INTERACTIVE MAP OF SOFIA LANDSCAPE ARCHITECTURE
PART OF NATIONAL CULTURAL HERITAGE OF BULGARIA

Maria Savova, Viktor Todorov

Student Maria Savova
University of Forestry, 10, Kl. Ohridski Blvd. 1797 Sofia, Bulgaria
E-mail: mrya.plam.savova@gmail.com

Eng. Viktor Todorov
University of Forestry, 10, Kl. Ohridski Blvd. 1797 Sofia, Bulgaria
E-mail: viktor_pavlov_todorov_@abv.bg

Abstract
The interactive map aims to present the Landscape architecture of Sofia as part of national cultural heritage. The listing of the cultural and historic gardens is made by National Institute of Immovable Cultural Heritage of Bulgaria. The development of database follows the tasks: collecting spatial and attribute data; data categorizing, presenting photos, drawings and historical information about the parks and gardens. Historic gardens are separated in two categories. They are listed by public importance and type of green spaces. We found some interesting facts about them and made Cascade Story map (web app by ESRI). The aim of this work is to enhance public attention to landscape architecture and history of the green spaces in the capital of Bulgaria.

Keywords: database, GIS, interactive map, cultural and historical heritage, landscape architecture, GIS analysis, thematic mapping.

INTRODUCTION

In accordance with The Charter on Historic Gardens (the Florence Charter), ICOMOS, 1981 “A historic garden is an architectural and horticultural composition of interest to the public from the historical or artistic point of view. As such, it is to be considered as a monument... is an architectural composition whose constituents are primarily vegetal and therefore living, which means that they are perishable and renewable. Thus its appearance reflects the perpetual balance between the cycle of the seasons, the growth and decay of nature and the desire of the artist and craftsman to keep it permanently unchanged... The term 'historic garden' is equally applicable to small gardens and to large parks, whether formal or 'landscape'.”[5].

The description of Bulgarian national cultural heritage is written in the Law of National Cultural Heritage [1]. Historic gardens are part of National immovable cultural heritage. The law refers to the way of exploitation, conservation and restoration of the Bulgarian cultural richness. Gardens and parks with cultural, artistic and historical meaning to the public and also declared from Minister of culture like cultural riches are listed in register managed by National Institute of Immovable Cultural Heritage.

Moreover, there is regulation for the register of immovable cultural heritage and its way of identifying, granting status and determining a category of immovable cultural riches from November, 2012 [4].

Interactive map (Figure 2) aims to present National cultural richness in field of landscape architecture in Sofia and to increase public attention to the historic gardens and parks.

TYPES OF CLASSIFICATION

The following structure (Figure 1) is in accordance with the law and regulation. It is based on Regulation for the register of immovable cultural heritage and its way of identifying, granting status and determining a category of immovable cultural riches from November, 2012 [1, 4].
By regulation [4], at the register they are categorized in:

- ID - identification numbers;
- Property - Municipal, State or Mixed;
- Name;
- Historical period;
- Spatial structure;
- Public importance - world importance, national importance, for information;
- Threats ranking;
- T - chh - category of maintenance and conservation as per General land use plan [3, 8].

In the list provided by National Institute of Immovable Cultural Heritage historic parks are separated in two groups by spatial structure

- Individual;
- Elements of multiple monuments.

The cultural riches are also described by name, public importance and by declaration letter.

**Type of green area** is not described in the low or regulations but in literature [5] there are definitions as follows:

- square - small area in urban territory used for short-term recreation;
- urban gardens - green area between 2 and 5 ha. They are used for daily recreation;
- park - the park is green territory with public property and bigger than 10 ha area;
- street landscaping - linear landscape along the street.

**METHODOLOGY FOR CREATING INTERACTIVE MAP OF HISTORIC GARDENS**

The presented interactive maps aims to show green areas listed in register of national immovable cultural heritage in Sofia. This register is in accordance with The Law of Cultural Heritage and it is managed by National Institute of immovable cultural heritage. The idea is born in GIS club at University of Forestry Sofia. The authors aims to present
interesting information about historic gardens using web app Story Maps by ESRI. The working process of database structure include three main tasks:

- collecting and summing-up different vector, raster and attribute data from official sources and open sources;
- categorizing historic gardens by type and public importance;
- presenting different photos from the history of each garden, its historical progress and its condition nowadays.

Figure 2. Interactive map. Historic gardens by type green are

Figure 3. Gardens. Cascade Story Map by EESRI [12]

Figure 4. Photo [9] and description [7] of the historic garden, Cascade Story map by ESRI
RESULTS

The interactive map “Landscape architecture of Sofia” (Figure 3, 4) gives opportunity to analyze and compare the development in the time. It is necessary to increase public attention to historic gardens condition and their importance in urban design. The created interactive Story map helps to define the problems, mistakes and success in historical plan and garden design conservation. The research should exert influence on responsible institution to pay more attention to cultural heritage.

CONCLUSION

There are nine scientific field categories of immovable cultural heritage and the historic gardens are one of them. The GIS environment is appropriate for management of the cultural heritage. The database structure must be in accordance with:

- Law for Cultural Heritage, 10.04.2009;
- Law for Spatial Planning, 31.03.2001;
- Regulation № 7 for spatial planning rules of different types land use, 22.12.2003;
- Regulation №12 for register of immovable cultural heritage and its way of identifying, granting status and determining a category of immovable cultural riches, 21.11. 2012;
- General Land Use Plan.

ACKNOWLEDGEMENT

This work has been partially funded by the EC Operational program: Science and Education for Smart Growth (UMIS Number BG05M2OP001-2.009-0034-C01: Support for the development of the scientific capacity in the University of Forestry, Beneficiary 000670634 University of Forestry). We would like to thank Assoc. Prof. Dr. Maria Asenova and Asst. Prof. Maria Gurkova.

REFERENCES

Regulation №12 for register of immovable cultural heritage and its way of identifying, granting status and determining a category of immovable cultural riches, 21.11. 2012.
General Land Use Plan of Sofia (2009).
Old Sofia, http://stara-sofia.com/
The Lost Bulgaria, http://www.lostbulgaria.com/
ISofMap, http://www.isofmap.bg/
Interactive map The Landscape architecture of Sofia, https://arcg.is/0Su4Wn
BIOGRAPHY

Maria Savova is student of Landscape architecture at University of Forestry, Bulgaria. Her main research is in remote sensing, cartography, and GIS for urban components analyzing, landscape design and green areas management. She is a President of Landscape Architecture Student Association in Bulgaria and a member of GIS club in University of Forestry.

Viktor Todorov is student of Forestry master program at University of Forestry, Bulgaria. He hold BSc degree in Ecology. He is a member of Student Club for Natural Environment Conservation in Bulgaria and of GIS club in University of Forestry.