

LANDSCAPED REGIONALIZATION OF UNA - SANA CANTON

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For the purposes of regional and spatial planning microregionalization are of the most importance. In the complex allocation of geographical units are analyzed and mapped the quantitative and qualitative characteristics of each of the geocomponents. Based on the processed identification physical-geographic factor and analysis of existing socio-geographic features of the Una-Sana Canton, previously separated three physiognomic unit size of areas.

In this paper went further in regionalization and defining smaller territorial units, sub-areas. Within three areas singled out seven sub-areas, and qualitative method of valorization is determined by their purpose.

Key words: landscaped regionalization, Una Sana Canton, sub-area

INTRODUCTIONS

Physical geographical regionalization is considered one of the main problems of modern physical geography. It consists of a separation of individual territorial units, physical-geographic region that objectively exist in nature and together form the geographical environment. The scientific significance of the physical regionalization is that the separation of individual regions is performed on the basis of a detailed study of the natural characteristics of certain territories and establishing the principles that led to the spatial differentiation of natural processes in it. Such concerns have led to the formation and development of specific territorial units, higher or lower rank. The current geographical regionalization of Bosnia and Herzegovina was performed mainly in two levels or degrees: macro (region) and mesoregional level (sub-region). Leading criteria were physical geographical elements of the given space, and physiognomically principle of geographical regionalization. In the area of Una-Sana Canton, identifies three physical geographical unit (Korjenić.2009). Each of them, in view of the result of interaction of physical



Fig. 1. The position of the Una - Sana Canton

geographic factors, and has a different purpose. Physical geographical variables are independent of each other but mutually dependent. As a result of these relationships resulted is unique, visually distinctive content space - the homogeneity of the physiognomy or natural-territorial landscape (Fig. 3.). Regions separated based on single predominant geographical element or variable are defined simply by regions, and those that are specific to two or more of the indications leading factors belong complex regions (Spahić, Jahić.2014). Defining the boundaries between different areas and subareas, was performed according to Armand D.L. (1975), whereby the homogeneity criterion is used prevailing natural occurrences and processes. The Armand in his "Science of Landscape" (1975) explained in detail the principle of typological regionalization, which the author of the paper guides when creating the same. By qualitative valorization i.e. the assessment of the environment is determined by the allocation of certain areas and subareas. Analyzed their locational and attribute factor. Within three areas in Una - Sana Canton, has been set aside seven subareas.

GEOGRAPHICAL POSITION OF UNA-SANA CANTON

The geographical location is a complex and dynamic category, and incorporates elements of the physical and human geography. The correct rating geographical location specific area is especially important in regional planning, because the situation is one of the main elements of the development of the area. Analysis of geographic position especially in the context of spatial planning has to be complex.

Una - Sana Canton, the surface of 4125.0 km², is located in northwestern Bosnia and Herzegovina. It is located between 44°15.2' and 45°13.6' N and between 15°44.4' and 16°55.5' E. Due to the overall area of the Canton may be said it has direction of northwest - southeast. In the geological and geotectonic terms dominates High karst zone and Mesozoic limestones in the middle and southern parts of the Una - Sana Canton. Central Zone Paleozoic - Triassic massif in Canton is a relatively elevated crimped stratified block, limited longitudinal dinaric fractures, and transverse fracture of the Bosnian cross the provision, while the upper part of the basin Une makes the system cover the High Karst with wrinkles and scaly less affected by erosion. Climatic, this is an area that is characterized by moderately continental climate, with moderately cold winters and hot summers or Cfb climate. With increasing altitude there is a modification of the values of climate parameters and therefore the climate characteristics. Hydrographic framework makes Una and its tributaries Unac and Sana, while the far northwestern part of Canton belongs to the basins of Glina and Korana.

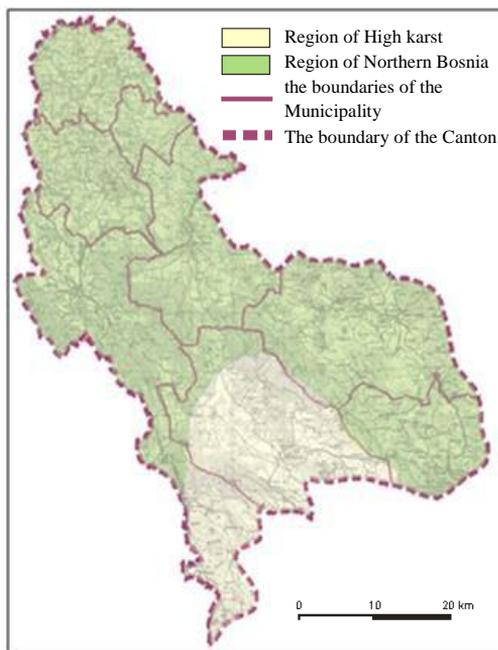


Fig. 2. The position of the Una - Sana Canton according homogenous regionalization

The administrative - political, Una - Sana Canton makes 8 municipalities and it Bihać, Bosanska Krupa, Bosanski Petrovac, Bužim, Cazin, Sanski Most and Velika Kladuša. In this area and according to estimates the Statistical Office of the Federation of Bosnia and Herzegovina in 2014, lives 287 361 inhabitants.

According to V. Rogić (1973), in the context of a homogenous regionalization in Bosnia and Herzegovina stand out 4 homogeneous geographical region. Una - Sana Canton, according to this regionalization belonged to the regions of Northern Bosnia and the Bosnian-Herzegovinian High karst (Fig. 2).

LANDSCAPE UNITS, SUBAREAS UNA - SANA CANTON

Based on overlapping oleate mapped territory, and interaction of geological structure, terrain, climate conditions, vegetation, soil, and anthropogenic impacts, identifies three landscaped unit - areas: Central Sana, Central Una - Glina - Korana, Upper Una - Grmeč areas (Korjenčić.2009).

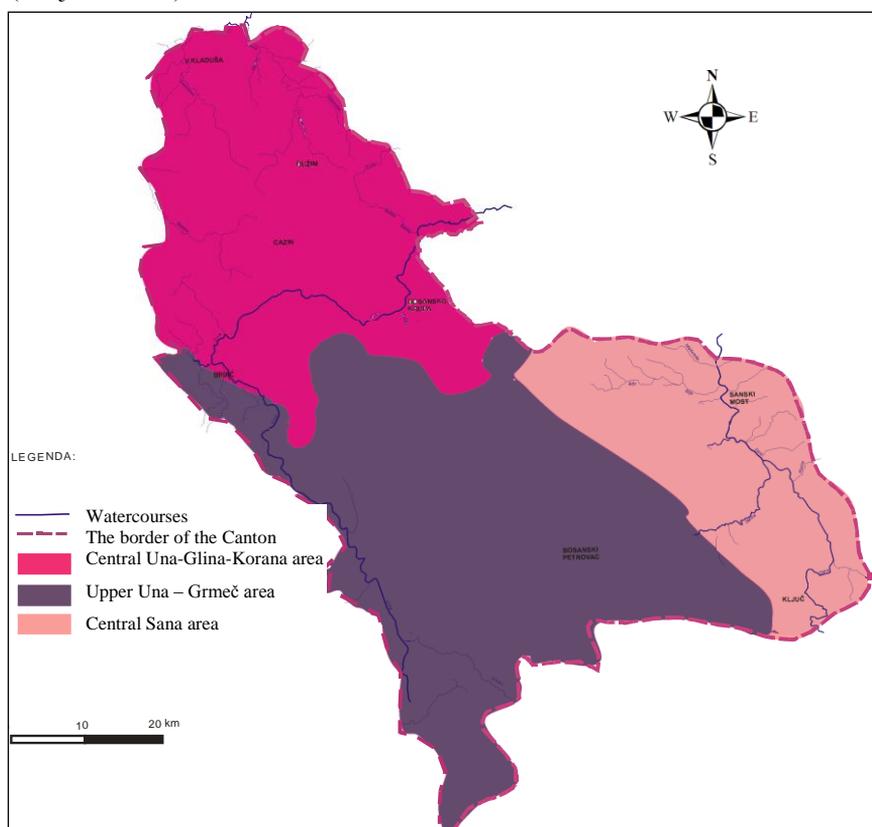


Fig. 3. Allocation of Una - Sana Canton in three landscape units - areas

The boundaries between chorological regions are determined on the basis of close connection and overlapping average annual isotherm of 10°C, the average annual isohyets of 1250 mm, the dominant propagation forest of beech and fir, as well as beech and fir with

spruce and mosaic soils calcomelanosol – calcocambisol - luvisol. All of these determinants are largely defined by the altitude, so the limit is, generally, orographic and in the form of watershed.

Qualitative valorization determined by the purpose of certain areas, with the allowance for the prevailing locational and attribute factor. A detailed analysis of physical-geographic characteristics of certain areas, natural resources and anthropogenic valuation, we have come to differentiation of regions into smaller territorial units, the subareas (Fig. 4). Each subarea has a leading center of development which it took its name. This does not apply to Upper Una – Grmeč area where dominated morphological structures that give it a distinct physiognomy.

Central Una - Glina - Korana area - hydronym covers the northern or north-western parts of Canton with 1457 km². Morphostructural, this area is dominated by hills and plains which are related to the Una and its tributary valleys of Glina, while morphosculptural is allocated Unsko - koranska plateau and geomorphologic and hydrological structures in the valley of the Una i.e. in its middle course. Srednjounsko-glinsko-koranski area can be divided into three subareas which carry the name of the municipal centers as nodes of their development. For borders leading determinants were: orographic watershed of 3 basins, then the average annual rainfall and soil types, on the basis of which the area is divided into:

➤ **Bihać - Krupa subarea** - includes midstream Una of Ripač to the Otoka, that is, the boundaries of Canton, with an area of 734 km². Bihać as an administrative-political, cultural and trade center of Canton already has a leading role, and would therefore be more impact on the development of the secondary center - Bosanska Krupa. The analysis of natural, cultural and historical values of the Canton could be seen to be at the end of this has in large numbers, which again points to the tourism, its development and fully affirmed. Because it is a densely populated area, it is impossible to carry out its full tourist valorization; however, certain objects and spaces should be protected by special measures. Such a settlement Ripač which has great cultural and historical value, Una sink or travertine waterfalls that give Una a special stamp and have a natural value, ada's in Bosanska Krupa and Otoka and Suvajsko medjugorje, then springs and streams Klokot and Krušnica and Crno lake. According to IUCN¹ - the categories of protected sites, and facilities should be classified in category III, the monuments of nature. These are in fact areas that contain specific natural or cultural features which are of great value because of the legacy rarity, representativeness or aesthetic quality and cultural significance.

➤ **Cazin subarea** - carries the name the center of development this subarea - Cazin, and covers an area of river basin Mutnica, tributaries of the Koran on an area of 263 km². Two cultural and historical locations in this subarea have great tourist value and that old

¹ The World Conservation Union - IUCN, plays a key role in encouraging the establishment of protected areas worldwide. Since 1948, IUCN is developing standards and guidelines for the management of protected areas, including the two most important categories: List of Protected Areas and the United Nations Protected Area Management Categories. Because it is a densely populated area, then the fact that downriver from Bihać on Una exists HE Falls at Uni, and that it is an area where there are administrative, cultural and traffic center but, at the end of all this should be included in category VI or protected area is intended mainly for the sustainable management of natural ecosystems. This zone largely contains unmodified natural systems, whose management ensures long-term protection and maintenance of biodiversity, and simultaneously enables a sustainable flow of natural products and services to meet the needs of local communities. In this category, attention is paid to the controlled exploitation of resources with a limited but significant biodiversity conservation, which actually includes areas intended for multiple uses.

towns Ostrožac and Tržac. With regard to the type of soil that dominates - distric cambisol and fluvisol, this subarea has a very good basis for the development of agriculture. Besides the Sanski Most municipality Cazin has the most agricultural farms in the Canton area. Although intended for agriculture (farming and fruit growing), however, the ground must certain measures to protect against erosion due to slope gradient. Terracing and shift in the cultivation of certain crops will ensure higher yields. Of plant cultures best success in the cultivation is carried out of potatoes, corn and industrial crops (oilseeds and flax). South exposure hillside are favorable for growing fruits especially nuts. Realizing the highest yields in the cultivation of plum, apple and walnut. Fluvisol soil in the valley of the Mutnica with the use of fertilization is suitable for growing vegetables.

➤ **Velika Kladuša – Bužim subarea** - an area that is characterized by extremely high population density, food industry and deposits of manganese and barite. It covers mainly the area of the municipality of Velika Kladuša and Bužim, according which it was named, with an area of 460 km². Marked by a slightly lower altitude of 200 m and 200-500 m, the average annual rainfall of 1,000 mm, while the ground is a mosaic distric cambisol and luvisol. Although this subarea has significant cultural monuments that can valorize for tourism purposes, however sustainable development of this subarea should be based on the different activities of primary and secondary sector. At altitudes up to 250 m, with the construction of irrigation systems, plants production may rise to the level of horticulture. This area enables the growth of the industrial agricultural crops (oilseeds) then hops and various kinds of vegetables and fruits, which should provide the raw material base for the development of agro-industrial system Agrokomerc. Production of vegetables, fruits and flowers in greenhouses in suburban territories, would also be improved food production.

Upper Una - Grmeč area, extends over central and southern parts of Canton, in this region is dominated by the upper course of the Una and Grmeč and according to them is named. Within this area we can distinguish two subareas and between them border is: Račički stream, Baračuša, Lupin (1197 m), Čava (Lakin peak 1193 m), Osječenica (1796 m) and Zeljanik (1622 m). Area includes the highest of the total area of Canton and that 1,816 km² of which 578 km² belongs Plješevica – Upper Una subarea and 1238 km² Grmeč subarea.

➤ **Grmeč subarea** - includes as its name suggests mountain Grmeč. With this mountain in subarea stand out karst fields Lušci, Bravsko, Medeno and Petrovačko field. Due to physical-determinants of this area, there are all the preconditions for the development of agriculture and forestry. Intensive agriculture in Lušci field (useful area of 2000 ha to 400 m above sea level), with the construction of irrigation systems, can provide high yields in the production of cereals for human food (corn and oats), buckwheat, wheat, millet, then animal feed, oilseeds, and potatoes, flax and various kinds of fruits and vegetables. The zona Petrovačko field that extends toward Dugo field and the village Lipa, also represents the area on which with the construction of irrigation and drainage possible cultivation of the aforementioned crops intended for human and animal nutrition. These resources can be the basis for the development of appropriate food and textile industries as well as industrial facilities for processing oil. At altitudes of 500 to 1000 m is possible the cultivation of forests for forestry and livestock development (particularly important summer grazing). In the zone above 1000 m above sea level are represented high coniferous forests, whose role is to protect the soil from erosion, maintaining microclimate opportunities as well as local ecosystem irreplaceable. Due to the existence of a regional nature park

"Grmeč" to agriculture, sustainable development this subarea may be based on tourism. Saddle, and winter mountain resort Oštrelj, has a long tradition as air spa and resort, but the center of the skiing tourism. It is located at an altitude of 1000 m with an average annual temperature around 6°C and 1500 mm average annual precipitation. The reconstruction of the existing capacities and construction of new and adequate tourist offer throughout the year and not just the winter season, would be created conditions for the development of different types of tourism and recreation. Bosnian mountain horse (Petrovački horse), the breed that should be specially protected from extinction, exists mainly in the area Bjelaj and Medeno fields. Stud farm in Bjelaj which would have the dual function (Petrovački horse breeding and as hippodrome) as well as offer rural tourism in the Medeno field would represent a significant tourist destination in this subarea.

➤ **Plješevica – Upper Una subarea** - analysis of physical-geographical and social determinants of Una - Sana Canton, it was concluded that this subarea in relation to the other, stands by value of natural objects. Detailed processing of all the natural values in this area, it has been shown that the tufa of Una and objects that arise as a result of the formation of tufa barriers, unique, and as such should be preserved. The geomorphologic and biogeographic characteristics of this subarea, are also unique and very significant. These facts point to the need for strict and targeted protection of this area. For this reason they adopted the decision on the establishment of the National Park in the upper flow of the two rivers. Apart from of this area, as nature reserve exists "Rainforest area Plješevica". Due to the existence of the National Park and Nature Reserve, which occupy a large area within Plješevica – Upper Una subarea, sustainable development should be based on tourism. Revenues generated from tourists visiting the national park, not only to influence the development of this at the end, but also Canton at all.

Central Sana area - includes the eastern part of Canton with a surface of 852 km². The very notion is hydronim as it pertains to the middle part basin of the Sana. Central Sana area is divided into two subareas with nodes, carrier of development. The border between them is valleys, i.e. flows of Sanica and Kozica:

➤ **Sana subarea** - includes the northern part of areas, the valley of the Sana and its tributaries, and the southern slopes of the mountain Majdanska, with an area of 572 km². Gravitating center of this subarea is Sanski Most, which, due to its potential has basis to be nodes of development Central Sana area. The wealth of natural and cultural values of this subarea can be a carrier of the sustainable development of this area. Health and recreation center "Sana ilidža", Sana river with its many tributaries and their springs, waterfall of Bliha, valley of Sanica and Sana to Sanski Most, caves Dabar and Hrustovača and cultural and historical monuments Kamengrad orient this subarea in its full evaluation through tourism. In addition to tourism, the subarea has very favorable conditions for the development of intensive agriculture, both in the plains of the Sana valley from 150 m to 250 m altitude with the construction of irrigation systems, and at altitudes up to 500 m suitable for the development of fruit growing.

➤ **Ključ subarea** - the name comes from the secondary nodes - Ključ, which is located in the south of subarea. The territory south of flows Sanica and Kozica covers an area of 280 km², which its orientation also can be directed towards the development of tourism. This claim is based on the existence of settlements Sanica which belonging the municipality of Ključ and represents an important tourist destination in which the possible development of rural, eco-tourism and sport-fishing tourism on the same river. The most

valuable forest - a natural resource in this subarea is Lanište that allows the development of tourism offer and to mountain tourism, with special emphasis on the development of hunting and other recreational tourism offer. Old town Ključ with its turbulent history and other cultural and historical monuments complement the tourist offer of this subarea and make it attractive to visitors. This is supported by a favorable traffic position of the Ključ which is located on the main road that connects the Una-Sana Canton with the rest of Bosnia and Herzegovina.

CONCLUSION

The basic precondition for proper spatial planning understands of natural and social processes, as well as their impact on the environment. The main challenge in spatial planning is in fact, determine the optimal structure of the space, which will also manage the functions of the space and meet its sustainable use. Proper use planning and its management should be directing decisions about the use of space in the direction that natural resources are as useful to man, but also protected and preserved for the future.

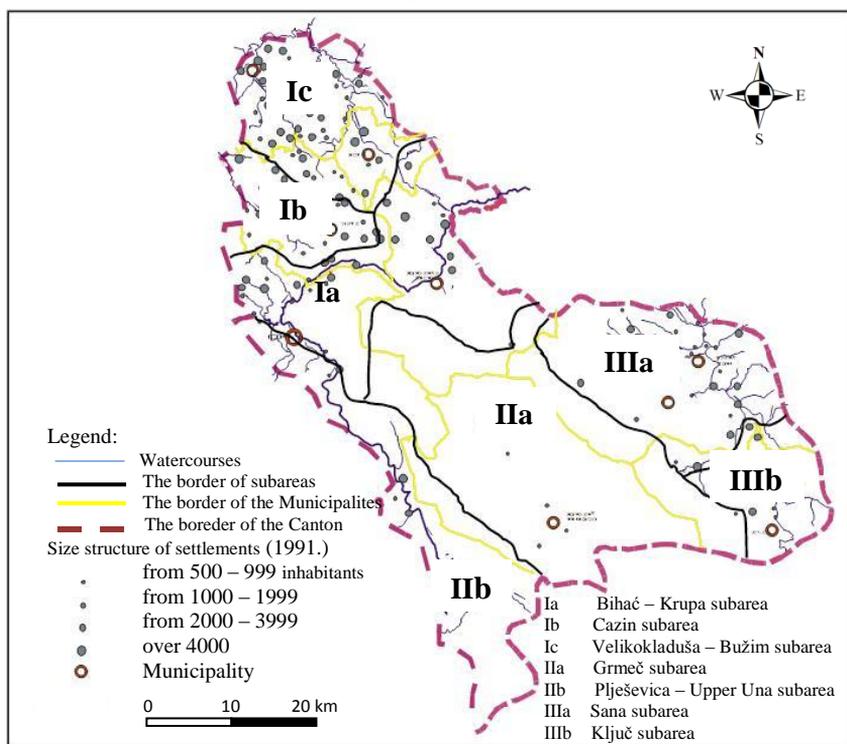


Fig. 4. Allocation of Una - Sana Canton in three areas and seven subareas

Based on the analysis and mapping of quantitative and qualitative characteristics of geo components were selected geographic units in Una - Sana Canton. Overlapping oleate mapped territory and interaction of geological composition, relief, climate conditions vegetation, soil and man, identifies three landscaped units - areas and seven units - subareas. Physical geographical regionalization in this paper was carried out on the basis of the

principles of complexity, which most fully reflects the regularity of the origin and of development physical-geographic region. This principle embraces the genesis, age and time differentiation of one area, the modern physical-processes in it which, among other things, depend on the mode of exploitation and the degree of its anthropogenic conquered.

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SUMMARY

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differentiation of one area, the modern physical-geographical processes in it which, among other things, depend on the mode of exploitation and the degree of its anthropogenic development.

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