

The Drina Cross-Border Biosphere Reserve as an Instrument for Territorial Integration and Formation of a Unique System for Protecting Natural and Social Heritage

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Abstract: - One of the most rudimentary instruments for space integration worldwide is forming cross-border reserves. Cross-border cooperation is important for territorial cohesion and the formation of a unique system for protecting natural and social heritage, and at the same time it is one of the prerequisites for all other means of cooperation. This paper will show the significance of forming the Drina Cross-border Biosphere Reserve, which would comprise the unique territorial system of the existing Tara National Park in the Republic of Serbia and the potential Drina National Park in Bosnia and Herzegovina. The paper deals with environmental, economic and social potentials as the basic dimensions of the planning methodology for this cross-border reserve. The paper also reviews the geopolitical dimension of the observed location.

Key-Words: - Biosphere reserve, cross-border reserve, the Cross-border Biosphere Reserve Drina, spatial planning, environmental potentials, economic potentials, social potentials, geopolitical dimension.

1 Introduction

UNESCO's Man and the Biosphere (MAB) program was launched in 1971. It gained significance only after summits in Rio de Janeiro in 1992 and Johannesburg in 2002. The basic concept of the program is to reconcile the functions of preservation and development, which are often contradictory. UNESCO's records from 2011 show that 580 biosphere reserves have been formed in 114 countries [1]. A country in which there is a reserve is obligated to form a Committee for the MAB program within its National Commission for UNESCO. Each reserve must satisfy a set of minimal criteria and requirements, incorporating three complementary functions: conservation, development and Logistical support.

Reserves are spatially organized into three zones, with different functions and protection regimes: the *core area* – maximum protection, with status monitoring and research as the only activities allowed in this zone, the *buffer area* – surrounds or adjoins the core area, allows certain activities (ecological education, recreation, tourism, applied and fundamental research) and the *transition area* –

with an underlined development role in accordance to sustainability principles.

One of the basic instruments for integrating areas in the world is the formation of cross-border reserves. Up to 2011, nine reserves had been categorized as cross-border, two of which in Africa and seven in Europe [2]. Cross-border cooperation is important for the territorial cohesion and formation of a unique system for the protection of natural and social heritage, and is one of the prerequisites for all other forms of cooperation [3].

The bilateral cooperation program of the Republic of Serbia and Bosnia and Herzegovina includes plans for forming the Drina Cross-border Biosphere Reserve, which would comprise the unique territorial system of the existing Tara National Park in the Republic of Serbia (municipalities of Bajna Basta, Uzice and Cajetina) and the potential Drina National Park in Bosnia and Herzegovina (municipalities of Rogatica, Visegrad and Srebrenica). Initiatives for declaring the Drina Cross-border Biosphere Reserve were also launched within UNESCO ROSTE's MAB program in mid 2004, when the Tara National Park was re-nominated for a future Biosphere Reserve and

Trans-border park for peace between Serbia and Bosnia and Herzegovina.

2 Methodology

When looking for answers to questions which were posed during the making of the original scientific paper The Drina Cross-border Biosphere Reserve, the main method used was the research method. Also using methods of analyses and syntheses of gathered subject-matter for the purposes of writing this paper, as well as methods of classification, regionalisational differentiation of geospace and geosystemic analysis of space-time matter, this paper will attempt to give shape to an integral strategic mechanism for managing problem processes at the observed space. Modelling methods, software support, as well as a complex evaluation method, will certainly contribute to a more exact formulation of the theoretical applicative constructions of the research matter model.

3 The Drina Cross-Border Biosphere Reserve Natural and Cultural Values

Natural values of the areas on both banks of the Drina river indicate a significant level of constraints of the development in the entire area around the border, in order for the natural values to be maintained fully, and the conditions to be met for declaring the entire zone as the Drina Cross-border Biosphere Reserve. It would cover an area of 634.46 km² at the territory of the Republic of Serbia – The Tara National Park, while a surface of 626 km² is planned to be placed under protection in Bosnia and Herzegovina – the potential Drina National Park.

According to its spatial plan **The Tara National Park** [4] comprises 4 compact and complementary units: Tara in the narrower sense, The Sargan-Mokra Gora Nature Park, The Zaovine protected landscape and a portion of the Zlatibor Nature Park.

The Tara National Park in the narrower sense was declared as a 1st category natural resource of national interest, and belongs to the II category in the IUCN classification. The most significant natural values of the Tara National Park have been placed under protection in ten nature reserves (The Brusnica Gorge, Zvezda, Derventa Gorge, Bilo, Ljuti breg, Crvene stene, Pod Gorusicom, Crveni potok, Racanska Sljivovica, Raca Gorge). Each of these reserves encompasses a certain natural phenomenon, and is generally extraordinary. Researches on Tara so far have determined the existence of over 1000 species of vascular plants, 66

of which are endemic. The most significant of them is the Serbian Spruce (*Picea omorika*) – a tertiary endemorelict, which was prevalent across Europe 20 million years ago, and has been reduced only to the area around the middle part of Drina's river. Apart from extraordinary plant biodiversity, there are numerous animal habitats around Tara. So far, there have been reports about 135 bird species on Tara. An especially significant species is the Western Capercaillie (*Tetrao Urogalus*). Also, there are over 40 species of mammals on Tara. The Tara mountain has a rich cultural historical heritage also. During the ancient Roman and Byzantine dominance on the Balkan Peninsula, the area of Tara and the Drina canyon were part of the Roman province Illyricum. When Slavs came to this region they brought new customs and way of living. When the Serbian state was established in Raska, this area became a defence zone of its northern borders. Remains can be found of medieval fortifications in Zaovine, Visava and Solotusa, while there are necropoleis with the *stecci* (monumental medieval tombstones in the Balkans) in Perucac and Rastiste. In late 18th century, King Dragutin had the Raca monastery built in the canyon of the Raca river.

The Sargan-Mokra Gora Nature Park is protected as a 1st category natural resource of national interest, and according to the IUCN classification falls into category V. This relatively small area is inhabited by around 22% of the total plant life in Serbia (6.2% of that are endemic and subendemic taxa). Ornithofauna is of special value, 29 out of the 60 registered species are natural rarities and many more are protected on other bases.

The Zaovine protected landscape is categorized as a 2nd category natural resource of great significance. According to the IUCN classification it falls into category V. Of special value is an endemorelict conifer, the famous Serbian Spruce (*Picea omorika*). The significance of the plantlife is best indicated by the 55 plant species from the preliminary Red List of Threatened Plant Species of Serbia, of which 25 are of international significance, 14 are protected by the CITES treaty and 15 are natural rarities. When it comes to the animal world, the Zaovine area is also considered of great significance. A total of 36 mammal species is registered. The preliminary list of species for Serbia's Red List of Vertebrates contains 23 mammal species from this area, which makes up 63.9% of the total species on the list. The registered ornithofauna of Zaovine comprises 108 species, which makes up around 30% of the total number of bird species recorded in Serbia. Of those 108 bird species, 46 are protected as natural rarities.

The Zlatibor Nature Park is categorized as a 1st category natural resource of national interest, and according to the IUCN classification falls into category V. The floristic and faunal wealth of Zlatibor and its biodiversity is seen through the presence of numerous species which are protected in Serbia. Zlatibor is known for its authentic architectural styles, cultural traditions and customs of the population. Zlatibor can in full right be called a large ethno-complex under the open sky.

Areas of Tara, Sargan, Mokra Gora and Zaovine are recognized as internationally significant. The broader area of Tara has been identified as an Important Plant Areas – IPA and an Important Bird Areas – IBA. The Tara National Park area in the narrower sense is a Prime Butterfly Area in Serbia – PBA.

The potential Drina National Park, the part of the reserve that belongs to the territory of Bosnia and Herzegovina, distinguishes also a great floristic and faunal wealth. Individual natural values of the potential Drina National Park on the area that is part of Bosnia and Herzegovina have been set out based on individual acts declaring protected areas in categories of National Bureau for the Protection of Monuments of Culture Monuments and natural rarities of Bosnia and Herzegovina, documentation of the Republic's Bureau for the Protection of Cultural Historical and Natural heritage of the Republic of Srpska as well as field research of experts and relevant institutions.

The Drina canyon and the Rzav canyon have been declared nature reserves. The Propastva cave and the rock face inscribed with pictographic writing fall into the category of natural monument. There are three such localities on the territory of the Srebrenica municipality: the spring of the Guber spa, the cave beneath the Old Town of Djurdjevac and the Velika Voda spring near Srebrenica.

There are also numerous cultural goods and archeological sites. The most notable of the prehistoric localities is the Zlijeb locality. Of antic localities, the Skelani area has numerous monuments from the Roman period, while medieval localities are the most numerous. Apart from a large number of monumental tombstones medieval forts, the Dobrun monastery in Visegrad is notable, with an Old Town which has been placed on the Temporary List of National Monuments of Bosnia and Herzegovina, as well as the bridge on the Zepa river, dating back to the 16th century, which is on the List of National Monuments of Bosnia and Herzegovina [5]. The greatest significance belongs to the Mehmed Pasa Sokolovic bridge on the Drina river in Visegrad, originating from the 16th century. The bridge is on

the List of National Monuments of Bosnia and Herzegovina [6] and UNESCO's List of World Heritage Sites [7].

The territorial bounds of the **Drina Cross-border Biosphere Reserve** are precisely demarcated. The Republic of Serbia has fulfilled its portion of obligations and met all conditions, having declared Tara as a National Park and placed it under the appropriate protection regime. Any further activities on declaring the Drina Cross-border Biosphere Reserve are not possible until Bosnia and Herzegovina fulfills its relevant obligations of: declaring the Drina National Park, harmonizing institutions and legislation at state level and clearly defining obligations and jurisdictions of all involved parties at entity level.

The signing of the General Framework Agreement in Dayton and its ratification in Paris the internationally recognized state of Bosnia and Herzegovina was created, comprising two political and territorial units – entities: The Federation of Bosnia and Herzegovina and the Republic of Srpska. The pre-war municipality of Brcko was declared as a district. The Constitution of Bosnia and Herzegovina defines state-level obligations, and respective constitutions and legislative acts define the structure and division of jurisdictions at entity level. This kind of multi-layer division of jurisdictions is the main cause of many problems at the level of Bosnia and Herzegovina. Bilateral and multilateral relations and cooperation are under the jurisdiction of the state of Bosnia and Herzegovina, while the potential Drina National Park is on the territory of the entity of the Republic of Srpska. The simplest solution to overcome this problem would be to raise awareness about the Drina Cross-border Biosphere Reserve as a public good of general interest to Bosnia and Herzegovina, which would overcome individual opposing interests of the entities.

The obvious economic, social and ecologic problems in the area of the Drina Cross-border Biosphere Reserve impose a series of necessary initiatives, the most notable of which are:

- cohesion and improvement of joint natural resources and traffic connections,
- realization of mutual joint regional projects,
- encouraging the cooperation of citizens, cultural and public institutions,
- development of ecology and environment protection,
- recognizing common interests and strategic development,
- exchange of information and cooperation,

- establishing and organizing joint institutions for the purpose of easier realization of human rights,
- improvement of free flow of merchandice and people,
- development and improvement of multi-ethnic connections among the population on the territory of the “Drina” Cross-border Biosphere Reserve.

4 Basic Dimensions of the Methodology of Integral Planning of the Drina Cross-Border Biosphere Reserve

Environmental potentials of the Drina Cross-border Biosphere Reserve are more than outstanding, with some very visible problems of protecting and maintaining natural wealths, biodiversity and landscape diversity and attractiveness as a major factor, developing tourism and improving the area entirely. Many studies emphasize the hydropotential of the Drina river. This potential, unfortunately very often attracts economic attention, which threatens to endanger other elements of nature. Among these, most notable are forest resources (forest expanses, forest fruits, quarry), which are also exposed to ruthless exploitation. Due to the exceptional natural potential of the Drina Cross-border Biosphere Reserve in the sense of spatial planning it requires primarily that protection measures be systematically defined, and also that institutional responsibility for its protection be assumed at all levels (local, regional and state). The protection of natural resources and values should be an essential step which would lead to regulation, and then very careful and paced (sustainable) development.

Economic potentials of the Drina Cross-border Biosphere Reserve are certainly something that is necessary to be carefully and systematically examined, but having in mind the ecological capacities and limitations of this vast natural system. The absence of an integral overview of the ecological, economic and social consequences, potentials and limitations of the Drina Cross-border Biosphere Reserve significantly points to the problem of unilateral sector planning, in Serbia as well as in Bosnia and Herzegovina. The Drina Cross-border Biosphere Reserve is predisposed to the development of tourism and forestry, with an emphasis on activities which should be developed in coordination and coexistence with protecting and maintaining the entire area. Tourism in that sense

should be planned according to similar experiences of countries which have trans-border regions. Apart from nature and natural values and phenomena, this trans-border area requires:

- coordination of all local communities,
- support from government institutions and funds,
- education and systematic preparation of the population and partners in the tourism development project,
- development and improvement of accessibility to the infrastructure based on a unified spatial plan and program,
- investments into economic development and connecting local and regional communities based on the economic interests of trans-border cooperation (and not solely based on diffuse political ideologies),
- investments and development of an informational system linked to the system of modern marketing aimed at target tourist groups from this region and from Europe,
- defining the budget which will provide the basis for linking funds from the state, local communities and individual investors or concessioners towards an appropriate touristic offer,
- a modern, thought-out and attractive propaganda following the model of advanced European touristic tour operators and in cooperation with them.

Social potentials are perhaps the weakest point in the spatial planning of the Drina Cross-border Biosphere Reserve. Activities in forestry, agriculture, and also other branches of economy (mining, light industry) depend on the social and demographic factors which represent a dominant problem in the Drina Cross-border Biosphere Reserve. Few residents, scattered and unmanaged urbanization and an unfavourable demographic structure (both of age and education) require a new strategy to be defined for the spatial development of Bosnia and Herzegovina and, especially the Republic of Srpska and Serbia, which will make it possible to direct the population towards this area, and to restructure its demographics. Trans-border cooperation and unified, coordinated plans and programs play a special role in this because they are supposed to increase the level of attractiveness of this area for living and working. A special problem comes from the system of institutions and public services which would, apart from the citizens themselves, assume the burden of responsibility for the implementation of the planned solutions. A special significance for the methodology of spatial

planning of the Drina Cross-border Biosphere Reserve should go to a system of social values, among which the most important are:

- a network of buildings and areas which make up natural values with their exclusive natural structure as well as historical symbols,
- numerous buildings and areas which would be designated as protected natural or cultural goods, but which also demand a different, more active and more economically active treatment than the one so far,
- spiritual values and sacred places, regardless of their religious affiliations, which should be carefully protected and maintained as part of the area's identity and as belonging to the social community which created and inherited them,
- symbolic points or areas regardless of ethnic qualifications, which, carefully integrated into the landscape, should be points of reference of the identity of the area or zone,
- a landscape of remarkable beauties which should be encircled, valorized and maintained in the spirit of the European convention on the protection of landscape.

Apart from the abovementioned potentials, it is important to point out to the **geopolitical dimension** and significance of the Drina Cross-border Biosphere Reserve. The Bosnia and Herzegovina's border area, considering the geosition, total area and border length, has all predispositions to be a *border region* on one hand, and a *trans-border region* on the other. The border region in the geopolitical and economic sense is more homogenous, while the trans-border region is more spatially heterogeneous [8]. The conditions for the formation of a trans-border region are met in Podrinje, where its status would be determined by political relations and special ties between Republic of Srpska and Republic of Serbia. Political and economic activities should be directed towards creating a trans-border region, for which there already are natural, geo-traffic conditions and potentials. As an instrument of cross-border cooperation and the turning point for the creation of a trans-border region, the Drina Cross-border Biosphere Reserve would be of great significance. By activating natural and geo-traffic potentials, the conditions would be met for a quicker economic development and establishment of economic self-sustainability of the observed area, which would in turn open up possibilities of cooperation with neighboring administrative and territorial units and neighboring regional alliances in the domain of trade exchange, environment protection, science and technology, culture and tourism at the local as well

as regional level. Planning the development and revitalization of the border area through the affirmation of the Drina Cross-border Biosphere Reserve in the context of a geopolitical standpoint and demographic development represents one of the ways to political and economic stability. Seen in this light, the border area has all the predispositions of a perspective region. Otherwise, having in mind its heterogeneity it can have the characteristics of an *outskirt*, which means it is an area defined by a political border on the outside, while on the inside it is marked with a wide transitional zone, which causes the processes of depopulation and economic backwardness, and has some characteristics of a peripheral area – exploited and neglected.

5 Conclusion

The methodology of the integral spatial planning of the Drina Cross-border Biosphere Reserve according to modern principles requires primarily a grasp of reality which, apart from existing values contains numerous problems which are to be dealt with in a complex socioeconomic situation on both sides of the Drina Cross-border Biosphere Reserve.

This, for the most part demographically emptied, as well as economically degraded area requires an extremely careful valorization instead of euphoric ideas of exclusivity. We should re-examine and apply the experiences of other cross-border regions with similar areas which have developed in a relatively short period of time into first-grade economic, touristic and cultural units. Spatial planning solutions would be built with the constantly present idea of cross-border, but also trans-border cooperation. This is why the spatial plans of the Republic of Serbia and the Republic of Srpska need clearly defined projects which would be feasible on mid-term bases, counting on partner cooperation of citizens, local communities, the region, state funds, and in the future, European funds. This is the reason that this kind of methodology should have more of the indicative, with a thorough knowledge of the space, residents, their aspirations and value systems, as well as zone-specific ecologic potentials and limitations. And finally, as spatial planning dictates, the basic task of the methodology for planning the Drina Cross-border Biosphere Reserve is the ambivalent task of: protecting and maintaining what represents public interest and protecting private interests and encouraging private initiatives, but according to the criteria of public interest.

Spatial planning of the Drina Cross-border Biosphere Reserve should be an outcome of joint agreements of the border regions of the Republic of Serbia and Bosnia and Herzegovina with state-level support and local municipality administrative participation. It is only then that we can expect that, instead of degrading, the Drina Cross-border Biosphere Reserve area can come to a gradual renaissance in the period to come.

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