Methodology of Sustainable Development of City’s Cultural Landscape

E Erysheva, V Moor

1Department of Architecture and Urban Planning, Far Eastern Federal University, 8 Sukhanov Str., Vladivostok, 690900, Russia
2Department of Architecture and Urban Planning, Far Eastern Federal University, 8 Sukhanov Str., Vladivostok, 690900, Russia

E-mail: erysheva.ea@dvfu.ru

Abstract. Cultural landscapes in combination with unique natural complexes make a united natural and cultural framework of the urbanized environment, and their harmony is a condition of preservation and a sustainable development of environment. The variety of initial conditions and the factors defining a structure of the city’s cultural landscape can be united in three main groups: natural and geographical, socio-historical and material and technological. The complex consideration of these conditions and factors provides an objective basis of comprehensive approach at projecting. Basic principles ensuring sustainable development of the city’s cultural landscape: structural and modular coordination of the natural landscape and building; visual disclosure and active orientation of the building in relation to the landscape; semantic saturation of the cultural landscape with regional meanings and significance; purposeful formation of an artistically expressive panorama and silhouette of the city; preservation and restoration of aesthetically valuable elements of the natural landscape; organic sustainable development of the cultural landscape.

1. Introduction

Problems of the city’s sustainable development acquire special significance at the present stage. Recently, a significant number of studies have been conducted aimed at studying the regularities of urbanized landscapes’ sustainable development. Specialists from a wide variety of fields participate in these studies. Comparative analysis of case studies allows establishing the most significant aspects of cities cultural space’s reconstruction, to reveal methods of urban cloth regeneration rich in material and non-material cultural values, effective approaches to comprehensive study of both spatial and value patterns of urban environment evolution [1-10].

The concept of a cultural landscape may be of considerable interest as a methodological basis for the study of such problems. The appeal to the concept of "cultural landscape" in modern studies can be explained by the desire to avoid "one-dimensional" interpretations of urban space, considered only as an aggregate of material objects or separate socio-functional processes, outside its socio-cultural context and semantic content.

This approach corresponds with the documents of UNESCO as well as other international organizations involved in the protection of cultural heritage. So in 1972, UNESCO adopted the World Heritage Convention [11], in which the noteworthy places were viewed as the object of protection as a
result of the co-creation of man and nature. Twenty years later, in 1992, UNESCO documents stated the status of a "cultural landscape" as an independent heritage site. This approach was developed in the UNESCO Recommendations on Historic Urban Landscape in 2011 [12]. Given the importance of these documents, it can be concluded that their content should be considered as a methodological basis for scientific research, professional design and architectural education. UNESCO documents lay the foundation for the further development of scientific ideas about what is the cultural landscape of the city, what are the mechanisms for its formation, what principles should be the basis for its reconstruction, based on the model of sustainable development.

2. Methods
The interaction of the natural and cultural components determines the unique nature of the cultural landscape. Therefore, the preservation of cultural heritage as one of the main factors of sustainable development is very important when elaborating a strategy of the environment’ development. Exactly cultural landscapes combined with unique natural complexes make up a whole natural and cultural framework of an urbanized environment and their harmony is a prerequisite for the preservation and sustainable development of the environment.

The cultural landscape of the city should be viewed as the result of "layer-by-layer" development of its territory, carried out at different times, by different societies - bearers of various cultural values. A similar understanding of the landscape implies its consideration both from the point of view of the material and spatial structure and from the point of view of cultural and artistic values taken in their historical formation and development. This methodological basis acts both in the study of the existing city and in the project formation of the urban environment, its reconstruction and development.

The study of the cultural landscapes of cities must begin with an analysis of the specific conditions for their formation, in order to further show how these conditions lead to certain features of the spatial structure and qualitative characteristics of the cultural landscape. It is necessary, firstly, to systematize a set of initial conditions in a certain way, and secondly, to consider the specifics of the spatial organization of the city at various scale-spatial levels for the most holistic and comprehensive coverage of the problem.

The methodology of research and renovation of the city cultural landscape was considered by the authors in a number of works [13-16]. The components of this methodology are: a comprehensive analysis of the spatial structure and architectural image of the city, the identification of shortcomings and contradictions in the existing environment, the development of a program for reconstructing of the existing environment. The project proposal for environment’s renovation should be developed taking into account the quality criteria of the environment and the basic principles of the formation of the city’s structure and image, ensuring its sustainable development.

3. Results
The diversity of the initial conditions and factors determining the structure of the city’s cultural landscape can be combined into three main groups: natural-geographical, socio-historical and material-technological. The natural-geographical conditions are the first group of factors. This includes the features of the structure and form of the natural landscape, the character of vegetation, climatic and other factors that actively influence the spatial organization and architectural and compositional qualities of the city.

The second group of factors characterizes the conditions for the socio-historical development of the city and the region. This includes features of socio-economic, cultural, historical and architectural development of the region, the specificity of its demographic structure, national and ethnic characteristics in the organization and perception of architectural space, etc.

The last, third group of factors characterizes the peculiarities of the local base of the construction industry, building materials and technologies. Every region is notable for its "palette" of material and structural resources; it is used by a specific set of types of residential, public and industrial buildings.
and structures, the established technology of urban land development. All this actively influences the formation of the city’s cultural landscape.

The above mentioned initial conditions and factors together determine the cultural landscape of the city. However the mechanism of the shape-forming factors’ influence is rather complicated and contradictory, since the identified factors often impose opposite requirements to the structure of the city. In addition there is no universal response to the proposed circumstances; every epoch, every culture, finally, every architect in his own way comprehends and interprets shape-forming factors. Nevertheless, there are certain rules and principles of the formation of the city’s cultural landscape which provide harmony of the natural and architectural components, and thereby lay the foundations for the sustainable development of the city’s cultural landscape.

The research of this issue made it possible to identify the basic principles of the formation of the spatial structure and architectural-artistic image of the city ensuring the sustainable development of its cultural landscape:

- the principle of compositional conformity of the spatial structure of the natural landscape and building;
- the principle of scale matching of the volumetric and spatial module of building and landscape;
- the principle of visual disclosure and active orientation of the building in relation to the characteristic elements of the natural landscape;
- the principle of purposeful formation of an artistically expressive panorama and silhouette of the city;
- the principle of conservation and restoration of aesthetically valuable elements of the natural landscape;
- the principle of cultural landscape’s organic development and preservation of the artistic-compositional integrity of the urban environment;
- the principle of conscious and purposeful saturation of the environment with vivid figurative metaphors and associations based on the landscape’s natural originality and modern interpretation of the basic historical archetypes of the city.

Sustainable development of the cultural landscape involves the elaboration of effective urban planning strategy to improve the spatial structure and architectural-artistic image of the city on the basis of the above principles.

4. Discussion

The methodology and principles for the formation of cultural landscapes described above have been tested in a number of architectural projects carried out at the Department of Architecture and Urban Planning of the Far Eastern Federal University [17-20]. Some of these projects were implemented and this contributed to the development of the cultural landscape of Vladivostok. The other part of the works was a search and experimental projects aimed at the formation of cultural landscapes of Nakhodka and Vladivostok cities carried out within the framework of the graduation project. Below are some examples.

Reconstruction of Peter Great Street historical zone with the re-creation of the Nikolay’s Triumphal Arch (Architectural studio of VK Moor) (Figure 1). The Arch was built in 1891 in honor of the visit of the future Emperor Nikolay II to Vladivostok (hence the name "Arch of the Cesarevitch", "Arch of Crown Prince"). The arch was built in "Russian style"; it was the symbolic sea gates of the city. In 1930 the Triumphal Arch was destroyed for ideological reasons. Considering the importance of this structure in the cultural landscape of the city in 2000 it was decided to re-create the Triumphal Arch and reconstruct the surrounding area. In 2003 the Arch was re-created according to the project of the creative team under the leader of V.K. Moor. Now this place is very popular among citizens and tourists; there are a variety of cultural and entertainment events here.
Figure 1. Reconstruction of Peter Great Street historical zone with the re-creation of the Nikolay’s Triumphal Arch (authors of the project V.K. Moor, V.A. Obertas, A.G. Gavrilov).

The project "Cultural and Ethnographic Complex in the City of Nakhodka’ Area" (author A.S. Holbreich, tutors: V.K. Moor, A.G. Gavrilov, P.P. Pinimasov) (Figure 2). In the vicinity of the city of Nakhodka there is a unique natural and landscape complex the bases of which are two hills: Brother and Sister. This landscape since ancient times had an important cultural, historical and symbolic significance. Despite this, part of the Brother’ hill was cut to produce broken stone. This led to negative consequences both in the climatic sense and from the point of view of the cultural landscape of the city. A social movement appeared in the city of Nakhodka with the purpose of anthropogenic reconstruction of the natural landscape.

Figure 2. Graduation project "Cultural and Ethnographic Complex in the City of Nakhodka’ Area" (author A.S. Holbreich, tutors: V.K. Moor, A.G. Gavrilov, P.P. Pinimasov).

This project is a conceptual proposal for the reconstruction of the cultural landscape. Re-creation of the hill is carried out by placing a complex of pyramidal buildings and structures on the cut off hill in such a way that, when perceived, it reminded the historical silhouette of the hill. Multifunctional building-complex is a kind of “home-city” with an internal system of street-atriums, which a variety of public spaces are oriented to. The artistic-imaginative solution of the object is based on the synthesis of many metaphors and associations related with cosmogony themes, archetypes of the cultural space of the Far East peoples and with the color of coastal flora and fauna.
Project "Socio-cultural complex "Acropolis" on the Krestovaya hill in Vladivostok" (graduate student KS Romanov, tutors: VK Moor, AG Gavrilov, PP Pinimasov) (Figure 3). The Krestovaya hill is a unique phenomenon in the natural landscape of Vladivostok. From here you can see picturesque views of the city, Golden Horn Bay, Russky Island and the water area of Peter Great Bay. At the entrance to the city from the side of the sea this hill and a hill on the opposite bank of the Golden Horn Bay form a sensation of the original gates of the city. Krestovaya hill is also visible from many parts of the city’s central area.

Figure 3. Graduation project "Socio-cultural complex "Acropolis" on the Krestovaya hill in Vladivostok" (author KS Romanov, tutors: VK Moor, AG Gavrilov, PP Pinimasov).

The natural-landscape and urban potential of the Krestovaya hill predetermined the need to develop a special design of the architectural-artistic solution of this place. The project concept provides for the creation social and cultural center on the Krestovaya hill, a kind of "Vladivostok Acropolis", which should change the cultural landscape of this district of the city. As in historical prototypes it is supposed to make this place the center of spiritual and social-cultural life of citizens and tourists. It is proposed to place the following: entrance Propylaeum, Street of the Masters, Amphitheater, exhibition halls, symbolic City Temple, Theater, City's Evolution Museum, Children's Creativity Center and other cultural and recreational facilities. Concentration of cultural and recreational functions in one place makes the complex particularly attractive for a wide population.

5. Conclusions
An analysis of the Far Eastern cities’ cultural landscapes revealed the shortcomings and contradictions of their present state. This makes necessary and relevant design and research work to further improve the cultural landscapes of these cities. The methodology of renovation and development of cultural landscapes should be based on certain principles that ensure consistent artistic improvement and the semantic enrichment of the urban environment.

The design developments and practical implementations carried out at the Department of Architecture and Urban Planning of the Far Eastern Federal University showed the effectiveness of the principles and methodology of the cultural landscapes' renovation developed by the authors. This project's methodology is used in the real design, as well as in the educational process of architect’s teaching at the Far Eastern Federal University.
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