

Non-urban scene analysis: reactivating the bobsleigh track on Trebević mountain

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ABSTRACT

Nature can be explored and loved in little things: in drops of water, in a test tube, in a cage. But the greatest honour and pleasure of exploring nature in the large and largest is - from the foothills to the top of one giant mountain. (Conal Elliott). This analysis covers the Trebević Mountain in Sarajevo through detailed attention paid to biodiversity of flora, which adorns the mountain. Since it has significant flora, Trebević is considered to be the lungs of the city of Sarajevo. The grandeur of flora on the mountain could be seen through the botanical garden, which adorned it and a multitude of rare herbs gathered in one place, which attracted many visitors. Unfortunately, the garden was destroyed and attention is no longer paid to the plants. At the same time, other activities lost their importance, namely, the Bobsleigh track. The paper deals with a detailed analysis of flora and proposes the less demanding and more affordable solutions to reactivate the Bobsleigh track, which is one of the landmarks of this mountain.

Keywords: Eco-restoration of Trebević Mountain, habitat, flora, landmark.

Introduction

Mountains are landscapes that are the most sensitive to imbalance between nature and the human factor. Therefore, landscape protection is of key importance for successful and sustainable development of other layers. They encompass spectacular landscapes, a wide variety of ecosystems, a great diversity of species and distinctive human communities. Trebević Mountain belongs geomorphically to Jahorina Mountain. To the north, this mountain is bounded by the Miljacka River, to the south by the Kasindolski stream, to the east by Veliki Stupanj and Mali Stupanj and to the west by Sarajevsko polje. From the highest point (1629 m), there is a tremendous view of the Zvijezda, Ozren, Romanija, Jahorina, Treskavica, Bjelašnica, Prenj, Bitovnja, Vranica, Zec and Vlašić mountains. In simple terms, the structure of Trebević comprises five cliffs distributed side by side in a northwest-southeast direction, and it is this that gives the mountain its extraordinary beauty (Figure 1). Thus, it has a landscape that has a high aesthetic value with a great diversity in biological, soil and geological terms, which, together with the architectural heritage, and traditional values, as well as the proximity of the city, provides the necessary



Figure 1: A view from the Trebević Mountain towards Sarajevo city

Source: Personal archive / 26th May 2015

parameters for achieving eco, sports and recreational tourism, as well as making the visits pleasurable. All this is in line with the everyday ways of life and economic development activities consistent with the protection measures. "Category V, a protected area covers an area formed through the interaction of people and nature over time and is characterized by significant environmental, biological, cultural and aesthetic values. Preserving the interaction of people

and nature is vital to protection and sustainability of the area, with associated natural and other values." Accordingly, Trebević – an oasis of peace and greenery in the vicinity of Sarajevo – was once an important tourist and recreational centre, both in summer and winter. Today, it represents a testimony of human negligence and damage a human hand can inflict on a beautiful mountain.

The Mountain area has been affected by loss of diversity as a result of human activities, i.e. changes in land use. Mountain forests are threatened by uphill expansion of agriculture and human settlements, logging for timber and fuel wood, as well as turning them into highland pastures. Climate change largely affects mountain biodiversity by reducing available land area for organisms adapted to the cold. The pace of plant species moving uphill, possibly due to climate change, is quite high, increasing the number of species in the upper belts in the short term, but outcompeting rare species or those adapted to the cold in the long term.

This mountain was known for its botanical garden, Bobsleigh track and observatory as its most known landmarks. This is one of the reasons why many citizens fled from the polluted urban areas – to enjoy a walk in the fresh air. Accordingly, mountains offer specific activities to attract people. Lately, the constructed restaurants have attracted many citizens and in a way made this place vivid again. The Mountain is frequently visited, but people are mostly gathered around these objects, which is good from one point of view – Trebević is being visited again, but from the other side – it has many potentials to offer that are neglected at the moment and it is clear that insufficient attention is given to its reactivation. Consequently, it brings up the question: how to combine the available values of the mountain, in order to offer the activity that will return its original value and provide visitors with ample content?

Case study approach

Eco biodiversity

As a result of co-existence and a higher level of interaction between the biological and geological diversity, the whole area has a high level landscape diversity. Floristic diversity of the area is determined by geological and lithological structure and climatic characteristics.



Figure 2: A view towards the Trebević Mountain
Source: <http://www.ekoakcija.com/> downloaded on 1st June 2015

"Trebević is characterised by coniferous forests (mainly spruce) on the northern slopes, and by deciduous forests on southern slopes. Also, there are many silver pine forests which are a result of anthropogenic influences. There was also an initiative to establish a botanic garden on Trebević by a group of scientists from the National Museum of Bosnia and Herzegovina." Regarding this, many locations on Trebević contain a lot of allochthonous vegetation like cultures of *Picea omorika*, *Larix decidua*, *Pinus heldreichii*, and many different shrubs and flora brought from all over the country. The southern parts of this mountain have always been inhabited and the land was cultivated for agricultural and livestock production. The northern parts were mainly used as forests, although many of the northern mountain slopes have been built-up over the past 20 years. After detailed analysis, the results have shown the following:

The real forest vegetation is dominated by:

- Thermophilic beech
- Oak and hornbeam or hornbeam forests
- Spruce-fir forests
- Beech-fir-spruce forests
- Hornbeam vegetation complexes with plant communities of rocks and rock creeps

Due to its potential, Trebević forest vegetation consists of:

- Hornbeam forests
- Oak and hornbeam forests
- Beech-fir-spruce forests
- Hornbeam vegetation complexes and black pine forests
- Thermophilic beech with plant communities of rocks and rock creeps

Within the entire area, there are a variety of plant communities which form different plant species. The area identified ten different ecosystems, as follows:

- The ecosystem of a pine forest on the rocks,
- Beech forest ecosystem,
- Thermophilic ecosystems consisting of coppice forests and shrubs,
- Ecosystems alternating from moderately moist to xerophilous meadows,
- Rocky substrates and talus ecosystems with pioneer vegetation,
- Spruce-fir forest ecosystem on deep soils,
- Spruce-fir forest ecosystem on shallow soils,
- Ecosystems on scattered and devastated habitats,
- Plantation sawmills (pine) ecosystems,
- Conifer plantations (fir, spruce) ecosystems.

In this area, apart from the above mentioned large number of lichen, mosses and mushrooms species, characterized by their wealth, moss phytocoenosis is very well developed in almost all parts of the area, and the highest abundance of moss can be found in damp, shaded habitats such as those unshaded by rocks in the woods, near or in watercourses themselves etc. Constant humidity made numerous streams, and an abundance of organic matter in the process of putrefaction has enabled the development of entire populations of fungi, both poisonous, and edible.

Bobsleigh track as a mountain landmark

The Bobsleigh track (Figure 3) was built for the 14th Winter Olympic Games held in Sarajevo in 1984. It was used for winter contests, two and four seater bobsledding and sledging, and was the most difficult and most expensive project of the Olympics.



Figure 3: Bobsleigh track, Trebević
Source; Personal archive / 26th May 2015

Even after the games, the slide was self-sufficient. In addition to sporting events, it has become a favourite meeting place for young people due to the popular rubber Vučko, which is a well-known mascot for this activity. Unfortunately, the current state of the Bobsleigh track is not commendable. For many years, the Bobsleigh track is neither operative, nor is any attention paid to its maintenance. For this reason, the path is now overgrown with grass, destroyed with graffiti and has a poor general appearance. Throughout its length, the 1300 meters long track extends through the forest park where it directly interacts with the rich vegetation and consequently provides a great potential for interconnection.

Solution proposal

The Convention on Biological Diversity adopted the work programme on mountain biodiversity with a set of actions addressing the characteristics and problems specific to mountain ecosystems. It aims to conserve mountain biodiversity and maintain the goods and services of mountain ecosystems and contribute to poverty alleviation and to the achievement of the Millennium Development Goals, as well as improve the capabilities of institutions and organizations to promote conservation and sustainable use of biodiversity.

According to the main aims presented in the document "Privremene upravljačke smjernice za zaštićeni pejzaž – Trebević", prepared by the Sarajevo Canton (Cantonal public institution for protected natural areas), the two main objectives are:

- The protection and maintenance of important terrestrial, marine landscapes and nature parks with the values resulting from the interaction of people and nature through traditional management practices;
- General contributions to the preservation of biodiversity through species management within the cultural landscape and by improving the possibilities of preserving the highly exploited landscapes;

After a thorough review and adoption of guidelines for restoring parts of the mountain and a complete analysis of the current state of the flora biodiversity and other activities that the mountain offers, the proposed solution includes the field of vegetation and recreational activities. The question asked at the beginning of the work was: How to connect a

landmark mountain with the natural wealth of its vegetation. As explained above, when “Trebević” is mentioned, the first association is the Bobsleigh track, since it has a historical value for this mountain and the city as well. The Bobsleigh track is mentioned mainly in the past tense, because it was destroyed during the last war and has not been maintained ever since. In order to attract visitors and mountain lovers, a slide needs a function, which can be different than its original one. This means that the slide can have additional activity which will highlight the value of the mountain, but at the same time revive what is currently almost dead.



Figure 4: The exterior of the Bobsleigh track, Trebević
Source; Personal archive / 26th May 2015

As, Slavko Malić, one of the organizers of ZOI 84, emphasizes: “It all boils down to some sort of activities and preparation for the younger generation, the children, to keep them interested. You have, as we say, pushing the bobsleigh. When the time comes, it could be the track where one learns the technique of pushing the bobsleigh, jumping inside it, etc. But it requires hard work. Can you interest someone by only talking about bobsleighbing? You must do something for these kids to see, to experience. The situation up there is really sad. If we rebuild the Trebević cable car now, the Bobsleigh track will be even greater, and we have to start rebuilding it as soon as possible.”

As learned from the KJP ZOI'84, the track was destroyed during the war, and its reconstruction requires enormous financial resources, which the organization is not able to procure. In accordance with this, the proposed solution consists of the following measures:

- Cleaning the Bobsleigh track and deforestation of the overgrown unnecessary forest species;
- Presenting the Bobsleigh track as a recreation trail through the forest;

- Parts of track/trail covered with the flora specific for this mountain having a role of presenting the natural wealth and creating better visual aesthetics;
- Placing the plant labels around the flora species in order to force its importance and bring attention to it;



Figure 5: A trail of stairs next to the
Bobsleigh track, Trebević
Source; Personal archive / 26th May 2015

It is important to highlight that the solution is temporary and with it an attempt is made to bring the landmark back to life with another function and at the same time present the importance of vegetation. This is proposed while having in mind the possibility of restoring the landmark's original function someday. The proposal can work alongside these measures that aim to create a prevailing and short term solution.

Conclusion

Trebević represents an invaluable heritage of the area and needs to be preserved as a contribution to the survival and wealth of people. The place is perfectly fashioned for people who would love to be a part of nature and indulge in it. With all those beautiful flora species planted all over the mountain, you will definitely be at peace with nature. By combining two very important landmarks of this mountain, an approach to a temporary solution reflecting its greatest potentials was provided. If a proper approach is used, the benefits of the mountain can be sensibly exploited and returned to its operating condition in terms of people visiting it again, not only for social, but also for recreational activities. Most importantly, Trebević, recently known as ‘a forgotten resort from a fairy-tale’, will benefit from another function as well. In the end, Trebević is worth the effort and should be visited. Looking to the future, one can only hope that the authorities will see how important revitalising Trebević is for the city of Sarajevo.

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Analiza vangradskog područja: reaktivacija bob staze na Trebeviću

SAŽETAK

"Priroda se može istraživati i voljeti u malim stvarima: u kapi vode, u epruveti, u kavezu. Ali najveća čast i zadovoljstvo istraživanja prirode u velikim i najvećim stvarima je istraživanje velike planine od njenog podnožja do vrha." (Conal Elliott) Ovaj rad predstavlja analizu sarajevske planine Trebević sa posebnim fokusom na bioraznolikost flore koja je krasí. S obzirom na njenu značajnu floru, Trebević se smatra plućima grada Sarajeva. Raskoš flore se ogledao kroz botanički vrt koji je krasio planinu i mnoštvo rijetkog bilja na jednom mjestu, što je privlačilo mnoge posjetitelje. Nažalost, vrt je uništen, a biljkama se više ne posvećuje pažnja. U isto vrijeme, druge aktivnosti su izgubile na važnosti, kao Bob-staza, na prvom mjestu. Rad se sastoji od detaljne analize flore i prijedloga rješenja manje zahtjevnog i jeftinijeg rješenja reaktivacije Bob-staze, koja je jedna od znamenitosti ove planine.

Ključne riječi: Eko-restauracija Trebevića, staništa, flora, landmark.