

Bihac on the Una River

Ahmet Hadrovic

Faculty of Architecture, University of Sarajevo, Sarajevo, Bosnia and Herzegovina
 Email address: hadrovic.ahmet@gmail.com, ahmet.hadrovic@af.unsa.ba

Abstract— Bihac is a historical city located on the Una river. It has about 56,300 inhabitants. It is located in the northwestern part of Bosnia and Herzegovina. It is located about 156 km from Zagreb and about 429 km northwest of Sarajevo (Geographical coordinates: 44°48'50.83"N, 15°52'09.13"E, elevation: 230). Material traces bear witness to the presence of people in this area as early as the Paleolithic era, and then continuously until today. The Illyrian tribes of the Japoda were present in this area in the 8th century BC, where the remains of the Sojenica settlements, jewelry made of bronze, iron and silver are the most significant remains of their culture. Among the remains of this culture, the relief 'Japodian Horseman' on one of the tombstones stands out. All the mentioned material remains of the Japoda culture are located in the Ripac settlement near Bihac. This area belonged to the Roman province of Dalmatia. At the thermal spring of Gata Ilidza near Bihac, there are also the remains of a larger building from the ancient Roman era, while in the Golubic village (which some scientists claim is the location of the former Roman city of Raetinum), there are the remains of a mithraeum, a temple dedicated to the god Mithras, with reliefs. During the war (1992-1995), Bihac, although in a complete environment, showed unprecedented vitality and spirit of freedom, where it resisted the Serbian occupation. The aim of this paper is a 'study on sustainability' on the concrete example of a city in Bosnia and Herzegovina.

Keywords— Una river, Bosnia and Herzegovina, Bihac, Sustainability

I. INTRODUCTION

Bihac is a city with about 56,300 inhabitants^[1] located in the northwestern part of Bosnia and Herzegovina (Figure 1). Material traces bear witness to the presence of people in this area as early as the Paleolithic era, and then continuously until today.



Figure 1. Bihac on the Una river

Source:
https://visitmycountry.net/bosnia_herzegovina/bh/index.php/turizam/27-vmc/geografija, Accessed: 7.25.2022., left
 Google Earth: Accessed: 7.26.2022, right

The Bihac municipality borders the municipalities of Cazin, Bosanska Krupa, Bosanski Petrovac and Drvar (in Bosnia and Herzegovina) and the municipalities of Donji

Lapac, Korenica and Slunj (in the Republic of Croatia). The area of the municipality of Bihac is 900 km². The average altitude is 231 meters. The terrain of the Bihac municipality is diverse and mostly consists of fields, hills and mid-mountain lands.

Most of the Bihac municipality is rich in water (springs, streams and rivers). The total length of the Una river in the municipal area is 80 kilometers. The area of Bihac has a moderate mountain type of climate (type Cfb according to the Köppen-Geiger climate classification), which is diverse due to the flow of air masses from neighboring and further areas. The average temperature here is 10.0 °C^[2].

The paper deals with the topic of sustainability. The methodology used to elaborate the topic is based on the author's theory of Architecturally Defined Space (ADS), which starts from the basic premise that "architecture consists of four basic elements: Environment, Man, Boundaries and Perspectives"^[3].

II. ENVIRONMENT

By 'environment' we mean every possibility in the Space in which man can realize his existence^[3].

1.1. Natural environment

By natural environment we mean all those features that nature gave, and on which man (mostly) did not exert his influence: geographical location, geomorphology, watercourses and reservoirs, plant and animal life, available soil, climate^[3].

The most important natural resources on which the life of the Bihac city is based are^[4,5,6]:

- Sources of drinking water. Klokot near Bihac ranks second in Bosnia and Herzegovina in terms of its yield (Qsr.year = 14.00 m³/s). The Bihac city uses 200 l/s of water supply from here. Along its course of only 4.5 km, the Klokot river with its banks is a space where there are arranged places for rest and recreation of people (Figure 2).
- Forests (with an area of 52,527 ha) which are the basis for a wide range of wood processing industry and the development of tourism,
- Agricultural land (with an area of 27262 ha),
- Hydropower potential and thermal mineral waters in the settlement of Gata. These resources generate electricity production from renewable sources and a whole range of economic activities including agriculture and tourism,
- Una National Park, which represents the basis for the development of tourism, i.e. various accompanying economic activities (Figures 3-12),
- Unac river with its mouth into the Una river in Martin Brod (Figure 9),

- Mineral raw materials, including: deposits of gypsum, dolomite, limestone, architectural-building stone 'bihacite' (Figure 16).

In the vicinity of Bihac there are attractive settlements on the river Una, Kulen Vakuf and Martin Brod. On the hills around Kulen Vakuf there are the remains of medieval fortress towns (Ostrovica, Prkosi, Bjelaj, Orasac, Havala), (Figure 23), and in Martin Brod the medieval Rmanj monastery (Figure 28).

In the Spatial Plan of the Una-Sana Canton, a list of natural resources and sights is given for the Bihac Municipality [5]:

The flow of the Klokot river (Figure 2), Central Una: the valley of the Una river from Ripac to Bosanski Novi, the Una and Unca river in the stretch from the source to Ripac, the Unca waterfall at the mouth of the Una, the three-fold waterfall on the Una river, the double-fall on the Una river, Waterfalls in Ripac, Donji Buk on the Una river near Martin Brod, Jalacki Buk on the Una river near Martin Brod, Gata - thermomineral spring, Osjecenica forest area, 'Bihacit' stone, Pljesevac carnation - Pljesevica jungle, Klokot hatchery, Baracusa - Doljani hunting ground, Loviste Pljesevica (Hunting ground Pljesevica), Izvor Krka, Riborevir (Fishing area) Kulen Vakuf - Martin Brod, Riborevir (Fishing area) Palucci, Kulen Vakuf, Riborevir Klisa - Celija, Kulen Vakuf, Martin Brod Fish Farm.



Figure 2. The source of the Klokot river

Source: Author (6.16.2013.)



Figure 3. Memorial (with fountain, in Kulen Vakuf)

Source: Author (6.16.2013.)



Figure 4. Generous sources of drinking water (along the Ostrovica-Strbacki buk road)

Source: Author (6.16.2013.)



Figure 5. Strbacki buk on the Una river

Source: Author (6.16.2013.)



Figure 6. One of the many well-maintained taps on the Strbacki buk on the Una river

Source: Author (6.16.2013.)



Figure 7. Organized excursion site at Strbacki buk on the Una river

Source: Author (6.16.2013.)



Figure 8. Waterfalls on the Una river in Martin Brod

Source: Author (6.16.2013.)



Figure 9. The confluence of Unac and Una rivers in Martin Brod
Source: Author (6.16.2013., 9.17.2016.)



Figure 10. Arranged rest areas along the Unac river in Martin Brod
Source: Author (6.16.2013.)



Figure 11. Pond on the Unac river in Martin Brod
Source: Author (6.16.2013.)

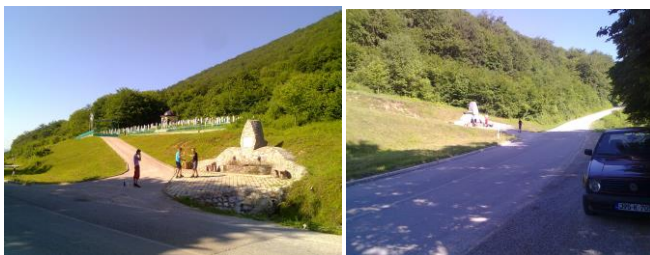


Figure 12. Memorial cemetery (Sehitluk) with a large fountain in the Una National Park

Source: Author (6.16.2013.)

The residents of these areas were convinced of the medicinal properties of the thermal mineral water of the Gat spring long ago, and its great quality and distinct medicinal properties have been confirmed by modern scientific research (Figure 13). This thermo-mineral water is rich in electrolytes, salts that dissolve in the liquid and turn into ions, namely positive cations, of which calcium, sodium and magnesium are richly present in Gata, and to a lesser extent potassium, and sulfates and hydrogen carbonates are significantly present as negative anions. and chlorine. Electrolytes, those electrically charged particles, are essential for all biological systems and

the maintenance of all higher forms of life. Their function is the conduction and proper exchange of electrical signals outside and inside cells. Gata is rich in oligoelements or microelements that are represented in a wide spectrum, which is a rare phenomenon in thermal mineral waters, for example, the presence of lithium, arsenic, copper and cobalt from the group of important essential metals stands out in Gata. Of the other microelements, the presence of essential minerals (microminerals) is noteworthy, namely zinc, strontium, barium, manganese, molybdenum, cesium and selenium. Mineral substances and trace elements are of crucial importance for the normal and healthy functioning of the body. Numerous complex chemical reactions in the body cannot take place without the simultaneous participation of minerals and trace elements. The thermal mineral water of Gate is slightly radioactive. Uranium, radium and radon are present in lower values, and all three belong to a group of approximately 60 natural radionuclides found in the environment, in soil, air and water. These small but important values of radon and radium and uranium have proven to be very important and successful in the treatment of inflammatory rheumatic diseases and post-traumatic conditions (conditions after conservatively or operatively treated fractures, after sprains or dislocations). The temperature of thermal mineral water of Gate is 36 °C-39 °C and Ph is neutral (7.1). The history of the use of this medicinal water is very long, and the first written records of the Gata spa date back to the 13th century.

With the arrival of the Romans in these areas, the spring was walled up and used as a bath, which was a common case in all Roman colonies. Baths had a special place in Roman culture and social life, which they did not give up even during their conquests and colonization. The construction of the baths took advantage of the medicinal properties of the water, with which the Romans most often eliminated complaints related to rheumatism and arthritis, as well as those related to the consequences of excessive eating and drinking, and with it, a new recreational and social center was formed in the Roman community^[7].

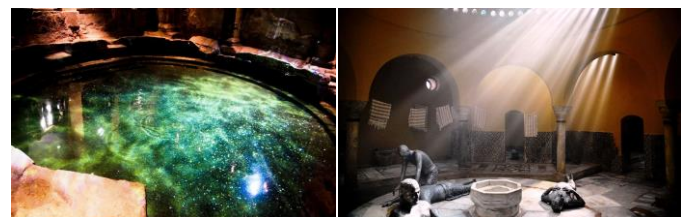


Figure 13. Termomineralni izvor Gata

<https://www.greenwaytour2parks.com/istra%20BEite-lokalno/termalno-lje%20Dili%20A1te-gata.html>, Accessed: 7.27.2022.

The forest management area „Bosanskopetrovacko“ lies on the mountain massifs of Osjecenica, Klekovaca, Srnetica and Grmeča, while between these massifs stretches a wide bay (Bravsko polje, Petrovacko polje and Vrtoče), (Figure 14). The highest point in the area is the peak of Velika Osjecenica (1796m), followed by Mala Osjecenica (1720m) and the slightly lower Javorova Kosa (1431m). The lowest point of the area is located near Kulen Vakuf on the river Una with a height of 308 m. The largest part of the area is located at an altitude of 1000 to 1200 m above sea level. The relief defined in this way with exposures and height stratification certainly influenced the formation of vegetation types, and the altitude have an impact on the natural development of forests, especially forests with conifers.

All forests and forest lands in the „Bosanskopetrovacke forest“ management area can, with regard to their origin and previous cultivation form, be generally classified into:

- High forests – forests of generative origin that spread over an area of: 24528.80 ha or 61.94% of the total area of the forest management area. From an economic point of view, this is a favorable relationship, especially if you bear in mind that the majority of the area of these forests is made up of economic forests, with the small exception of tall forests unsuitable for management, which make up 0.13% of the total area of tall forests.
- Offspring forests – forests of vegetative origin that cover an area of 11,715.00 ha or 29.58% of the total area of the forest management area.
- Unvegetated forest land covers an area of 3357.9 ha or 8.48% of the total area of the forest management area [8].



Figure 14. Osjecenica forest management area

<https://www.visitbihac.com/bs/sadrzaj/osjecenica/70>

<https://ussume.ba/dokumenti/osnova-bosanskopetrovacko.pdf>

Accessed: 7.27.2022.

On Pljesevica Mount, near Bihac, there is a rainforest that is assumed to be between 1000-3500 years old, and there are claims that it is up to 6000 years old (Figure 15). Most of the area of Pljesevica on the northern and middle ridges is covered by a dense forest of beech and fir, while grassy pastures stretch to the south. A dozen special endemics grow on its mountain rocks (red primrose, Pljesivica klincac - for example). There is also an exceptional rarity in the Bosnian part of the rainforest - a baljevac tree whose trunk is several hundred years old. At the foot of Pljesevica is one of the most fortified and secretive military airfields in Europe, the Zeljava airfield.



Figure 15. Pljesevica jungle near Bihac

<https://furaj.ba/pljesevicka-prasuma-kroz-objektiv-nagradjivanog-bihackog-fotografu/>, Accessed: 7.27.2022.

The inhabitants of the Bihac region have been exploiting 'bihacit' - a light yellow, soft stone that abounds in this climate since ancient times. The stone is extremely clean, granular, bushy and hollow limestone, which was formed in the freshwater Tertiary basin of Bihać and its surroundings (Figure 16). Freshly taken out of the ground, it is of ideal softness for processing, and over time it patinas and becomes as hard as marble, which makes it extremely resistant to the effects of weather. Through the tradition of using this stone for different purposes, one can read the history of life in the area of today's Bihac, which goes back four millennia. This marl, marl or silt was named 'bihacit' in the Austro-Hungarian period after the town of Bihac¹, which lies on huge deposits of this stone. In the long history of exploitation, it was used in architecture as a building or decorative material, in sculpture and in several areas of applied arts. Japodist urns and altars, fortifications, early Christian and medieval churches, ramparts of Bihać, tombstones, Ottoman buildings, the famous 'krajiski nisan' (tombstones), interiors and facades of various buildings, sculptures and public sculptures in 'bihacit' describe the epochs of the long history of Bihac and its surroundings [9].



Figure 16. The 'bihacit' quarry in Maskara (photo from 1937), left, and today's quarry (2012), right

<https://ggbihac.com/wp-content/uploads/2018/12/Bihacit-Vrijeme-ukamenu.pdf>

<https://www.youtube.com/watch?v=1Hyzh0os4dY>

Accessed: 7.27.2022.

1.2. Social environment

By Social environment we mean everything that man has created and that separates him from the world of other living beings [3]. It includes both physical structures (various material, more or less ordered products of their activity) and the immaterial world that we know with the intellect (science, philosophy, religion, law, morality) through an ordered system of abstract symbols (letters, signs) [3].

History of Bihac. The Illyrian tribes of the Japoda were present in this area in the 8th century AD, where the remains of the Sojenica settlements, jewelry made of bronze, iron and silver are the most significant remains of their culture. Among

¹ For example, the Opera House in Vienna is built of 'bihacit' stone.

the remains of this culture, the relief 'Japodski horseman' on one of the tombstones stands out (Figure 17). All the mentioned material remains of the Japoda culture are located in the Ripac settlement near Bihac. The Japods lived in this area for about a thousand years, when they were killed in 35 BC. began to be attacked by the ancient Romans led by the general (and later emperor) Caesar Divi filius Augustus (Octavian, 63 BC-14 AD). This area belonged to the Roman province of Dalmatia. At the thermal spring of Gat Ilidža near Bihac, there are also the remains of a larger building from the ancient Roman era, while in the village of Golubić (which some scientists claim is the location of the former Roman city of Raetinum), there are the remains of a mithraeum, a temple dedicated to the god Mithras, with reliefs. At the beginning of the 6th century, this area was dominated by the Goths, who included several Roman provinces (Dalmatia, Liburnia and Savia) in their state.

At the beginning of the 7th century, the Slavs came to the area of today's Bihac, when frequent conflicts began to arise between them, on the one hand, and the Byzantines and the Frankish state, on the other. Over a long period of time, the power over this area changed: Croatian prince (later king) Tomislav (reigned 910-928), Franks, Byzantium, Stjepan Tvrtko I Kotromanić (1338-1391), Hrvoje Vukčić Hrvatinić (1350-1416), Sigismund of Luxembourg (1368-1437)...

The first medieval urban settlements and cities around the Una river began to emerge in the middle of the 13th century. The Hungarian-Croatian king Béla IV (1206-1270) issued (1260) a charter confirming the existence of the town of Wyhygh (Vihucha) and Bisce on the Island of St. Ladislava on the river Una. The next mention in the charter from 1271 confirms that Bihac had the status of a free city at that time. At the head of the municipality was the town elder or major villae, who was often called a judge, and whose decision could only be changed by the king. Bihac also had a curia or magistrates, an assembly of locals who took the oath for that duty, and notaries who kept court and other registers^[10,11,12]. At this time, Bihac got a fortified city with double stone ramparts and circular and quadrangular towers. On one document written in Glagolitic script from the 14th century, the seal of medieval Bihac is preserved, on which three towers can be seen, and on the middle tower a flag with the inscription 'S(igillum) Civitatis Bihigiensis' ('Seal of the city of Bihac'). In documents from this time period, Bihac is mentioned under various names (Bihig, Byheg, Bichich, Bihag, Vywegh, Wyjgh), depending on the languages in which the documents were written. According to the old Turkish language, the word 'bihac' literally means 'without a cross', which has to do with the huge presence of Bosnian Bogomils at the time when this area (1592) came under the possession of the Ottoman Empire. The Ottomans occupied (1592) Bihac after a 10-day siege and from then until the 19th century Bihac was the most important fortress in Bosnia^[10]. The city was conquered by Gazi Hasan-pasha Predojević (?-1593), when the Bihac Sandzak was formed as part of the Bosanski Pasaluk. Throughout the period of administration of this area by the Ottoman Empire, Bihac was located on its extreme western edge, which was reflected in its stagnation in

development. Ottoman rule was briefly interrupted by Auguste Marmont, governor general of the Illyrian provinces on May 5, 1810^[13]. He tried to prevent the Ottomans from ravaging French Croatia and ending the Ottoman occupation of Cetinje. After fulfilling these goals, he withdrew from Bihac. Ottoman rule in Bihac ended de facto after the Congress of Berlin (1878), Austria-Hungary was given the right to occupy Bosnia and Herzegovina. Bihac was occupied (September 19, 1878) after resisting the Austro-Hungarian occupation forces for twelve days. The city begins life according to the patterns of Western culture: a regulatory plan is drawn up, water supply, sewerage and electrical infrastructure are built, elementary and several secondary vocational schools are built, a fire brigade, a military barracks with an officer's casino, banks, factories, various trades are revived...

After the end of the First World War, Bihac remained the center of western Bosnia and within the newly formed Kingdom of SHS (later the Kingdom of Yugoslavia). At the beginning of World War II, Bihac became part of the Independent State of Croatia. However, at the beginning of November 1942, Tito's partisans liberated Bihac, when AVNOJ was founded here a little later (November 26-27, 1942), and the city became the seat of the 'Bihac Republic'. The Germans occupied Bihac again (1943) and handed it over to the NDH, where it remained until liberation (March 28, 1945).

At the time of the newly established state of FNRJ/SFRJ, Bihac was rapidly developing as a regional center. Several factories were the carriers of Bihac's economy: Kombitek, Krajinametel, Polietilenka, pivovara, Bira.

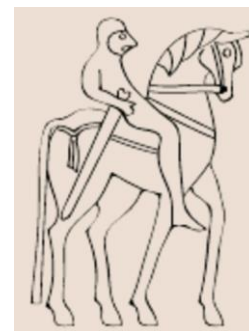


Figure 17. Japanese horseman

<https://www.scribd.com/document/226734448/Japodi-pou%C4%8Dna-tabla>, Accessed: 7.27.2022.

Architectural cultural and historical heritage of Bihac. In the Spatial Plan of the Una-Sana Canton, a list of cultural and historical heritage is provided for the Municipality of Bihac² (Figures 18-33).

² Prehistoric site Baljevac, Gornja Grmusa, Prehistoric site Brekovic, Prehistoric site Bukva, Lohovo, Prehistoric site Crkvina Golubic, Prehistoric site Crkvina, Hrgar – Tihotina, Prehistoric site Crkvina Velika Gata, Prehistoric site Crkvina Veliki Stijenjani, Prehistoric site Crkvina Pod, Prehistoric site Crnkica, Gradina, Lipa, Prehistoric site Cardak, Doljani, Prehistoric site Drenovača, Lohovo, Prehistoric site Dubrovnik, Grmmusa – Sribljani, Prehistoric site Boboljusci Gradina, Prehistoric site Gradina Hrgar, Prehistoric site Gradina Izacic, Prehistoric site Gradina Klisevic, Prehistoric site Gradina Lohovo, Medugorje Prehistoric Site, Malo Ocijevo Prehistoric



Figure 18. Mithraeum from Golubić near Bihac (Archaeological Museum Zagreb)

Source: <https://www.wikiwand.com/bs/Mitraizam>, Accessed: 7.27.2022.

III. MAN

Space acquires meaning only if it stands in some relation to man. This relationship ranges from the relations of the already known dimensions of space, through those that can be sensed, to those that are currently beyond the reach of human imagination. In other words, man is a being on the way, a being who continuously learns, a being of open possibilities. The term 'man' is a huge question, the essence of which he himself tries to decipher within his own limits, within the

Site, Orasac Prehistoric Site, Ripac Prehistoric Site, Spahici Prehistoric Site, Grad Prehistoric Site in Teočak, Prehistoric site Gradina Veliki Stijenjani, Prehistoric site Gradina Luka, Kliševići, Prehistoric site Gromile, Cavkici, Prehistoric site Jezerine, Pritoka, Prehistoric site Klokotska Glavica, Prehistoric site Kostel, Brekovic, Prehistoric site Kralje, Prehistoric site Kućerine, Prehistoric site Kulen Vakuf, Prehistoric site Ljutica Gradina, Ostrovica, Prehistoric site Mali Ljutoč, Prehistoric site Mrtvo jezero, Pritoka, Prehistoric site Obrovac, Prehistoric site Ograde, Cavkici, Prehistoric site Otoke, Golubici, Prehistoric site Pecikovica Glavica, Klokot, Prehistoric site Pod, Cavkici, Prehistoric site Podic, Gorjevac, Prehistoric site Pritoka, Prehistoric site Ribici, Prehistoric site Spahića glavica, Prehistoric site Srbijanska glavica, Srbaljani - Jezero, Prehistoric site Zegar, A ancient site Basagica Greda, Golubic, ancient site Brandza, Pritoka, ancient site Brekovic, ancient site Bugar-Grad, Gornja Gata, ancient site Crkvina Mejhana, Brekovic, ancient site Crkvina Bunic, ancient site Crkvina Doljani, ancient site Crkvina Golubic, ancient site Church Velika Gata - Ilidza, Ancient site Cehici - Zalozje, Ancient site Dolovi, Golubic, Ancient site Gromile, Cavkic, Sve Ade on the river Una as evident archaeological sites, Debeljaca Hill as a probable site of the ancient settlement Reatinium, Monument to officers of the Austro-Hungarian army in Zegar, Rainwater collection facility more Martin Broda, Mosque in Cavkici, Bihac, Turbe Hasan-pash Bisevic, Zegarska alley, City park and park in Borici, Partisan cemetery in Borici, Remains of all ramparts of the Bihac fortress, University Library building (Bible's house), Jurkovic House, Kavaz House, Facilities in Adil Besic Barracks, Former Hotel Bosna, Villas aus of the Three Hungarian officers, Simic's house - gunpowder mill, the area of grain and gunpowder mills, Austro-Hungarian buildings on the town square, 1st Bihac high school, the former main Bihacka street, Konak (the passage from the Captain's tower - Fethija mosque). Cemeteries in Hatnica, Buildings (wooden building) Dmitra Relji's dumbbell, Jovan Stikovac's grain mill, Steve Majtorovic's lumber sawmill) on the Unac river in Martin Brod, Canal around the historic core, Officers' villas from the period of Austro-Hungarian administration in Zegar - alley, The area of wooden bridges on the Una river, Islands (city islands, islands in the area of Bihac), Prekounjska mosque, Old Nisani - school of Bihac guns, Austro-Hungarian waterworks (Zegar), Harmanska mosque, Old Bosnian houses, Mezarluci within the settlement as ambient and spatial values, Sarica greblje (near the railway station), Prekounje I and II cemeteries, Austro-Hungarian waterworks next to Drevni tesno, Cemetery in Vinica.

limits of the Earth and the limits of the Universe^[3]. Together with the rest of the living world, it participates in the process of circulation of matter and energy in nature, sharing the same fate with it, being born and dying against its will. Endowed with reason, will and feelings, he is the only one in the living world who can discover the given laws of the organization of nature.

The First Session of the Anti-Fascist Council of the People's Liberation of Yugoslavia (AVNOJ) was held in Bihac (November 26 and 27, 1942). This fact occupies an extremely important place in the historical memory of the inhabitants of Bihac, of which they are proud, to this day.

During the war (1992-1995), Bihac, although in a complete environment, showed unprecedented vitality and spirit of freedom, where it resisted the Serbian occupation.

IV. BOUNDARIES: ARCHITECTURE AS A FRAMEWORK OF LIFE

Boundaries are those places in the environment where the situations encountered are controlled according to very specific human needs. Conditions are all those discovered and undiscovered phenomena in space that have a stimulating or degrading effect on humans. Borders, therefore, have the task of enabling the selection of influences. In an architectural sense, they enclose, but also include a person in the conditions of a certain environment^[3].

The Fethija mosque was created (1592) by remodeling the church of St. Anthony of Padua, which was built (1266) in the Gothic style. This is the oldest Gothic building in Bosnia and Herzegovina³ (Figure 19).



³ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Fethija Mosque a national monument of Bosnia and Herzegovina by decision no. 08.2-6-795/03-8 from 02.07.2003.



Figure 19. Fethija mosque

Source:

<https://www.facebook.com/dzamija.fethija/photos/a.352288508452099/451502711864011>

<https://www.visitbihac.com/bs/sadrzaj/dzamija-fethija/6>

<http://www.croeu.com/forum/index.php?action=printpage;topic=3126.0>

<https://yandex.ru/collections/card/59f080c90265c18edb21fb44/>

Accessed: 7.27.2022.

Hydroelectric power plant on Jarak („Mala HE Bihac“ or „HE Jarak“ or „HE Kanal Una“) was built (1912) during the Austro-Hungarian administration, in order to provide electric lighting in the city⁴. The hydropower plant has an installed power unit of 160 kW with a rated voltage of 0.4 kV (Figure 20).



Figure 20. Hydroelectric power plants on Jarak (“Mala HPP Bihac” or “HPP Jarak” or “HPP Kanal Una”)

Source: <http://old.kons.gov.ba/html/slike/1305419004.jpg>, Accessed: 7.27.2022.

The Jewish cemetery in Bihac is located in the Islamovac locality, on the left bank of the Una river, in Ota Levija street. The cemetery was founded in 1875, and its entry in the land register was made in 1888. The total area of the cemetery is 4868 m² (Figure 21).



Figure 21. Jewish cemetery in Bihac

Source:

<https://arhiv.stav.ba/iako-u-bihacu-vise-nema-jevreja-tragovi-njihovog-postojanja-jos-su-vidljivi/>

<http://balkans.aljazeera.net/vijesti/kamenispavaci-pod-debeljacom-svjedocanstvo-obihakim-jevrejima>

Accessed: 7.27.2022.

The Captain's Tower in Bihac is located on the left bank of the Una River, within the former city walls⁵. According to the available historical materials, the construction of this tower dates back to 1697 (Figure 22).

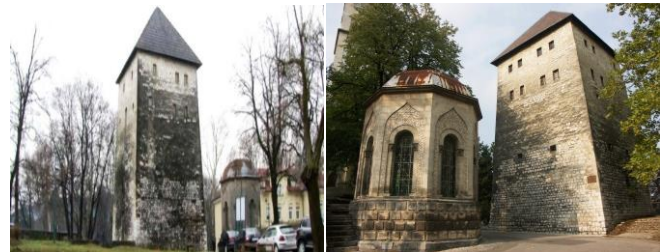


Figure 22. Captain's tower

<https://www.akta.ba/investicije/projekti/111718/kapetanova-kula-u-bihacu-uskoro-u-novom-ruhu>

<http://gwt2p.yourhostbox.com/en/explorelocal/historical-town-of-biha%C4%87.html>

Accessed: 7.27.2022.

Ostrovica/Ostrovica Town is a complex built (in the 15th century) on the Ostrovica hill, on the left bank of the Una river, near Kulen Vakuf. The city-fortress belonged to the noble Karlović family. The Ottomans conquered it in 1523 and kept their crew there until 1878 (Figure 23).



Figure 23. Ostrovica/Ostrovica Town

Source:

Author (6.16.2013.), deft

<https://radiosarajevo.ba/metromahala teme/zidovi-ostrovacke-kule-i-danas-cuvaju-legendu-o-bosanskim-amazonkama/352850>

Accessed: 7.25.2022., right



Figure 24. Arms of water pass by every house in Martin Brod (left) and 'Bucnica' Dimitrija-Mita Rakic (right)

Source: Author (6.16.2013.)

⁴ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Hydroelectric Power Plant on Jarako a national monument of Bosnia and Herzegovina by decision no. 06.1-2.3-77/11-5 from 11.03.2011.

⁵ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Captain's Tower in Bihac a national monument of Bosnia and Herzegovina by decision no. 07.2-2-923/03-21 from 12.09.2007.



Figure 25. Martin Brod: water mill of Dimitrija-Mita Rakic
Source: Author (6.16.2013.)

The Sokolac town is located on the Debeljaca hill on the left bank of the Una river. Below the hill is Golubacko polje (Golubacko field). The town was mentioned for the first time (1395) in a charter as the royal town of Sokol. On M. Quad's map printed (1593) in Amsterdam, the town is listed as Zokol, and on the map from 1699 as Sokolatz. With the fall of Bihać (1592) under Ottoman rule, the town of Sokolac also fell (Figure 26).



Figure 26. The Sokolac town
Source: <https://www.unasana.ba/destinacije/sokolac-2/>, Accessed: 7.27.2022.

The memorial park of the victims of the fascist terror Garavice is located on the hill of Garavice, in the place of Uljevita Bare, along the road that leads from Bihać to the border crossing with the Republic of Croatia-Izacić. There are two groups of sculptures in the memorial park, 13 and 2 sculptures. The park was built in 1981 according to the project of the Belgrade architect Bogdan Bogdanović (1922-2010), (Figure 27).



Figure 27. Memorial park of the victims of fascist terror in Garavica
(Architect: Bogdan Bogdanovic)

Source:
<http://mojusk.ba/bihac-garavice-svjedoce-strasnom-zlocinu-ndh-na-ovom-producju/>
<http://www.raftinguna.ba/bs/atracije/memorijalni-park-garavice>
Accessed: 7.27.2022.

The Rmanj Monastery in Martin Brod is located along the river Unac in Martin Brod, at a distance of 43 km from Bihać, 19 km from Bosanski Petrovac and 24 km from Drvar, in the immediate vicinity of the border between Bosnia and

Herzegovina and the Republic of Croatia⁶. The construction of the monastery dates back to the end of the 15th and the beginning of the 16th century, and in written documents it is mentioned under various names: Hrmanj, Ajerman, Chermlija, Szermil, Hermanya, Herman (Figure 28).

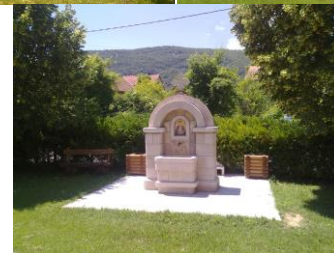


Figure 28. Rmanj Monastery in Martin Brod
Source: Author (6.16.2013.)

The mausoleum (turbe) in Bihać was built in honor of the defenders of Bihać who died (1878) in the fight against the Austro-Hungarian army during its occupation of Bosnia and Herzegovina⁷ (Figure 29).



Figure 29. The mausoleum (turbe) in Bihać
<http://www.mojvideo.com/uporabnik/binno/slika/bihac-turbe-i-crkva-st-antepadovanskog/53140>
https://www.wikiwand.com/sh/Turbe_-_Mauzolej_u_Biha%C4%87u
Accessed: 18.05.2018.

The building of the Kloster-Monastery and School of the Nuns of the Adoration of the Blood of Christ is located in the center of the city of Bihać, at the intersection of the streets 5. korpusa and Harmanski sokak⁸. The construction of this

⁶ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Rmanj Monastery in Martin Brod a national monument of Bosnia and Herzegovina by decision No. 06.1-2-186/05-25 dated March 7, 2007.

⁷ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Turbe-mausoleum in Bihać a national monument of Bosnia and Herzegovina by decision no. 07.2-2-923/03-15 from 10.11.2006.

⁸ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina has declared the Kloster-Monastery Building and the School of the Sisters of the Adorers of the Blood of Christ in Bihać as a national

complex began in 1893 (completed in 1894), when the nuns Adorers of the Blood of Christ arrived in Bihac, at the invitation of priest Fr. Filip Dujmusic. The complex is named Sv. Joseph. Today, the Kloster building houses a large number of institutions: the Institute for the Protection of Cultural Heritage of the US Canton, ABS Bank, the Pounja Museum, the Library of the Sisters of the Adoration of the Blood of Christ, the Junior and High School of Music, the High School of Art (Figure 30).



Figure 30. The building of the Kloster-Monastery and school of the Adorers of the Blood of Christ nuns

Source: <https://www.klanjateljice.hr/nase-zajednice/bihac-samostan-sv-josipa/#jp-carousel-13906>, Accessed: 7.27.2022.

Museum of AVNOJ. The first meeting of AVNOJ was held in the annex building of the Kloster building, which was built (1939) just before the Second World War. After the session of AVNOJ, the building was named the Building of the First Session of AVNOJ (Figure 31).



Figure 31. Museum of AVNOJ

Source: <https://www.visitbihac.com/bs/sadrzaj/muzej-avnoj-a/46>
<https://pricesadusom.com/kad-se-grad-zaljubi-u-reku-o-njemu-smo-ucili-na-casu-istorije-a-sada-je-postao-najkreativnije-mesto-na-balkanu/>
 Accessed: 7.27.2022.

'The Krajina putevi Building' is located in the narrow center of the city of Bihac, in the area between the channel-arm of the Una river and Bedem street⁹. Originally, this building was built (1916) as the Construction Office Building in Bihac,

monument of Bosnia and Herzegovina by decision no. 06.2-2-40/09-16 from 11.03.2009.

⁹ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina declared the Krajina putevi Building in Bihac a national monument of Bosnia and Herzegovina by decision no. 06.1-2-40/09-14 from 11.03.2009.

according to the project of architect Ludwig Huber. It has been used as the 'Krajina putevi Building' since 1962 (Figure 32).



Figure 32. The Krajina putevi Building

<http://abc.ba/novost/53778/bihac-11.-prodajazgrade-krajina-puteva-na-bedemu>
 Accessed: 18.05.2018.

Parish Church of St. Anthony of Padua with the tomb of the Bihać nobility is located in the center of the city of Bihać, within the former city walls¹⁰. The initiative to build this church was initiated (1880) by Fra Franjo Curic. The construction of the church took place in three phases: the completion of the church building (1891), the extension of the church building by 11 m and the addition of the semicircular sanctuary (1899), and the remodeling and addition of the church (1938) according to the project of the Zagreb architect Stjepan Podhoski. The Franciscans built (1972) a completely new church according to the project of the architect Z. Cuk (Figure 33).



Figure 33. Parish Church of St. Anthony of Padua

<https://arhiv.stav.ba/hrvati-nestaju-iz-bihaca/>
<https://ms-my.facebook.com/zupa.bihac/posts/2167182530111885>
 Accessed: 7.27.2022.

V. CONCLUSION (PERSPECTIVES)

By the term Perspective (within the framework of the theory of Architecturally Defined Space) we mean „that dynamic relationship that connects now - future, existing - possible, achieved – desired“^[3].

The emergence of a settlement (hamlet, village) is never accidental, but is the result of a synergy between the natural and social environment-man^[14].

¹⁰ The Commission for the Preservation of National Monuments of Bosnia and Herzegovina is the Parish Church of St. Ante of Padua with the tomb of the Bihać nobility in Bihac was declared a national monument of Bosnia and Herzegovina by decision no. 07.2-2-923/03-14 from 10.11.2006.

This paper aimed to discover and document these relations. The duration of that settlement, from its creation until today, confirms the strength of these relations. The future of a settlement can be predicted, more or less precisely, based on its past and present. The perspectives of life in the city of Bihać are open, in a wide range of possibilities, due to the extraordinarily rich natural and social environment, creativity and mentality of its people. Of course, we should not rule out the possibility of 'incidental conditions' both in the natural and in the social environment (such as wars, for example) in which the rich life of people is disrupted, to the point of endangerment.

REFERENCES

- [1] "Census of The Population, Households and Dwellings In Bosnia And Herzegovina, 2013. Census Results". Census 2013.ba (In BSH). Accessed: 7.25.2022.
- [2] Climate-Data.Org, Climate Bihac (Bosnia And Herzegovina) <https://en.climate-data.org/europe/bosnia-and-herzegovina/bihac/bihac-58592/> Accessed: 7.25.2022.
- [3] Hadrovic, A. (2007). Defining Architectural Space on the Model of the Oriental Style City House in Bosnia and Herzegovina, Serbia, Montenegro, Kosovo and Macedonia, Booksurge, LLC, North Charleston, SC, USA, pp. 8-14
- [4] Official website of the city of Bihać <http://bihac.org/bs/geografski-polozaj>, Accessed: 18.05.2018., (In Bosnian)
- [5] Spatial Plan Of The Unsko-San Canton For The Period 2012-2032. http://vladausk.ba/v4/files/media/pdf/59c4b9d26d7df1.00021393_Prostorni%20plan%20USK%20-%20Prostorna%20osnova.pdf, Accessed: 22.05.2018., (In Bosnian)
- [6] Hadrovic, A. (2018). Architecture in the travelogues of an architect. Book 1: The Balkans, Faculty of Architecture, University of Sarajevo, pp. 119-135., (In Bosnian)
- [7] Gata Thermal SPA. GreenWay PARKS. <https://www.greenwaytour2parks.com/istra%C5%BEite-lokalno/termalno-lje%C4%8Dili%C5%A1te-gata.html>, Accessed: 7.25.2022., (In Bosnian)
- [8] Summary of the Forest Management Basis For The „Bosanskopetrovacko“ SGP (made with a period of validity from 01.01.2014 to 31.12.2023) <https://ussume.ba/dokumenti/osnova-bosanskopetrovacko.pdf>, Accessed: 7.25.2022., (In Bosnian)
- [9] Bihacit: Time in Stone. City Gallery in Bihac. <https://ggbihac.com/wp-content/uploads/2018/12/Bihacit-Vrijeme-ukamenu.pdf> Accessed: 7.25.2022., (In Bosnian)
- [10] Kresevljakovic, H. (1991). Selected works, Book II, "Veselin Masleša", Sarajevo., pp. 423-325., (In Bosnian)
- [11] Franjic, Z. (1999). History of Bihać. Bihać: HKD Napredak, Podružnica Bihać, p. 7, (In Croatian)
- [12] Ancic, M. (1985). "The region of Bihac from 1262 to the beginning of the 15th century". Gazette of the Archives and Association of Archive Workers of Bosnia and Herzegovina. Society of Archive Workers of Bosnia and Herzegovina. pp. 193–230. Accessed: July 27, 2022, (In Serbo-Croatian/Croatian-Serbo)
- [13] Mitteilungen des k.u.k. Kriegsarchivs Mitteilungen des k.u.k. Kriegsarchivs - Supplement (1892) Kriegs-Chronik Oesterreich-Ungarns. Militärischer Führer auf den Kriegsschauplätzen der Monarchie. III. Theil. Der südöstliche Kriegsschauplatz in den Ländern der ungarischen Krone, in Dalmatien und Bosnien Der Feldzug in Croatien und Dalmatien 1813 und 1814 https://library.hungaricana.hu/hu/view/MitKuKKriegsArch_1892_Supplement/?pg=33&layout=s, Accessed: 7.25.2022., (in German)
- [14] Hadrovic, A. (2014). Water and man in autochthonous symbiosis in Bosnia and Herzegovina, Sarajevo, Avicena, pp. 61-65