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Research Article



CUNISTA VILLAGE ON THE KRIVAJA RIVER: LIFE IN A WAY OF SUSTAINABILITY

* Ahmet Hadrovic

Faculty of Architecture, University of Sarajevo, Sarajevo, Bosnia and Herzegovina.

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ABSTRACT

Kriva Rijeka is the name for a group of villages in the municipality of Olovo located in the valley of the Krivaja river along its course from the canyon (Krsevi, geographical coordinates: 44°07′54.13″N, 18°33′22.36″E) to the locality Kamenica (geographical coordinates: 44°13′09.65″N, 18°29′33.17″E), below the Cunista village. The term "Kriva Rijeka" is in unofficial use today, and appears in documents for the name of the cadastral municipality. The Cunista village is one of the largest villages in the municipality of Olovo, and according to its geographical and political position, resources and history (mentioned in the Ottoman Defter from 1604) is an example of continuous life, and is a good example of sustainability study. The main resources of the Cunista village are: geographical position (along the road Olovo-Zavidovići), the river Krivaja, spacious ports along the river Krivaja, two smaller rivers (Lijesnica and Smrsnjica) that flow through the Cunista village and Mahala hamlet (maintaining the hygiene of courtyards and villages as a whole), sources of drinking water, gardens and orchards within the narrower physical structure of the village, fields and meadows in a fairly wide area of the village, vast meadows and pastures and forests. Cunista village has the mildest climate of all the villages of Kriva Rijeka. Favorable climate and soil favor the cultivation of all kinds of cereals, fruits and vegetables. Cunista is, along with Vukotići, the most famous village in Kriva Rijeka for the richness of the harvest and the types of fruit, mostly for the kind of cherry-ashlam.

Keywords: Krivaja, Kriva Rijeka, Cunista village, sustainability, water, fields, orchards, forest.

INTRODUCTION

The Cunista village (geographical coordinates: 44°12'13.11"N, 18°30'11.55"E, altitude: 505 m) is located on the left bank of the Krivaja river, on a slightly undulating slope of predominantly northeastern exposure (Fig. 1, Fig. 2.). The village is 5.2 km away from Solun on the Krivaja river, and 10.5 km from Olovo (by air). The area of the village, on its northeastern side, is bordered by the Krivaja river, on the southeastern side of the hills Crljen, Meduna and Orlov krš, on the northwestern side of the hills Laniste, Plana and Borovac. The Cunista village is located in its own valley, which, after narrowing the Solun valley, opens at the Poganac stream, and then narrows again at the Kamenica site, towards Kamensko [1]. According to the 2013 census, there were 463 people living in Cunista, which is significantly less than the population (674), according to the 1991 census [2]. Following the theory of space developed by the author in 1987 [3], the area of the Cunista village will be considered as a system, ie as "architecturally defined space (ADS)", by considering its four basic elements: environment, man, boundaries and perspectives. Simultaneous display of these elements will determine their mutual cause-and-effect relationship and nothing will be left out that is important for the formation of the image of this space.



Figure. 1. The Cunista village. Location

Source:

Left: https://maps-bosnia.com/bosnia-location-on-world-map, accessed 10/05/2021 Right: Google Earth, accessed 10/05/2021



Figure. 2. View of the Cunista village from Ibrahimovica Brdo (Vukotici) Source: Author (2020)

ENVIRONMENT

By "environment" we mean every possibility in space in which man can realize his existence [3].

Natural environment

By natural environment we mean all those features that have been provided by nature, and on which man (mostly) has not achieved his influence: geographical position, geomorphology, watercourses and water reservoirs, flora and fauna, available soil, climate... [3, 6, 8]. In morphostructural terms, the Krivaja river basin mainly belongs to the central ophiolite zone of the Dinarides. This ophiolite complex, one of the largest in the Dinarides, is represented by classical rocks of Jurassic-Cretaceous age. In the Krivaja river basin there are Triassic

limestones and dolomites that occur along dislocation zones and predominantly in the areas of tectonic contact of ultramafic massifs and Jurassic volcanic-sedimentary formations [4]. Whether the ophiolite melange (hornblende, sandstone, breccia, clay, diabase, gabbro and periodotite) was formed by the uplift of the oceanic crust or it is a large intrusion of ultramafics in the continental crust, its deposits lie over the Middle Triassic limestones, are drawn over them. This position significantly reflects on the specific hydrological function in the Krivaja basin. In the area of Kriva Rijeka there are different geomorphological forms: steep relief (hill, valley, ridge, watershed), mountain relief (mountain range, mountain), erosion relief (canyon, hip, cave), river relief (valley, estuary, spring, riverbed), meander, swamp, floodplain, island, beach, cave, ravine, canyon). Kriva Rijeka is located in a zone of warm and temperate climate. This climate is considered Cfb (according to Köppen-Geiger's classification of climate) which is characterized by four more or less differentiated seasons - spring, summer, autumn and winter [5]. The springs are mostly mild and rainy, followed by the frequent outpouring of Krivaja from its bed. It happened that spring came early, when in March a long series of warm days stimulated the vegetation and flowering of the fruit, and then, the frost destroyed the behar of the fruit trees, and thus their entire annual crop. As a rule, spring sowing begins in the middle and ends in late April. Here, too, it happened that the frost in the first half of May destroyed the already advanced crop vegetation (corn and beans), when it was necessary to go for re-sowing. Summers are, as a rule, warm, with lots of clear and sunny days. It happened that the spring rains lasted until the beginning of July, and there were also dry periods, when the rain did not fall at all from May to September. As a rule, mowing the grass and drying the hay ends in mid-July, harvesting and threshing cereals by mid-August, and harvesting corn and harvesting potatoes in late September. In September, there is a second mowing of grass ("otava"), which sometimes reaches the level of yield of the first mowing. Autumn is, as a rule, slightly warm, with the well-known period of "Miholj's summer". It lasts from the beginning of September to the beginning of

December. Sometimes the autumns are mild and dry, and sometimes rainy, which, on the one hand, causes floods in Krivaja, and on the other hand - they bring snow, as early as mid-November. The first frosts occur in mid-October. Autumn is the period of fruit harvesting, processing (drying, making sweets, pickles) and storage in cellars. The first snows fall in mid-November, usually in late November. It happens that the first snow remains until spring, but also to drip, fall again and drip and so on, until the beginning of January. Sometimes winters are heavy with snow (over one meter high), relatively cold, and sometimes they are completely without snow. Winter temperatures sometimes drop to -20 °C when the surface of Krivaja in some places completely freezes. It also happened that at the beginning of February, when the temperatures are usually the lowest, the temperatures will be +20 °C. Despite the rare extreme deviations, the differentiation of the seasons is clear and thus determines individual human activities, arranging them into established life cycles. Precipitation is significant, even during the driest month. The average annual temperature in Olovo is 10.0 ° C. The amount of precipitation is about 936 mm / m² per year. Lead lies at 534 m above sea level, while the average altitude of Kriva Rijeka is about 620 m. The main resources of the Cunista village are: geographical position (along the road Olovo-Zavidovići), the river Krivaja (Fig. 3, Fig. 4), spacious ports along the Krivaja river, two smaller rivers (Lijesnica and Smrsnjica) that flow through the itself Cunista village and Mahala hamlet (so they are valuable for watering gardens and maintaining the hygiene of courtyards and villages as a whole), (Fig. 5, Fig. 6), sources of drinking water (Fig. 7), gardens and gardens within the narrower physical structure villages (Fig. 8), fields and meadows in a fairly wide area of the village (Fig. 9), vast meadows and pastures (Fig. 10) and forests (Fig. 11). Cunista has the mildest climate of all the villages of Kriva Rijeka. Favorable climate and soil favor the cultivation of all kinds of cereals, fruits and vegetables. Cunista is, along with Vukotići, the most famous village in Kriva Rijeka for the richness of the harvest and the types of fruit, mostly for the kind of cherry-ashlam [1, 8].



Figure. 3. Krivaja river near the steel bridge (left) at the Kamenica site (right) Source: Author (2020)



Figure. 4. Steel bridge on the Krivaja river at the Kamenica site (the bridge is located about 400 meters downstream from the steel-lattice bridge below the Cunista village) Source: Author (2020)



Figure. 5. Small Lijesnica river in the Cunista village Source: Author (2020)



Figure. 6. Small Smršnjica river in the Mahala hamlet Source: Author (2020)



Figure. 7. Public fountains in the Cunista village and the Mahala hamlet Source: Author (2020)



Figure. 8. Gardens and orchards next to the houses in the Cunista village $\ensuremath{\mathsf{Source:}}$ Author (2020)



Figure. 9. Fertile ports along the Krivaja river Source: Author (2020)



Figure. 10. Pastures in the Cunista village Source: Author (2020)



Figure. 11. Black pine forest near the Cunista village of (left) and traces of tarring (right) Source: Author (2020)

Social environment

The social environment represents everything that man has created and that separates him from the world of other living beings [9, 10, 11, 12, 13, 14, 15]. It encompasses both physical structures (various material, more or less ordered products of their activity) and the intangible world that we know through intellect (science, philosophy, religion, law, morality) through an ordered system of abstract symbols (letter, signs). According to the Extensive Census of the Bosnian Sandzak from 1604 [16], the Cunista village is mentioned (p. 262) as part of the Olovo nahija, where a detailed overview of its inhabitants, their income and tax liabilities is given¹. With the construction of the Zavidovici-Olovo-Han Pijesak-Kusace railway (1901), the Cunista village gained a better connection with other places in the Krivaja river valley, and further into the world (Fig. 12).

Mezid, Davuda; Velihan, Mezida; Ejnebegi, Murada; Hasan, Vukca; Pir-Ali, Ejnehana; Veli, Xhafera; The inheritance of Radmil, in the possession of Vukmir, now in the possession of Balija, son of Mehmed; The inheritance of Radmila, in the possession of Antun, now in the possession of Osman, son of Hasan; Heritage of Vladimir Pribić, now in the possession of Sinan Andrija; Shaban, Ali - on the heritage of Hussein; Hurrem, Ejnehana; Shihabuddin, Alije; But Ferhada - the heritage;

Muslims with heritage 13; Income: resmi pair and bennak 286 wheat, kejla 15, amount 330 mixed breed, kejla 50, amount 650 oats, keila 30, amount 210 wider, medri 20, amount 140 ushur of vegetables, garlic and red onion 10 ushur of flax 20 haystack 30 ushur from hives 54 1 mill, fee 15 half of badihava, mladjarina, poljacina and deed fees on land 267 Total: 1900



Figure. 12. Cunista Railway Station (1963 and 1970) (Historical photos, courtesy of Izet Kopić)



Figure. 13. Four-grade primary school in the Cunista village (regional school of the eight-grade primary school "Hasan Kikic" in Solun on the Krivaja river) Source: Author (2020)

The Cunista village also has its own place of outdoor prayer ("Doviste"). The religious ceremony is performed on the "Doviste" (Fig. 14), and the entertainment part in the village (on the harbor of the Višća family, and after the construction of houses on the harbor, on a fine glade in a pine forest, on the right bank of Krivaja, just behind the bridge).

¹ 126. The village of Ču n i š t a, belongs to Olovo:



Figure. 14. Place of prayer ("Doviste") in the Cunista village is arranged as an amphitheater in nature. Arranged grave on the dovište (possibly the grave of a martyr from the time of El Fatih's conquest of Bosnia, 1463) Source: Author (2020)

MAN

The term "man" is a huge question whose essence he himself tries to decipher within his own limits, within the limits of the Earth and the limits of the Universe. Together with the rest of the living world, it participates in the process of the circulation of matter and energy in nature, sharing with it the same destiny, birth and death against its will. Being endowed with reason, will and feelings, he is, the only one in the living world, able to discover the given laws of the structure of nature. Several large families live in the Cunista village: Smailhodzic, Visca, Kopic, Sokolar, Ferhatovic and Bjelic. Until the 1950s, the Cunista village was inhabited in the traditional way (Fig. 15), where agriculture (agriculture, livestock, fruit growing) was the main slaughter of people. In addition, there were local workshops in the village (traditional carpentry workshops and a smithy) and a private shop.



Figure. 15. Family photography: Married couple Kopic (around 1950) (Family photos, courtesy of Izet Kopic)

Traditionally, the youth of the Cunista village, from the end of World War II until today, go to school. From the first young man who received a university education², until today, dozens of young people have acquired an academic education, in a wide range of disciplines. Many graduated from various higher³, secondary⁴ and vocational

schools, found employment in the Olovo municipality (as teachers in primary schools)⁵ and in Sarajevo's large companies. After the 1992-1995 war, some people started private businesses (chicken farms, carpentry and locksmith companies) in Cunista, Olovo⁶ and Sarajevo. Footballer Edin Visca (born in 1990) gained international sports affirmation by playing football for several famous clubs⁷ and for the national team of Bosnia and Herzegovina (all age selections-U19, U-21, seniors, from 2010 until today).

Boundaries: Architecture As A Framework Of Life

Certain periods are clearly distinguished in the architecture of the Cunista village: buildings created immediately after the end of World War II (mainly reconstructed and adapted pre-war buildings), buildings built in the 1960s (Fig. 3.59), and constructions originated in the 1980s today (Fig. 16). Interestingly, some kind of holiday homes (commonly called cottages) are built on larger estates away from the village, usually along the Krivaja River (Fig. 22). The houses built immediately after the end of World War II are mostly reconstructed and adapted steria, traditional, Bosnian houses of čardaklija, built "on two colors and cardaks in the roof area". Some of these houses have retained the characteristic divanhans and an external wooden staircase-basamake (Fig. 17).

high school in Vareš. His brother, Taib Gogic, worked in Germany after graduating from college, and during the 1992-1995 war he served as mayor of Olovo.

Uzeir Smailhodzic graduated from the Teacher's School in Sarajevo, and later was a teacher in primary schools in the Olovo municipality. He also practiced plumbing and ceramics (where he arranged dozens of bathrooms in Kriva Rijeka) and beekeeping.

⁴ Asif Visca graduated from the Gazi Hurev-beg Madrasa in Sarajevo.

⁷ Edin Visca played for Zeljeznicar from Sarajevo (2009-2011), and from 2011 until today he plays for İstanbul Başakşehir.

² Hrustem Smailhodzic (bom in 1944) graduated (1967) from the Faculty of Natural Sciences and Mathematics in Sarajevo, and received his doctorate from the University of Belgrade. He worked as a high school professor in the lead high school, and later as a professor at the University of Tuzla. He is now a professor and dean of the Technical Faculty of the University of Travnik.

³ Rifet Sokolar-Riki was a teacher and longtime director of the primary school in Olovo. Alija Gogić graduated from the Faculty of Natural Sciences and Mathematics in Sarajevo (Department of Biology), after which he worked as a longtime professor at the

⁵ Naim Kopic (1958) graduated from the Faculty of Natural Sciences and Mathematics in Sarajevo, and later worked as a teacher in a primary school in Thessaloniki, where he was the school's director for many years.

Hadzo Visca graduated from the Faculty of Architecture in Sarajevo. His professor was also the author of this book.

⁶ Asim Kopic built the boarding house "Panorama" in Gornje Olovo, where his son runs the business today. The Bjelic family built a private carpentry factory in Olovski Luka, which after the 1992-1995 war had significant business in the post-war reconstruction of Bosnia and Herzegovina. Reuf (Rame) Smailhodzic founded a modern locksmith company in Saraievo.



Figure. 16. Reconstructed and renovated house built before World War II Source: Author (2020)



Figure. 17. Houses built immediately after the end of World War II Source: Author (2020)

Houses built in the 1960s follow the patterns of construction, materialization and design of houses in other villages of Kriva Rijeka. In the vertical plan they are developed through the basement, ground floor and first floor. The walls of the basement are made of stone, 50-80 cm thick, with different levels of processing, from finely carved to semi-processed stone. The carved stone walls are not plastered and represent a "picture" of the house and its host. The walls of semi-worked stone are often plastered and painted, and sometimes painted black (with an emulsion of a special type of clay). In the disposition, materialization and design of these houses, one can see many details taken from the Bosnian house of čardaklija (Fig. 18, Fig. 19).



Figure. 18. Reconstructed and renovated house in the Cunista village built in the 1960s Source: Author (2020)



Figure 19. Reconstructed and renovated house built in the 1960s in the Mahala hamlet Source: Author (2020)

Houses from the 1980s were built by a generation of younger people who leave the "family community" and start their own household. This is a generation of people who are "educated masters" of all construction professions who graduated from vocational schools and found employment in large companies in Sarajevo and Tuzla. The houses are modern in every way, made according to the project or copying the solutions that their builders saw throughout Bosnia and Herzegovina, or "according to the catalogs" (Fig. 20, Fig. 21).



Figure. 20. Houses in the Cunista village built in the 1980s to the present day Source: Author (2020)



Figure. 21. Houses along the Smrsnjica river in the Mahala hamlet (built in the 1960s and 1980s) Source: Author (2020)

Some people have beautiful estates outside the village, especially along the Krivaja River. They build smaller holiday homes there and spend most of their time there in the summer. These houses were made according to the models of similar houses (cottages) that are being built in the valley of the Krivaja river, from Olovo to Zavidovići (Fig. 22). In the villages, barns for large and small cattle are extremely important architectural contents. Stables are built near the house, sometimes in a way that with the house and other auxiliary facilities (Fig. 23) they form real "farms", similar to farms in the plains. Some stables are quite old, more or less preserved, and are beautiful examples of authentic vernecular architecture. The other stables are of more recent date, but in all respects they follow the traditional patterns of stable construction (Fig. 24-Fig. 26).





Figure. 22. Holiday house in the port of Radakovica near Cunista village Source: Author (2020)

Figure. 23. Summer kitchen (hut, mutvak) next to the Naim (Mehmed) Kopic house in the Cunista village Source: Author (2020)



Figure. 24. Houses on one side and stables on the other side of the village street in the Cunista village Source: Author (2020)



Figure. 25. Old barn built entirely of wood (Mahala hamlet) Source: Author (2020)



Figure. 26. Stables in the Cunista village Source: Author (2020)

Residents of the Cunista village built (2015) a new mosque on the site of the old mosque (with a wooden minaret), (Fig. 27).



Figure. 27. New mosque in Cunista (2015) Source: Author (2020)





Figure. 28. Recreation center Kamenica (on the Krivaja river near the Cunista village) Source: Author (2020)

In the 1992-1995 war, the Cunista village produced a large number of martyrs for the freedom of Bosnia and Herzegovina. These huge victims are aware of the current inhabitants of Cunista (many fighters of the B&H Army in the 1992-1995 war), so by showing a fountain along the Olovo-Zavidovići path in honor of the martyrs, as a symbol of life, they showed that (Fig. 29).



Figure. 29. Memorial (martyr's) fountain in Cunista, along the Olovo-Zavidovici road Source: Author (2014)

Understanding water as a symbol of life, and a fountain with drinking water in a suitable place as the best gift for a man-man, the inhabitants of the Cunista village show by building hair-fountains (fountains as a good deed), most often "for the soul" of a dear fountain donor (Fig. 30)



Figure. 30. Hair fountains in the Cunista village, along the Olovo-Zavidovici road Source: Author (2014)

The fountain is, in fact, erected in every convenient place, even where man seldom comes, and where the most frequent guests are birds and wild animals. This is shown by a fountain along the very course of the river Krivaja, near a house in a new settlement built near the bridge to the village of Vukotiće. There was simply a spring in that place, and the man "finished" it to the shape of a fountain (Fig. 30). The central cemetery in the village of Cunista is located not far from the village, on the site of Majino brdo. In addition to this cemetery in the Cunista village, as well as in the hamlet of Mahala, there are a number of smaller, family, cemeteries (Fig. 31).



Figure. 31. Central cemetery and smaller family cemeteries in the Cunista village Source: Author (2020)

CONCLUSION

The natural environment is more or less a given reality that man can preserve, change or devest (change) to the extent that it becomes a "new natural reality". These changes, as a rule, on the other side of long-term human needs, are rarely beneficial, both in the short and long term [3, 7] The most important value of the village Cunista is the river Krivaja. Preservation of its water potential, purity, natural features (canyons, waterfalls, quiet parts of the stream) and biodiversity will depend not only on the indigenous population living in its catchment area, but also on the development of awareness of narrower and wider communities (from local communities to countries and the European Union). Krivaja itself is not only the result of relief, but the existence of forests in its catchment area. In order to ensure the lasting values of the natural environment, spatial plans should be made, from the municipal level to the state level, which would regulate the way of resource management and the place of man in the natural environment (possible interventions in terms of infrastructure, economy, settlements, recreation). Rafting regattas have already started to be organized on the Krivaja River. A sport fishing championship could be organized in a similar way. The multitude of streams is a huge resource of the village of Cunista that needs to be preserved. Streams are already in danger after the uncontrolled capture of their sources, and even after, after the uncontrolled drainage of wastewater and the uncontrolled formation of garbage dumps. The already mentioned spatial plan should be accompanied by appropriate legislation (with an emphasis on the environmental component), which would regulate human behavior in the environment. In the last few years, the municipality of Olovo has undertaken significant and very efficient activities in this regard. Garbage collection and removal in the area of Kriva Rijeka is carried out in a controlled manner, and residents pay small co-payments for services. Forests are an important resource of the area of the village of Cunista. So far, they have been treated as a source of wood pulp (technical wood, firewood), while neglecting the ambiguity of their place in the environment (environment that ensures biodiversity, drinking water source base, climate regulator, basis for healthy food sources). Adequate treatment in the future spatial plan should ensure the diversity of the forest, which will be ensured by appropriate legislation through all levels of social organization. Available arable land is a natural constant. Raising the level of its creditworthiness should be done and monitored with the help of science and the

profession, in a way that ensures organic food production⁸. Rural tourism could have a significant place in the life of the village of Cunista in the future. Already at this moment, this type of tourism is practiced⁹, and in order to become continuous throughout the year, the management infrastructure (travel agencies) should be regulated, from the local community to the highest state level. It seems that only membership in the European Union of Bosnia and Herzegovina can raise the level of awareness of the existence and those business opportunities that, although obvious, now seem utopian. Since the area of the village of Cunista is located near Sarajevo, it will always be an attractive place to live. Already today, it is a place of weekend stay, summer and winter vacation for families permanently residing in Sarajevo, and this stay, in addition to hedonistic, has many practical dimensions (growing fruits and vegetables, for example). World globalization has not bypassed Bosnia and Herzegovina or any part of its territory. By graduating from the faculty, both in Bosnia and Herzegovina and in the world, the young generations of the village Cunista do not determine their existential space territorially, but according to the assessment of their possibilities and chances on the open world market. There will be those descendants who, in accordance with their nature and professional orientation, will remain in their villages and achieve a high level of existence, in accordance with the narrower and wider social context in which the village Cunista is now, or in what context it may be in the future. There will also be those descendants who will remain in the village of Cunista living by inertia, without thinking about perspectives, adapting to each situation, in a similar way as previous generations did. Regardless of the needs that will be generated for existential reasons, future generations of the village Cunista will have more or less pronounced aesthetic and psychological needs for contacts with this area, which will confirm those layers of their personality that stand in front of every practical action. Here, too, it should be underlined that the perspectives of man in future generations of the village of Cuniata are determined by the relative proximity of Sarajevo and Tuzla, so as such they are certainly broad and meaningful. The history of the village of Cunista so far has shown that the natural environment primarily determined the perspectives of man and the perspectives of borders on all new ones, while the social environment determined the intensity of life. The entry of Bosnia and Herzegovina into the European Union would make meaningless the rigidity of belonging to an ethnic group, as a fundamental input in the complexity of life, and affirm all other inputs that enable the all-round development of both the individual and his collectives. In the conditions of open possibilities, both the development and affirmation of specificity will reach its natural expression, in accordance with its immanent strength, in the conditions of competition. The a priori imposition and institutionalization of particularity has already proved to be a means by which the completely pragmatic interests of individuals and the collective are realized.

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⁸ In the 1992-1995 war, the population of the village of Cuniste and the entire Krivaja River Valley, in isolation from the rest of Bosnia and Herzegovina, lived in a "way of self-sustainability", from the resources at their disposal.

⁹ Guests from Sarajevo and Tuzla come to the shores of Krivaja on weekends and use local products of the indigenous population in their diet.

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