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STOLAC AND ITS SUSTAINABLE MANAGEMENT

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ABSTRACT
Unbalanced development in all spheres of social-economic activities in Bosnia-Herzegovina in the past led to serious environmental problems. This also applies to the wartime period when, due to chaotic circumstances, the biodiversity was seriously affected. Through a number of different activities, man affects the biological diversity and the nature as a whole, thereby causing various changes manifested through degradation, destruction and devastation of biodiversity. One of such places in Bosnia-Herzegovina is Stolac, a town located in the south-east part of the country. Along with the historic sites such as the Old Town, the Illyrian town of Daorson, the Radimlja necropolis, etc., Stolac is a place rich with natural resources. One of them is the Bregava river, abounding in flora and fauna with many endemic species, and opening door to tourism.
Keywords: natural resources, tourism, anthropogenic factor, sustainable development

1. INTRODUCTION
With its knowledge, man has taimed the nature, produced resources (cities, economy) and therewith enriched the environment, made it more comfortable for living; but, the uncontrolled exploiting of natural resources has endangered the develpoment of civilization on Earth and of all of the natural resources. The unballanced development in all of the segments of social and economic organisation of B&H in the past period, has caused serious problems in physical environment. That refers to the wartime period as well, when the chaotic living conditions resulted in disruption of biodiversity.
Such a trend has been continued in the period after the war. With its multiple activities, man has exerted pressure on biological diversity and nature in general, creating different forms of changes manifested through degradation, destruction and devastation of biodiversity.

The city of Stolac in itself combines something special and interesting, in terms of architectural context and in terms of its bioresources.
The city is known for its old fortresses such as: Illyrian city Daorson, necropolis Radimlja, the Old Town and for its diverse flora and fauna as well, with many endemic species.
With this paper we intend to open this area for research and discover the beauty the city really possesses.

2. GENERAL CHARACTERISTICS OF THE AREA

2.1 Geographical position
Stolac is situated in the southern part of Bosnia and Herzegovina, more exactly in its south-eastern part (map 1) between the mountain Hrgud on the north and Dubrava plateau on the south-west.

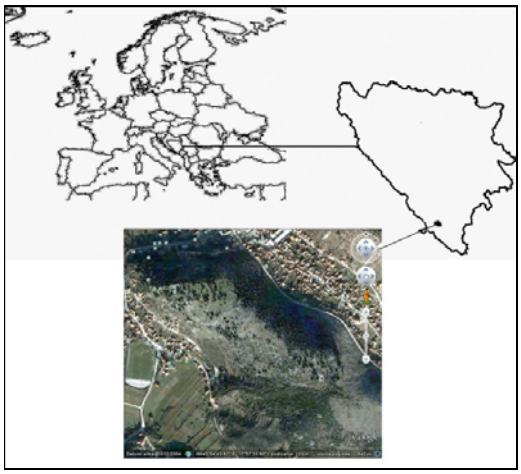

Figure 1. Map of Bosnia and Herzegovina with marked area of Stolac

2.2. Hidrological characteristics

Bregava River is the left tributary of river Neretva in the southern Herzegovina. Its basin area is placed between Neretva River on the west and Trebišnjica River on the south-east. Its size is 722, 4 square km. Its length amounts 31 km with the average flux decline of 3, 7 m/km. Bregava River flows into Neretva at the place called Klepci.

Bregava River basin that stretches through two municipalities, especially its upper confluence is a unique natural complex and a very saving worthy area in terms of landscape and biological diversty. This area also abounds in rich cultural-historic heritage. With its borderline position between two climactic areas (mountainous and Mediterranean), karst forms, hydrographic net and different relief forms, the upper confluence of Bregava River is a unique natural-geographic complex. The main features of the area together result in extreme richness of natural values—geomorphological, hydrological and biological.

2.3. Pedologic-geological characteristics

This area is also known for its geologic-lithological and geomorphologic specificities, described as the karst area. The area abounds with plenty karst sinkholes and karrens of considerable depth, sometimes even up to 5 to 6 metres. Geological foundation is karst and dolomite. At the bottom of dales, karst sinkholes and basins there is terra rossa (red clay soli) layer. (Cirić, 1991)

2.4. Climactic characteristics

The area of Stolac is prevalent with Mediterranean and submediterrannean climate, as is the most part of southern Herzegovina. The climate is significantly influenced by relief, sea level and several other factors. The summer periods in this area are considerably long and hot with temperature often exceeding + 40°C and winters are short and mild, with temperature never going under 0°C. Vegetation period lasts around or more than 240 days.

3. POSSIBILITY OF SUSTAINABLE DEVELOPMENT

3.1. Tourism

Old town (fortress) is situated at 75-110m above sea level and it covers the area of approximately 24065m^2.

After having read old history books about this fortress and having heard various stories, we can say that the Old town was built on a strategically important and distinguishable place, that is, on a hill. During the Ottoman ruling, the town was smaller whereas upon the Austro-Hungarian arrival its walls got extended and thus it became one of the strongest fortresses in Herzegovina.

Daorsoi or Daorson was the main fortress (settlement, town) of the Hellenised Illyric tribe Daors (IV-III century B.C.). Today, on the deserted area where once used to be the Daorson fortress, there are stone ruins and numerous monuments.
Remains of once strongest fortress in the wider area are kept at Ošanići nearby Stolac in Herzegovina.
Mediaeval tombstone necropolis Radimlja is located at Vidovo polje, 3km west from Stolac.
For its numerosity of samples, for its diversity and presence of all basic shapes, relief forms and inscriptions that mention famous historical figures, the Radimlja necropolis is among the most valuable monuments to the medieval period in Bosnia-Herzegovina.
Considering its artistic characteristics (features), the Radimlja necropolis is among few most valuable and important medieval tombstone necropolis in general.
The Radimlja necropolis near Stolac has been proclaimed as an area of historical importance and as a national monument.
The monument under the name „Radimlja-the Medieval Tombstone Necropolis“ was on the Temporary List of National Monuments; due to the non-implementation of the dispositive part of the issued Committee decision, and due to the continual devastation of the necropolis and its surrounding area, the monument has been included to the List of Endangered Monuments, as well.

3.2. Agriculture

Every year Stolac is the host town to „Mediterranean Fruits of Herzegovina“ Fair.
The fair and the place the fair is held in are proofs that Stolac has certain predispositions to be well positioned at the tourism market, not only for being a place that abounds in natural beauties and cultural-historical heritage, but also for being a place rich in traditional autochthonic and good quality offer of domestic agricultural products.
Certainly, we must mention the most important domestic (local) fruits typical of this area such as olives, figs and pomegranate which are true cultivated fruits.
The olive trees typical of this area were mostly destroyed during the war period, but nowadays they are cultivated on private properties. Within agricultural activities, it is worth to mention a sector whose members produce jam, juices and preserves in a traditional way.
Moreover, the area is known for activities of picking, drying and packing of medicinal herbs which for their flowers typical of Herzegovinian hills are a true attraction.
Enjoying the mild climate characteristics, the area offers well-known tobacco which by its characteristics is among the best quality tobaccos in the world.

3.3. Fishing

The main natural richness is water. Along with water, of special significance, are also tufa and diversity in animal and plant species out of which the most important ones are the endemic species of softmouth trout and river crabs. The Bregava River is a biotope for many fish species: salmonidae—rainbow trout (*Salmo trutta m. fario* L., 1817), dentex (*Salmo dentex* Heckel, 1852), Neretva softmouth trout (*Salmothymus obtusirostris oxyrhynchus* Steind., 1882), Californian trout (*Onchorhynchus mykiss* Wal., 1792), rutilus basak (*Rutilus basak* Heckel, 1843), Cyprinidae species: European chub (*Leuciscus cephalus albus* Bon., 1838), Minnow (*Phoxinus phoxinus* Linneaus, 1758), crucian carp (*Carasius auratus gibelio* Bl., 1783), Neretva rudd (*Scardinius plotizza* Heckel & Kner, 1858), bleak (*Alburnus alburnus alborella* de Filippi, 1844), and Dalmation nase (*Chondrostoma kneri* Heckel, 1843and a family of Anguillidae family with one species: eel (*Anguilla anguilla* L., 1758).
This kind of rich and diverse flora and fauna is not only a challenge for researchers and tourists, but it also presents a significant potential for the development of fishing tourism. Unfortunately, because of the underdeveloped material base of tourism and a bad technical equipment of fishing regions, this potential is not fully used in terms of tourism. Therefore, the area in question is a challenge for researchers and for tourists as well.

4. THE EFFECTS OF POLUTION ON NATURAL RESOURCES

There is a growing tendency of negative effects that man has on the environment. Visible and always present environment damaging actions are dropping litter, road constructions, tree cutting etc. Based on the close insight of the above mentioned goods, it has been found that, for example, a national

monument has been endangered by the illegal construction works at the actual place of the monument or in its close vicinity. In the year 1999, illegal business buildings have been built on the public property next to necropolis which is a place of potential archeological significance. Then, the central area of necropolis which is currently not surrounded by any fence has become a parking place for visitors and owners of the business buildings. Furthermore, the area right next to necropolis has been turned into a waste deposit, so the whole area is exposed to the risks caused by trucks that go right across it carrying waste such as chemicals and visual polluting agents. The Old Town and Daorson are forgotten, uncared for and in the phase of deterioration, as is the world of plants and animals that are slowly being extinct.

5. CONCLUSION

The research efficiency of this area primarily depends on the level of knowing it, and the goal of this particular research is to evaluate this area's diversity, as well as to provide the overview of the scientific international literature of the field in question in order to make the area well known and interesting for tourists. The ecological situation is very much changed in relation to the past period and the only possibility of its protection is in scientific research activities and the education of population concerning the area; but, a well planned area protection strategy would also be of great importance, that being the only way of saving the historical and natural richness of the area from the anthropogenic factor influences. There has to be conducted an identification of the areas in need of protection due to their respective ecological and cultural values.

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