places in Iasi, an important
number of linden trees, so, with this project, it was intended to mimic and reflect this natural feature in a modern manner incorporating it in architecture. As such, the structure for the modules replicates the motif of the canopy and also of the flower in a modern, synthetic form. This exposed repetitive pattern has a double role, acting as structural element and decoration at the same time, Figure 7.

In order to best replicate the natural forms and to obtain the most favourable style, in terms of proportions, the golden ratio, was used a proportion that has fascinated Western intellectuals of different interests for at least 2,400 years. The golden ratio was found expressed in the arrangement of branches along the stems of plants and veins in leaves. In a related structural analysis it was proven that the posts using the golden ratio were also the most stable ones.

The workshops are organized in modules that repeat themselves, laid on the banks of the river, in the proximity of the sidewalk. Two types of modules were proposed in order for a higher economic efficiency in the building process. The argument for cost reductions of the project at implementation phase, by means of prefabrication, can be viewed by the artists themselves, each with its own personality, as detrimental to its artistic expression. To avoid monotony, the modules were placed with different orientations, Figure 8.

The open-spaces of the modules allow for great flexibility of the interior space. The beneficiaries of the approximately 40 square meter module can organize the interior space as they consider best fit, balancing work and commercial requirements for space, respectively. Depending on their activity, one, two or even three artists can share a module. The modern, expressive design of the pavilions is meant to attract visitors, by implementing a focal point of interest in the urban context of Iasi.

In order to obtain an expressive minimalist space, excellently executed, the costs are estimated to be higher than for a mediocre one. It was considered that the long term advantages of creating a landmark compensates and exceeds this drawback.
The modules are extroverted spaces, making the artistic process a public act. This aspect is set to clash with the introverted personality of some creators. The flexibility of the space can compensate this disadvantage, as artists can organize their workspace facing the river by partitioning the modules with panels or furniture, to achieve an intimate space of work, and to the extreme, use sunshades, translucent curtains and drapes to achieve intimacy.

The architectural solution can be included in the style of minimalism and eco-regionalism, with finishes in glass and wood. Ample decks link the modules between them and with the river, creating the premises for a wide range of activities and manifestations in the open-air. At night, colorful lights are to lid the modules in order to animate the route and to accentuate the character of landmark intended by this insertion, Figure 9.

Fig. 9. Night view of the proposed project. Various colourful lights animate the interior space, for a japonese lantern-like effect.

OPPORTUNITIES FOR DEVELOPMENT OF A “CREATIVE CITY” AND URBAN UPGRAADING

The project intended to tap on the concept of “Creative City”, an idea first developed by urbanist Charles Landry in the late 1980s, and that since became a large movement, reflecting a new planning paradigm for towns. Landry (2000), accentuates the need for a re-focus on the way cities are planned, by introducing structures that facilitate people interaction, exchange of ideas and network. Is better that these places have high levels of amenity and quality. The right balance between a quiet place and a more stimulating one, with nature as an intrinsic part of the scenario, and great attention to aesthetic, are all pre-conditions for a stimulating gathering place. Landry (2000) expresses the need for a future planning of cities: “Those planning this kind of city will think about how to create a good atmosphere, they will be aware of the negative psychological effect of ugly or soulless buildings, and how this reduces peoples capacities to work well. They will acknowledge how important being sensitive to culture is and they will balance being globally oriented and locally authentic. They will encourage the artistic imagination in how the city is put together.
This is more likely to attract the highly skilled and flexible labor force, that the Creative City needs, as, increasingly, people with good skills have choices about where to live.” The Creative City is able mobilize ideas, talents and creative organizations by identifying, nurturing, attracting and sustaining talent. The built environment – the stage and the setting - is crucial for establishing the milieu. A creative milieu is a place that contains the necessary requirements in terms of hard and soft infrastructure to generate a flow of ideas and inventions and can be a building, a street an area, a city or a region. In our case, the milieu is the river. The project is set on a circulated axis, close to the town center, in the proximity of two important commercial centers: Iulius Mall and Palace Development. The modern, expressive design of the modules is meant to attract visitors, by implementing a focal point of attraction in the urban context of Iasi. The decks that would link the modules with the river create a dynamic urban space for leisure, an aspect that now lacks completely in the relation between river and town, which is characterized at this stage by indifference. Thus, through implementing places where artists can work and present the result of their work to the public, by dynamiting an area with places for people to interact with each other and nature, it is intended to establish a milieu in respect to the principles of the “Creative City”.

CONCLUSIONS

The present circumstances related to the banks of the River Bahlui in Iasi, as presented in this article, create the perfect setting for the implementation of a project that can constitute, to a small extent a premise for urban rehabilitation. The project presented, is not only an architecture and landscaping attempt to aesthetically improve an important area in the city of Iasi, but also, tries to implement a scheme socially beneficial for artists in the city and the general population, encouraging open-mindedness and imagination by implying a dramatic impact on a cultural level. Its philosophy was that there is always more creative potential in a place and attempted to valorize this creativity with the creation of a dynamic space for inception and social interaction.

ACKNOWLEDGEMENT

This paper was realised with the support of POSDRU CUANTUMDOC “DOCTORAL STUDIES FOR EUROPEAN PERFORMANCES IN RESEARCH AND INNOVATION” ID79407 project funded by the European Social Fund and Romanian Government.

REFERENCES

3. www.urbem.net