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# TRADITIONAL PRODUCTION OF CHARCOAL IN THE KOZICA RIVER VALLEY NEAR FOJNICA

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ABSTRACT

This work is the result of the author's many years of acquaintance with the nature and people of the Kozica river valley, the natural and social context of this valley within the municipality of Fojnica in Bosnia and Herzegovina, and finally, the topicality of the topic of sustainability on a global world level. The author's intention was to point out the authentic potentials of sustainable life in Bosnia and Herzegovina, to develop general social awareness of this issue and to implement sustainability as a philosophy of life in spatial planning, both at the level of local communities and at the state level.

**KEYWORDS**: Fojnice, Kozica river, Charcoal

## 1. INTRUDUCTION

After the author met, scientifically processed and published a number of examples of bioclimatic architecture in Bosnia and Herzegovina [1,2,3,4,5,6,7,8,9] (and, therefore, also self-sustainability as a broad topic), his attention, again and again, is attracted both by individual examples of architectural objects (in a wide variety of their purposes), as well as by more or less wide spatial regions in Bosnia and Herzegovina where man and his communities live, in a more or less (at first glance) noticeable symbiosis with nature. At the same time, his special attention was attracted by those spatial entities in which there were numerous agglomerations of stećaks (in Bosnia and Herzegovina there are 2687 necropolises (localities) with a total of 59593 stećaks) [10] which always pointed to the richness and continuity of life, according to patterns specific to Bosnia and Herzegovina. Stećak, a stone tombstone, created in medieval Bosnia and Herzegovina, is the most sublimated expression of the being of Bosnia and Herzegovina, both its geopolitical position on the world map, its natural-geographical characteristics, as well as its history and anthropology. Following the already described personal experience, the author, visiting the area of the Kozica river valley in the municipality of Fojnica, came across amazing forms of self-sustainability of the life of man and his communities, but not stećci. This particularly attracted his attention, since the absence of stećak disturbed his already acquired certainty in reading the continuity of self-sustaining life and the presence of stećak in a certain area, in Bosnia and Herzegovina [6]. In order to clarify the observed paradox, the author visited the area on several occasions, over the course of several years, followed the pulsation of life 'from the side', talked with the locals[1] (both those who continuously live in the observed area and those

[1] The author conducted interviews with local people of different ages. These interviews (along with a personal introduction to all the important natural and man-made values of the Kozica river valley) gave the author a clear and detailed insight into the peculiarities of the region. The author received particularly detailed information from: Arif (Bajro) Vukovic (1938) from the village of Kozica and Omer (Omer) Huskic (1957) from the Rizvici village. Here are some of the questions that guided the interview:
1. Name the mountains (hills) that define the Kozica river valley?
2. Do you know the origin of the names of certain villages?
3. Which village is the most famous and why?
4. Describe the 'expulsion' of cattle to the nearby mountains, for summer grazing. How many sheep (cattle) did one man (family) have? What did 'being rich' mean at that time?
5. List the names of streams and meadows (fields). Why did they get such names?
6. List the varieties of fruit trees (apples, pears, cherries...), and what their specificities are. How did you use the fruit?

who occasionally stay, but are permanently settled in Fojnica), studied the history and current conditions in Fojnica[2].

## 2. ENVIRONMENT

By 'environment' we mean every possibility in the space in which man can realize his existence [1].

### 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 [1] ...

**Geographical location.** The Kozica river valley is located in the northern part of the administrative area of the municipality of Fojnica, about 50 km northwest of Sarajevo (Geographic coordinates 44°02'10.45"N, 17°54'43.5"E), (Figure 1).

7. What do you know about medicinal plants? How were people treated for certain diseases? How are people cared for in case of injuries (broken body parts, snake bites...)?
8. In your opinion, what is the most valuable, beautiful and important thing in the history of this region, what do you think is worth remembering and passing on to other people and future times, and what is the worst?
9. Who, in your opinion, are the most famous and significant people of this region and why?
10. Which people (and when) were the richest people in this region and what does their wealth reflect?
11. Which man, in your opinion, was the most learned (wisest) and what does his knowledge (wisdom) reflect?
12. Where did the young men of these villages get married, where did the girls from these villages get married? Were there any villages from which it was 'desirable' to marry and why? In which village (family) was it 'desirable' to marry and why?
13. What do the Kozica river floods look like and when was the biggest flood?
14. What are the usual individual seasons (spring, summer, autumn, winter)? What did the extremely snowy (and cold) winters look like, and how did the extremely hot (and dry) summers look, and what are the extremes? How did people behave in such circumstances?
15. Why is it nice (good, advantageous) to live in this valley? What is not good?
16. If you could, what would you do in this area to make life in it better (ideal)?
17. Does this region have its own legends (oral traditions) and how do you view them?
18. Does this area have prospects for life and why?
19. Which side of the Kozica river is more favorable for life (richer) and why?
20. When, according to your knowledge, did charcoal start to be made in the traditional way (in tubs-hupas) and what motivated people to do it?
21. Which type of wood is best for the best quality charcoal? How many kilograms of charcoal can be obtained from 1 $m^3$ of wood?
22. Who were the biggest buyers of charcoal? What was its transport to the consumer like in the past, and how is it today?
23. In your opinion, what impact does this (traditional) production of charcoal have on nature and on people's health? How can you confirm that?
24. To your knowledge, how many watermills were there on the Kozica river and streams? Who made them? How were they used (family, on loan)?

[2] In doing so, the author got the opportunity to design (2007) an „apartment complex“ within the existing „Reumal“ hotel in Fojnica. The settlement project was realized [9].


Figure 1. Kozica river valley near Fojnica. Location
Source: https://visitmycountry.net/bosnia_herzegovina/bh/index.php/turizam/27-vmc/geografija, Accessed: July 23, 2023, left
Google Earth: Accessed: July 23, 2023., right
Source: Author (June 9, 2023.)

The Kozica river valley is naturally oriented towards Kacuni (Busovaca municipality), that is, towards the Sarajevo-Kiseljak-Busovaca-Travnik road (and further towards the Sarajevo-Zenica road). Administratively belonging to the municipality of Fojnica, the valley of the river Kozica (administratively arranged as the local community of Pridol) is connected to the town of Fojnica, mainly by a macadam road (from Vladic hill, asphalt road). The valley stretches in a southwest-northeast direction, it is about 10 km long and about 3-5 km wide. The valley is framed to the northwest by the hills Scit, Razvrsce, Oborska kosa, Simsir, Makva, and to the southeast by the Pavic hills, Supljika and Zahor. Along the course of the Kozica river, the Kozica, Majdan, Vukeljici and Zivcici villages are located on its left side (northwestern part of the valley), and the villages of Dragacici, Vladici, Botun, Rizvici and Podstijena are located on its right side (southeastern part of the valley). Along the Kacuni-Fojnica road, which more or less follows the course of the Kozica river, a new, linear settlement (Hadrovice) is springing up, as an 'extension' of already existing old villages (Figures 2-15) [6].

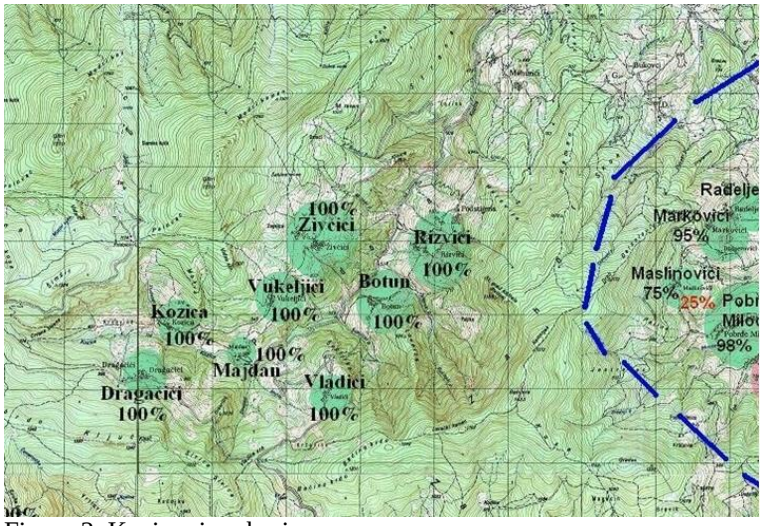


Figure 2. Kozica river basin area
Source: http://bosniainfocentar.phpbb3now.com/viewtopic.php?f=49&t=410, Accessed: July 23, 2023.

Figure 3. Left: Kozica river valley (view over Dragacici village towards Kacuni). Right: View of the Vukeljici and Zivcici villages (and the Vladici village, in the foreground) from the Vladici-Dragacici road
Source: Author (April 10, 2011)

Figure 4. There are many streams that flow into the Kozica river
Source: Author (April 17, 2011)

Figure 5. Left: View of the Rizvici village (and the fortress of Kastela) from the new mosque in Rizvici. Right: View of the village of Majdan from the road on the right bank of the Kozica river
Source: Author (April 17, 2011)

Figure 6. Left: View of the Majdan village from the Kozica village. Right: View towards Zahor hill from the Kozica-Vukeljici road
Source: Author (April 17, 2011)

Figure 7. Left: View of the Vladici village from the Vukeljici village. Right: View of the Rizvici and Botun villages from the Zivcici village
Source: Author (April 17, 2011)

Figure 8. Left: View of the Botun village from the Rizvici village (in the background are the Scit mountains). Right: View of the Rizvici village from the Botun village
Source: Author (April 17, 2011)

The area of the valley is the area of individual villages made up of meadows, arable fields and smaller 'islands' of coniferous forest, while the hills that frame the valley are overgrown with coniferous (predominantly beech) and coniferous forest (Figures 2-15).

Figure 9. Left: Kozica river valley (Majdan village). Right: Modern and traditional plowing (Vukeljici village)
Source: Author (April 10, 2011)

Along the entire longitudinal profile of the valley, along its transverse profile, on both sides of the river Kozica, numerous streams flow (mostly steady throughout the year). While the hills are the 'catchers' of the precipitation, the forests are their 'guardians', there are numerous springs, fountains, streams and the Kozica river, that appearing form of water that is the basis of life in the valley.

**Climate.** Climate is one of the essential dimensions of the natural environment. It is a term that implies a set of atmospheric phenomena (conditions and processes) above a certain part of the Earth's surface. The climate of the Kozica river valley is determined by the quantitative values of the climatic elements and the qualitative-quantitative magnitude of the influence of certain climatic factors, in particular: the physical-geographical position of the observed area, its relief, the degree of continentality (that is, the distance from the sea) and the direction and frequency of primary air currents. The physical-geographical position of Bosnia and Herzegovina is very specific: Bosnia and Herzegovina opens onto the Adriatic Sea in the south, and opens up to the flat and open area of the Pannonian Plain in the north. In this way, it is located between a typical Mediterranean and a typical continental climate. The orography of Bosnia and Herzegovina is determined by the Dinaric Massif, which stretches along the famous Bosnia and Herzegovina diagonal (from the northwest to the southeast), and basins with rivers that flow south and north almost in the meridional direction, from the top of the Dinarides (as the watershed of the Black Sea and Adriatic basins). The river valleys that flow to the south (Neretva, for example) are influenced by the Mediterranean climate deep into the interior of Bosnia and Herzegovina; similarly, the influence of the continental climate reaches deep into the interior of Bosnia and Herzegovina through the river valleys that flow to the north (Una, Vrbas, Bosna, Drina). The continental climate on the one hand, and the Mediterranean climate on the other, through a series of fine modifications, pass into the mountain climate of the Dinaric Massif. The valley of the Kozica river is located in a belt of moderate mountain climate characterized by four more or less differentiated seasons: spring, summer, autumn and winter. The springs are mostly mild and rainy, accompanied by the not infrequent spilling of Kozica from its bed. It happens that spring comes early, when in March a long series of warm days stimulate vegetation and fruit blossoming, and then frost destroys the bunch of fruit trees, and thus their entire annual crop.

Figure 10. Left: Preparation of spring sowing, Vukeljici village. Right: Planting of new orchards (Vladici village)
Source: Author (April 10, 2011)

Figure 11. The road to the Kozice waterfalls, above the Dragacici village (in the background is the Scit mountain)
Source: Author (April 10, 2011)

Figure 12. Left: Kozica river valley (Rizvici village). Right: Landscape in the Kozica river valley near Kacuni (Rizvici village)

Source: Photos: Prof. Dr. Faruk Mekic (August 21, 2010)

As a rule, spring sowing starts in the middle and ends at the end of April; here, too, it happens that the frost in the first half of May destroys the already advanced crop vegetation (maize and beans) when re-sowing had to be done. Summers are, as a rule, warm, with many clear and sunny days; it happens that the spring rains 'enter' the month of July; on the other hand, there are years with a long dry period, when it does not rain at all from May to September. As a rule, mowing grass and drying hay ends in mid-July, harvesting and threshing grain crops by mid-August, and harvesting corn and digging potatoes in late September. In September, there is also a second mowing of the grass, which sometimes reaches the yield level of the first mowing.

Figure 13. Waterfalls of the Kozica river (above the village of Dragacici)
Source: Author (April 10, 2011)

Figure 14. Left: Kozica river waterfalls (above Dragacici village). Right: Kozica river, Kacuni-Hadrovice
Source: Faruk Mekic (April 10, 2011 and August 21, 2010.)

As a rule, autumn is mildly warm, with the well-known period of 'Miholja summer'; lasts from the beginning of September to the beginning of December; sometimes the autumns are mild and dry, and sometimes they are rainy, which, on the one hand, causes flooding in Kozica, and on the other hand brings snow, already from mid-November. The first frosts occur already in mid-October. Autumn is the period of fruit harvesting, its processing (drying, making jam, pickles) and storage in cellars. The first snow falls already in the middle of November,

usually at the end of November. It happens that the first snow stays until spring, but it also snows, falls again and snows, and so on, until the beginning of January. Sometimes the winters are abundant with snow (more than one meter high), relatively cold, and sometimes there is no snow at all; winter temperatures sometimes drop to -20 ºC when Kozica is completely frozen in some places; it also happened that at the beginning of February, when as a rule the temperatures are the lowest, the temperatures would be +20 ºC. Regardless of the rare extreme deviations, the differentiation of the seasons is clear; as such, they determine individual human activities, arranging them in established life cycles.

In the area of the Kozica river valley, iron ore (pyrite) was smelted, which was mined in the region of the village of Kozica and the locality of Pilana, around the source of the Kozica river (Figure 15).

Figure 15. Left: Remains of iron ore solution (Kalhana locality, near the Dragacici village, above the Kozice waterfalls). Right: Remains of iron ore solution, along the Kozica river (Majdan village)
Source: Author (April 10, 2011)

**Resources.** Resources are natural givens that man uses more or less directly to satisfy a wide range of his needs. Most often, we understand resources as natural resources. Renewable resources are: solar radiation, water, forests and living beings in general. Non-renewable resources are oil, gas, coal and minerals. Considering their abundance, we distinguish between renewable and non-renewable resources. In our considerations, we will treat water, orchards (as man-cultivated and especially purposeful trees, i.e. plant biomass), forest (as a resource created more or less without human influence), soil (as a 'derived' natural resource, without or with human activity) as renewable resources in the forms of forest pastures and cultivated meadows and fields. From non-renewable resources, we will process stone (rock) as a building material, first of all. Seen as a whole, the municipality of Fojnica is rich in water. The Kozica River is the central watercourse, the 'backbone' of the valley, in the shaping of which it itself participated. Its source is constant. The general geographical position of the area, the relief and geology, the climate (abundant precipitation during the year, especially abundant snowfall) enable the creation of a large number of permanent springs that end up in the Kozica river in the form of more or less generous streams. From its source (about 1,400 m above sea level) to its confluence with the Lašva River (about 380 m above sea level), over a length of about 25 km, it overcomes a height difference of about 1,020 m. Given this fact, and the fact that its bed is largely made up of relatively stable dolomite and schist rocks, the Kozica River has enormous energy potential. Its constant flow throughout the year was the basic driving energy for a number of utilitarian objects, essential for people's existence in a self-sustainable way. Here, above all, we mean mills for grinding[3] grain and stupas for processing woolen cloth, flax and hemp. Each

[3] Only within the observed area, the Kozica river overcomes a height difference of about 600 m over a length of 9 km. This is the reason why the Kozica river is interesting today for the construction of modern mini-hydroelectric plants. The Kozica river is also remembered for its very abundant floods. One of those that current residents remember the most is the one from 1984. Arif (Bajro) Vukovic provides the following data on the number of mills:
- Kozica village: 6 water mills on the Kozica river,
- Vukeljici village: 3 mills on the Kozica river,
- The village of Zivcici: 7 mills on the Trišnica stream,
- The village of Dragacici: two mills and two stupas on the Kozica river,

village was created in the immediate vicinity of a natural water source, next to which there is a public fountain and watering hole (trough) for livestock. Also, each village had several of its own mills and pillars. In this way, the elementary assumption of life, water and (driving) energy was ensured.

**The forest** (as a renewable resource) in the lives of people living in the valley of the Kozica River was important as a base of building material for the construction of houses and a wide range of utilitarian facilities (cattle barns, water mills, hošafhanes-fruit dryers, baskets and barns for grain)[4], and as a base for firewood (along with water, the second most important source of energy). There is no doubt that already in the Middle Ages charcoal was made from wood, which was a source of energy in iron smelters and handy blacksmith workshops. Perhaps the greatest significance of the forests (in the conditions of the almost completely self-sufficient life of the people of the Kozica river valley, until the 70s of the 20th century) was the fact that in their shelters there were more or less spacious pastures for cattle (especially on the Šćit and Zahor mountains). Herds of thousands of sheep and hundreds of cattle were grazed on these pastures during the summer season (from May to the beginning of October) [5]. In this way, sheep and cattle functioned as a 'transitional form' of resources, from plant biomass to complex forms of biomass-meat, milk, wool and leather. Meat and milk (both in fresh form and in a wide variety of their preparations for long-term consumption) are high-quality food, while wool and leather were raw materials for making shoes and clothes[6]. At the same time, surplus products were sold, and the money thus generated was used for those products and needs that could not be provided within the framework of the basic living space[7]. The role of forests as a habitat for wild animals should not be ignored, since hunting has always been a special form of recreation (especially for the wealthier members of shell communities). The forests were 'natural orchards' with extremely valuable species of blueberries and wild apples and pears. For some families (mainly poor families), the sale of forest fruits was the main occupation by which they secured money for their daily needs. Fruit growing (indigenous varieties of apples, pears, cherries and walnuts)[8] was an extremely important segment of the self-sustainable economy of people in the Kozica river valley (). The fruit was used fresh, but it was mainly processed into a wide variety of stable products: jams, pickles and dried fruit. Hand-made tools were used in authentic fruit processing, while especially utilitarian buildings, hošafhans or smokehouses, were built for drying fruit (). Beekeeping in the autochthonous way of life of the people in the Kozica river valley was not considered a primary agricultural activity, but an 'incidental' occupation. Therefore, honey was a rare delicacy, and wax a secondary product (regardless of its importance in the preparation of candles, 'strengthening' thread for making shoes and clothes, for example).

Soil is a superficial, more or less thin layer that covers the stable geological structure of (a small part of) the Earth's surface (Figure 16). The thickness of this layer, its mineralogical composition and performance for the

- Botun village: 3 mills,
- The village of Rizvici: several mills.

[4] The author was informed by the inhabitants of the Kozica river valley (Omer Huskic, 1957) that between World War I and II and until the 1950s, a special way of transporting wood from the Šćit and Zahor mountains was in operation in the Kozica river valley. The system was called 'rice', and its construction and functioning correspond most closely to the role and construction of viaducts and aqueducts. Namely, from Mount Šćit to Kaćun (in a length of about 30 km) a channel was constructed of wooden planks (width about 30 cm and height about 20 cm) in the manner of a uniform fall. Considering the difference in height (about 600 m) and uneven ground configuration, this wooden box, like a bridge, was in some places high off the ground, while in other places the hill had to be removed. 'Rice' ('Riza') functioned in such a way that water was first released into the wooden channel (from Kozica) and then wooden logs, which slid down an inclined ramp and with reduced friction to the lowest point of the channel (to Kacuni). The second 'rice' was constructed from the Zahor mountain to the Kozica river, about 3 km long (following the course of the Zahor stream). Workers-guards were stationed along the 'rice' who controlled the process of transporting wood and removed any barriers (stoppages). On the 'rice', the main supervisors were people from the village of Rizvici (Huskic Omer-hodza and his brothers, Huso and Mustafa). The job was well paid, and the Huskić brothers got rich.

[5] According to the stories of today's inhabitants of the Kozica river valley, only one wealthy householder managed over 300 sheep and a dozen cattle in this way. (According to Arif Vukovic, Becir-beg Mahmut Buljina from the village of Majdan had 500 sheep and 50 cattle).

[6] Residents of the village of Dragacici had two water-powered stupas installed on the Kozica River, where wool and hemp were processed into cloth. These stupas met all the needs of the inhabitants of the Kozica river.

[7] Paying school fees for children who were educated in cities, buying coffee, sugar, salt, kerosene (for lamps), agricultural tools, jewelry, more expensive shoes and clothes...

[8] Fruit, in itself, is a source of natural sugars and vitamins, and as such was indispensable in a healthy human diet.

growth (cultivation) of various plants are the result of a wide range of natural features as well as human activities. In the valley of the river Kozica, sour-brown, brown soils and red soils (rendzim) prevail. The thickness of the soil layer varies locally and along the transverse profile of the valley, from the course of the Kozica River to the top of the slope, in contact with the forests. Depending on their treatment (fertilization and sowing regime), these soils are suitable for growing cereals (wheat, barley, rye, oats) and corn, as well as growing fruits and vegetables. Along the course of the Kozica river, the soils are of the alluvial type, in thick layers and quite fertile. However, Koizica often flooded, so it was avoided to sow anything on the onion fields, which left such plots uncultivated, meadows (Figure 16). The entire available soil of the Kozica river valley can be treated as arable. This is how it was practiced, with the fact that, as a result of life experience, the place for specific crops was changed, that is, there were longer or shorter breaks with the sowing of crops on certain plots in order to give the land a 'rest'.

Non-renewable natural resources are the result of the geological and petrological structure of a certain area. In the Middle Ages (before the arrival of the Ottomans, 1463), Fojnica was the most important town in Bosnia, due to the deposits of gold and silver [11,12,13,14,15].

Figure 16. Left: Access to the Botun village (in the background is the fortress of Kastela). Right: The Rizvici village of (view from the Botun village)
Source: Author (April 17, 2011)

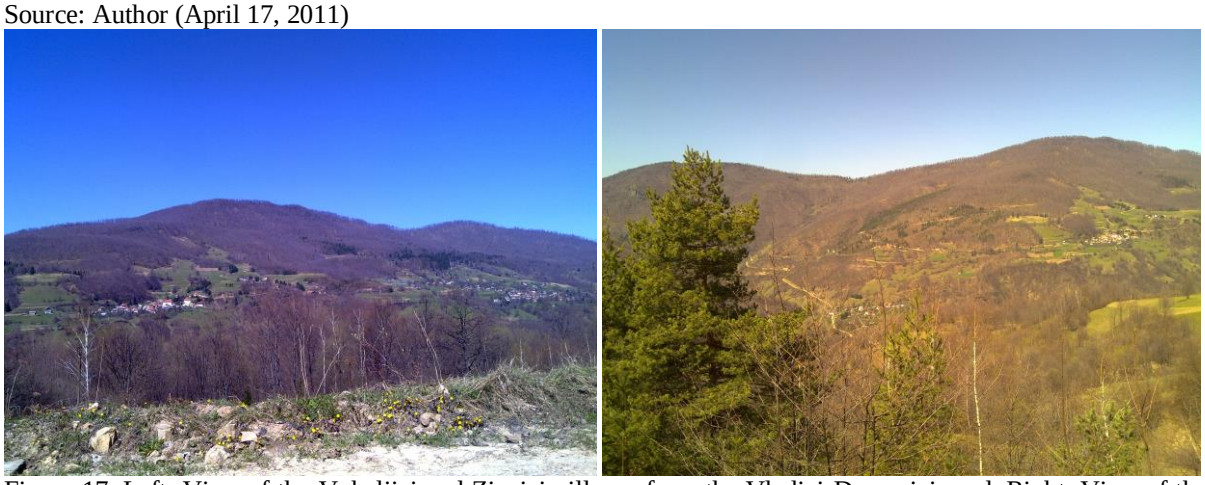

Figure 17. Left: View of the Vukeljici and Zivcici villages from the Vladici-Dragacici road. Right: View of the Vukeljici and Kozice villages and Mount Scit from the Vladici-Dragacici road
Source: Author (April 10, 2011)

Of the non-renewable resources, stone is the most important for the life of people in the Kozica river valley. It is used here, mainly, as a building material for the construction of all types of buildings (foundations, semi-buried floors and ground floors), (Figure 18). Stone was the most important material for building public fountains (since the 1960s, concrete took over that role).

Figure 18. Natural stone (one of the basic building materials)
Source: Author (April 17, 2011)

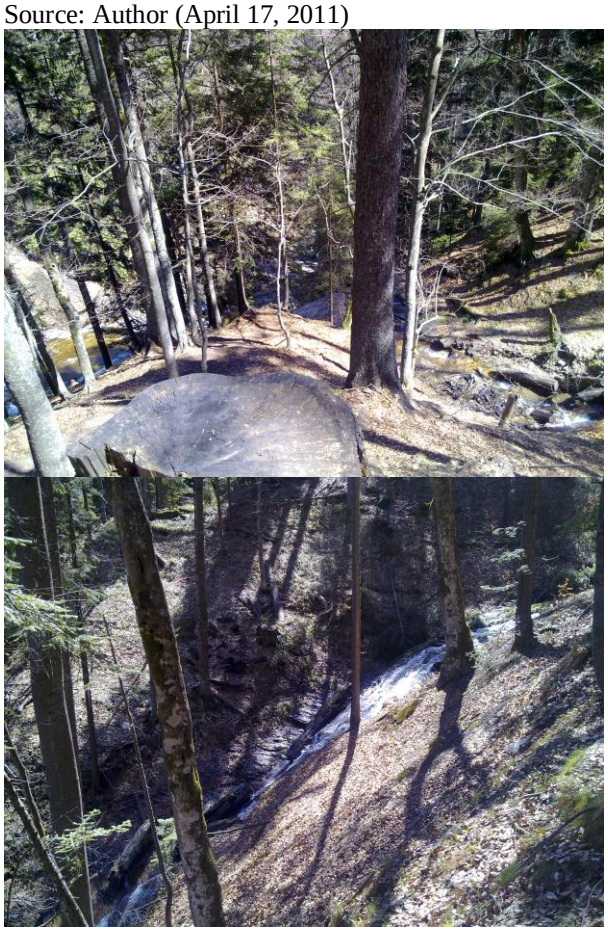

Figure 19. Stream, a tributary of Kozica above the village of Dragacici
Source: Author (April 10, 2011)

Figure 20. Vukeljici village
Source: Author (April 17, 2011)

For the construction of residential and utilitarian buildings, in addition to stone, wood and adobe were mostly used. Wood was used in the form of logs (in the "natural" version of complete walls, mezzanine and roof structures, and as roofing, shingles). In the second case, wood was used for the construction of the walls (bondruk), while the filling of the walls was made of adobe. Loam (prepared in a suitable ratio with water) was used as 'mortar' (Figure 20). Since the sixties of the 20th century, mortar has been made from sand ('kum') excavated in certain localities along the Kozica River, and lime. New buildings are made of modern materials, as in any (urban) environment in Bosnia and Herzegovina.

**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. 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) [1].

**History.** The toponym 'Fojnica' is reminiscent of many similar toponyms in the wider Mediterranean region[9], which leads to the conclusion that Fojnica in Bosnia and Herzegovina belonged to the same cultural and civilizational circle, that is, that its foundation dates back to the ancient period. Fojnica became part of the Roman Empire at the end of the 1st century BC, when Bosnia and Herzegovina as a whole. Fojnica attracted the ancient Romans with its mineral wealth and abundant deposits of thermal and mineral water. The development of mining [12] in the Fojnica region (especially the production of gold and silver) initiated the creation and development of cities. Fojnica, as an urban settlement, developed intensively in the thirties of the 15th century, when a 'colony'-settlement of Dubrovnik people was established there, the most developed in all of Bosnia [10]. At the same time, Fojnica became the place where Bosnian rulers minted coins, and until the arrival of the Ottomans, it was considered the most developed settlement in Bosnia. From later Ottoman sources[10] we learn that other trades were developed in Fojnica (in addition to silver and gold processing trades)[11]: tailoring, baking, shoemaking, butchery, leather tanning, furrier... Fojnica was an open-type settlement with a square as its nucleus [12]. With the arrival of the Ottomans (due to the new geopolitical situation and the nature of the Ottoman Empire), Fojnica lost its importance that it had in the 15th century [12]. Mining and traditional agriculture are the main occupations of the people, although new trades have also been activated, especially the production of weapons[12]. In the 19th century, the Fojnica region belonged administratively and judicially to the Sarajevo Sandzak, that is, Mutesafirluk, and was one of the seven kadiluks of that Sandzak. During the 19th century,

[9] Phoenice, Phoinike, Phoinikus, Phoenikon, Phoiniks, Phoenicus... (all according to: Phoenicians, Greek: Phoiniki - Φοινίκη).
[10] According to the defter (from 1468), Fojnica had 329 households and 20 unmarried people.
[11] In the Rizvici village there is a locality (a hill above the new mosque) called Zlatarnica ('Jewelry store'), and the locals pass on the tradition that gold was minted there. (This information was passed on to the author by a current resident of Rizvić, Omer Huskic, in 1957).
[12] The production of sabers, long rifles, knives-daggers, and various tools for tilling the soil was especially well-known, making Fojnica considered the place with the most active forges in Bosnia. In 1540, 27 mills and one mill for the production of woolen cloth were recorded in Fojnica.

educational institutions were opened in Fojnica (schools for the Muslim population and public schools for the Catholic population)[13]. Since August 17, 1878, Fojnica has been under Austro-Hungarian administration; although a new government was installed, the existing administrative-territorial division was maintained. During the Austro-Hungarian administration, Fojnica and its surroundings did not experience the economic prosperity experienced by those cities that were affected by industrialization and new traffic possibilities; soon the found iron maidans and numerous smaller forges stopped working (which from the time of the Saxons in the 15th century until the arrival of the Austro-Hungarian administration ensured the existence of the numerous population of the Fojnica region). Immediately after the end of the First World War, with the collapse of the Austro-Hungarian Monarchy and the establishment of the Kingdom of Serbs, Croats and Slovenes (1918), Fojnica was inhabited by just over 1,000 inhabitants, and in the entire district (which belonged to the principality of the Sarajevo District) 21,655 inhabitants (distributed in 4,320 homes, in 154 villages and 332 hamlets). In the interwar period (1918-1941), the rural-agricultural population made up the majority (as much as 98%), living and working only at the subsistence level (without marketable surpluses) on much fragmented estates. At the same time, huge and rich forest complexes remained beyond the reach of exploitation. When exploitation began (1930), there were only five water-powered sawmills in the area of the Fojnica section (with one gater and circular saw each), employing a total of 200 workers. With poor traffic connections (at one time there was no telephone connection with the rest of the world), the Fojnica region was considered an underdeveloped and congested environment. All the latent riches of the Fojnica region came to full expression in the period after the Second World War (from 1945); forest wealth begins to be intensively exploited, and modern industrial processing of wood (up to the level of final products such as furniture, for example) becomes the backbone of economic development. In addition, the textile and graphic industry and water resources (thermal and mineral water) give a strong impetus to the overall prosperity of Fojnica and it becomes a medium-developed municipality of Bosnia and Herzegovina. During the 1992-1995 war, Fojnica was not spared by war conflicts. However, the area treated in this paper (the valley of the Kozica river) was spared from direct conflicts, although many young men laid down their lives for the defense of the wider environment. Memorial fountains were erected in memory of their supreme sacrifice. This continued the (almost incredible) tradition of this part of Bosnia and Herzegovina, according to which 'another army has never passed through this region'. Objective reasons that support this fact can be found in the geographical location of the observed area (which lies in a 'protected oasis', outside the main traffic corridors), although there are other explanations[14]. The adaptability of people to all social changes is the guarantee of their survival. This work aims to confirm the stated statement.

**Socio-economic relations.** Socio-economic relations, on the one hand, show the degree of development of productive forces and the degree of social superstructure, on the other hand, they reflect the relationship between productive forces and productive relations. In this way, socio-economic relations become an important mirror of the entire society. Today, these relations reflect the radical changes in the social system caused by the dissolution of the former SFRY, the aggression against Bosnia and Herzegovina after the declaration of its independence (March 1, 1991), and the transition from self-management socialism to liberal capitalism. At the same time, more or less clear 'historical memories' and a colorful attitude towards all previous historical epochs were kept. In the period of socialist self-management, immediately before the 1992-1995 war, the majority of the able-bodied population of the Kozica river valley was employed in state-owned companies (in Fojnica, Busovaca, Zenica) and in addition engaged in agriculture in the countryside. Relatively good connections with larger cities, as well as their proximity, made it possible to educate children at all levels of education. During the 1992-1995 war, the entire population of the Kozica river valley was self-involved in the defense against aggression, and many young people gave their lives. Today's residents of this region expressed their memory and respect for the defenders of freedom, the martyrs, in a typical Bosnian (traditional) way. The transition of the state and socio-economic system and the general devastation of the economy made almost the entire working-age population, previously employed in state-owned companies, lose their jobs. This caused a strong migration of people towards the surrounding urban areas (Kacuni and Fojnica). A significant number of people have created their existence through the traditional production of charcoal, most often combined with agriculture. The original forms of animal husbandry (with summer grazing on the surrounding hills) have completely disappeared.

[13] The first public school in Fojnica was opened on September 30, 1847 and was attended by 36 students. As part of the Catholic school, a school theater was opened in Fojnica (1874) and is considered 'the first permanent stage in Bosnia'.

[14] There is an explanation of an irrational (religious-religious) nature, and they are related to the practice of tasawf in the tekija in Vukeljići.

**Forms of consciousness (philosophy, religion, morality).** The inhabitants of the valley of the Kozica river are Bosniaks by their ethnicity, and Muslims by worldview. Islam, both as a religion and as an overall view of the world, determined their psychological profile, value system and practical actions in all segments of life. In this sense, this area is recognizable not only in Bosnia and Herzegovina, but also beyond. In this area, in the village of Vukeljici, there is a tekija with a rich tradition of practicing tasawf (the study and practice of approaching God). The tekija was founded in 1780 (according to the inscription on the wall of the tekija building). The inscription states that the tekija was founded by „the leader and teacher of the Naqshbandi, Sheikh Husein Zukic-Bosnevi, in 1195 Hijri" (that is, in 1780/1781 according to the Gregorian calendar). On the hill above the tekke there is a small cemetery with three turbets: Husein-babino, Hadzi Mejli-babino and Hasan-babino[15].
Around the turbet are the graves of members of the Hadzimejlic family and prominent individuals (dervishes) who expressed their wish to be buried near their Tesawf teachers, sheikhs. The people of this region (and beyond) deeply believe that respect for God is a basic prerequisite for order on Earth (and the entire Cosmos)[16].

[15] One of the survey questions that the author asked today's inhabitants of the Kozica river valley was: Which man, in your opinion, was the most learned (wisest) and what is his knowledge (wisdom) reflected in? All the respondents, without exception, named the sheikh's tekkies in Vukeljici as the most important people of the Kozica river valley: Husein-baba Zukic-Bosnevi, Hadzi Mejli-baba and Hasan-baba. Arif (Bajro) Vukovic also mentions (in an interview with the author, April 17, 2011) the name of Sheikh Abdul-Latif Effendi. Omer Huskic (1957) also mentions three sheikhs as the most important people of the Kozica river valley. He believes (and is convinced that all the people of the Kozica river valley think so) that the tekija in Vukeljici, its three sheikhs, that is, respect for Allah, is the main force that 'guards' this valley. Huskic also mentions the names of several people-contemporaries who were exceptional and important for this region:
- Hafiz Ramiz ef. Pasic (Rizvici village). This man is one of the most deserving people who contributed to the construction of the new mosque in Rizvici,
- Edhem (Ramiz) Pasic, an employee of the Ministry of Foreign Affairs of Bosnia and Herzegovina (who, among other things, contributed to the construction of the new mosque with his father Hadzi-Ramiz),
- Huskic Meho (Rizvici village), farmer,
- Pasic Hamid (Zivcici village), worker,
- Vukovic Bajro (Kozica village),
- Drinic ef. Husein (Dragacici village),
- Aletic Munib (Botun village),
- Buljina Hajrudin (Majdan village).
All the inhabitants of the Kozica river valley mention Hadzi-Hamda Ibreljic, the main donor (wakif) of the new mosque in Zivcici, as a 'great' man. Hadži-Hamdo Ibreljić is the owner of the company „Tamex".

[16] The author was particularly interested in the attitude of today's inhabitants of the Kozica river valley towards the tradition of tasawf and zikr (expression of special piety). In the house of Arif (Bajro) Vukovic (who himself practices zikr in the tekija in Vukeljici), the author is familiar with photographs of some famous sheikhs (champion dervishes). To the author's question: „How do you (dervishes) feel the presence of Allah?" Arif Vukovic replied: „Wherever I go, I mention Allah, and He recognizes me". The author tells an interesting story (told to him by Arif Vukovic, April 17, 2011) about one of the sheikhs (Husein-baba Zukić) of the tekija in Vukeljici: „Sheikh Husein-baba Zukic always prayed the early morning prayer (the first prayer of the day, early in the morning) in Hum-greblje. His wife suspects where he goes every morning (Vukovic originally said: „The wife thought that her husband was going to another woman, to zinaluk), and decides to follow him. When the sheikh entered the scrapyard, he recited the adhan (pronounced the Islamic call to prayer), and then people began to „sprout from the ground like mushrooms". These were good people who were once buried there. Seeing the scene, the woman got scared and ran home. Even though she 'hid' under the quilt, Sheikh Husein-baba Zukic 'knew' that she was following him, and thus he himself was 'discovered'. The result of her curiosity, the sheikh said, is that he will die in a year, that she will marry a certain Bilan in the Kozica village, and that her grave (when she is buried) will throw out her bones. And it was like that. (When the road was being made to the Kozica village, a grave was found from which bones and a skull 'fell out'. All the people present, including Arif Vukovic, since they knew the story of Sejh Husein-baba Zukic and his wife, saw the predicted 'end of the story', and reburied the skeletal remains in a new grave)". Today, the following families live in the Kozica river valley:
- The Kozica village: Vukovic, Mesanovic, Mukace, Delija, Mujin,
- The Vukeljići village: Hadzimejlic, Mujcic, Mujin, Sehovic,
- The Zivcici village: Buljina, Pasic, Alatic, Sljivar, Ibreljic and Ramljak (moved from the village of Prokos),
- The Dragacici village: Drinic, Huzbasic,
- The Vladici village: Ahmeljic, Bunic, Mujcic,
- The Botun village: Alatic, Ahmetak, Osmancevic,
- The Rizvici village: Rizvic, Huskic, Alatic.

Figure 21. Left: Svatovsko groblje (crossroads towards Fojnica, Vladica brdo). Right: Mosque of Sultan El Fatih (in Milodraz)
Source: Author (April 10, 2011 and April 17, 2011)

Figure 22. Cemetery (Dragacici village)
Source: Author (April 10, 2011)

These data were provided to the author by Arif (Bajro) Vukovic (from the Kozica village, April 17, 2011).

Figure 23. Tekke (Vukeljici village)
Source: Author (April 10, 2011)

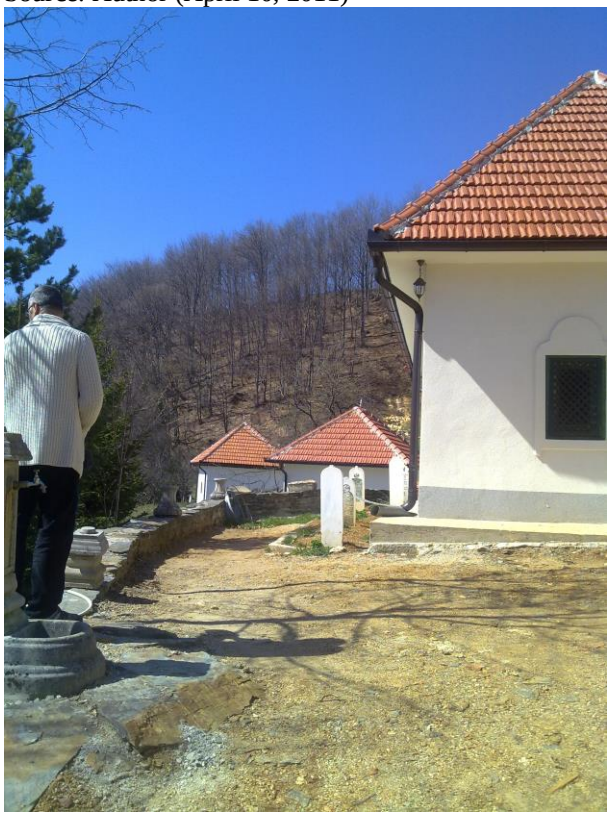

Figure 24. Three turbets above the tekke (Vukeljici village)
Source: Author (April 10, 2011)

**Morality** constitutes a system of values that determines the relationship of man to nature, the relationship of man-individual to society, the relationship of man to man and the relationship of man-individual to himself. Since this value system is not prescribed, it is not sanctioned in the same way. Regardless, he regulated the above-mentioned relationships, often in a very strict way, which, quite often, had greater force than the law. Morality is temporally and spatially conditioned, which gives it the characteristic of relativity. Hence, moral values within one and the same social group or community change over time and are influenced by the value systems of other communities that come into the observed community spontaneously, sometimes more or less intrusively. Collectivity and solidarity were the foundations on which it functioned and on which the social communities in the villages of the Kozica river valley developed.

**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 is trying to decipher within his limits, within the limits of the Earth and the limits of the Universe [1].


Figure 25. Left: Sheikh Abdul Latif, Hadzi-baba Behaija Hadzimejlic (sitting) and Bajro Vukovic (standing). Right: Hadzi-baba Behaija Hadzimejlic and Arif (Bajro) Vukovic
Source: Photos from Arif Vukovic taken by Prof. Ph.D. Ahmet Hadrovic (April 17, 2011)

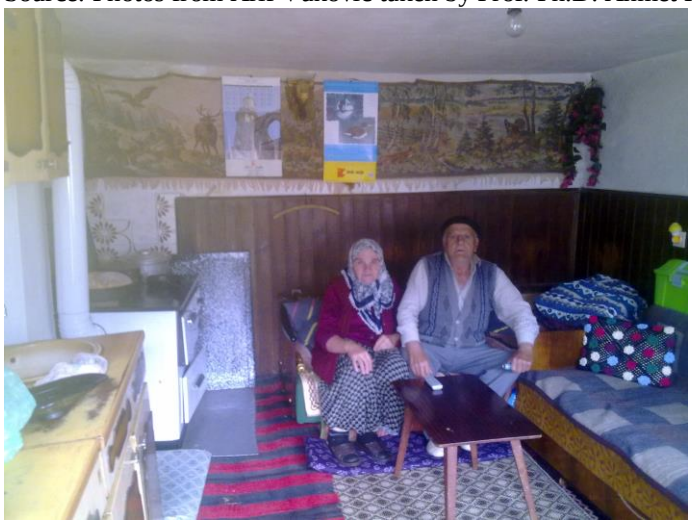

Figure 26. Arif (Bajro) Vukovic with his wife
Source: Author (April 17, 2011)

**Traditional production of charcoal**

Charcoal was traditionally produced in Bosnia and Herzegovina[17] for the needs of maidans and smaller or larger blacksmith workshops-forges. It is a very convenient form of obtaining the desired temperature in the process of making various wrought iron products. Charcoal is traditionally produced in Bosnia and Herzegovina in two ways:

- In baths (hupas) formed ad hoc, in a suitable place (in principle, in any place). In this case, the wood is stacked appropriately in a 'compacted form', which is then covered with earth so that the cup (hupa) has the shape of a semi-calotte [8].
- In more or less permanently built buildings, built of quality baked bricks, in which charcoal is 'smoked' repeatedly (very often for several years).
  In the area that is the subject of this work, charcoal is prepared in permanent construction facilities ().

[17] The production of charcoal is basically the dry distillation of wood, a chemical-thermal process in which wood is subjected to a pyrogenic reaction without access to air (oxygen). This reaction produces charcoal, as the main product, and gases and vapors as secondary products, which in traditional production are neglected and released into the free space of the atmosphere. Regularly, in colder places of the bath, condensation of gases and steam (created by the process of dry distillation of wood) occurs in the form of tar.

Figure 27. Pits ('kupa') for making charcoal, Hadrovice village
Source: Prof. Dr. Faruk Mekic (August 21, 2010)

The example of traditional charcoal production in the Kozica river valley can teach us about all the principles that apply to the entire area of Bosnia and Herzegovina. The basic condition for the economically justified production of charcoal in the traditional way is the abundance and easy availability of quality wood[18].
Other conditions are:

- The existence of easily accessible water (from a natural watercourse or water supplied by a generous water supply system),
- Good transport connections to the main transport connections of the region (state),
- Proximity to major consumers of charcoal, as a guarantee that the produced charcoal will be sold safely and quickly (in the past, major consumers of charcoal were considered to be fairgrounds and blacksmith workshops, and today they are large cities where charcoal is used for preparing barbecues),
- Steady workforce (the future production of charcoal is a seasonal business, during the summer, securing a steady workforce is often a big problem, among other things, because it is a business with low wages).





[18] High-quality wood is beech, hornbeam, and oak. It is interesting that the most demanded charcoal for blacksmith shops is prepared from fir branches.

Figure 28. Pits ('kupa') for making charcoal, Hadrovice village
Source: Prof. Dr. Faruk Mekic (August 21, 2010)

**1.3. Charcoal production technology**

The charcoal production facility ('kupa', 'hupa') is situated so that its top (through which new wood is inserted) is easily accessible from the access road. It is highly desirable that there is enough space along the road for maneuvering the vehicle used to deliver new wood as well as for depositing new wood (reserves for several cycles of 'burning the compartment'), (Figures 28,29,30,31,32). The base of the compartment is at a lower level. Since the finished charcoal is taken out through the opening at the base of the compartment, it is desirable to provide a wider area here as well, where the finished charcoal is packed and stored in specially arranged (wooden and very airy) warehouses. It is very important that the work-manipulative space next to the pile (both the upper plateau - in the zone of inserting wood through the opening at the top of the pile, and the lower plateau - in the zone of extracting finished charcoal) is supplied with a generous amount of water, due to its large role in the technological process[19] (and in case of fire, which is very possible considering the production technology). The storage of finished coal must be easily accessible to the vehicle that distributes the coal to the desired destination. Since this type of production is practically a small factory employing four to ten workers, it is necessary to provide accompanying rooms for them (rest and dining, changing rooms, and in the best case, showers)[20]. However, as coal is produced exclusively during the summer months, the service rooms are usually closed. The open space, in the shade next to the road or the river, becomes a space for lunch and rest, with conveniently arranged sanitary facilities and a dining table. Facilities where dry distillation of wood is carried out (cups-hupes) usually have a volume of 20 $m^3$ to 100 $m^3$. During the working (summer) season, it is possible to do even up to 25 cycles[21], so that the maximum annual production per pile is from 75 to 375 tons of charcoal[22].

**1.4. Ecological aspect of traditional charcoal production**

As we have seen, the basic raw material for the production of charcoal is the so-called 'firewood', i.e. that type of wood in forest exploitation that is normally intended for burning (in traditional households). Since the area (which is the subject of this monograph), as well as Bosnia and Herzegovina as a whole, is in a certain sense in a state of 'post-war trauma' (social transition from socialism to capitalism, and the general destruction of natural and social goods), the scientific-professional management and control of the exploitation of wood (as well as more or less other resources) is insufficiently dulled and regulated by law.

[19] One technological cycle (one 'burning') of traditional charcoal production lasts seven days. After that (two days before the charcoal extraction itself), the bath is filled with water through its upper opening (this is called 'scorching').

[20] Since the traditional production of charcoal is carried out in the summer months, a handy cistern (for example, the core of an old electric boiler) suspended from a tree is used as a 'shower', where the water is heated by Suč radiation.

[21] According to the long-term experience of making charcoal in the valley of the Kozica river, from 1 m3 of wood (depending on the percentage of its humidity) you can get about 150 kg of charcoal.

[22] For this much production of charcoal, 500 to 2,500 $m^3$ of wood per pile should be provided per year. If the number of piles is taken into account (around 50, in the valley of the Kozica river), then the quantities of wood obtained from the forests around Fojnica can be calculated. This imposes a very serious study on forest management. Of course, the maximum number of cycles is not completed on any pile, both due to the impossibility of a continuous supply of wood, as well as due to weather conditions, possible repairs to the structure of the pile, delays in the placement of charcoal...

Figure 29. Pits for making charcoal, Hadrovice village
Source: Photos: Prof. Dr. Faruk Mekic (August 21, 2010)

There is an urgent need to create a respectable scientific study on 'forest management' (for the entire area of Bosnia and Herzegovina, based on similar studies in the surrounding countries), whereby the role of forests would be considered not only as a wood mass resource, but also from the aspect of biodiversity, ecology, climate, preservation of water sources and water courses [16]...

Figure 30. The author with the workers at the charcoal baths during breakfast
Source: Photos: Prof. Dr. Faruk Mekic (August 21, 2010)

There is no doubt that such a study would show that timber is the smallest part of the good that forests can provide, and that the other benefits it provides are more socially significant and far-reaching in time. During the technological process of dry distillation of wood, carbon dioxide, water vapor (80%) and vapors of a wide range of chemically complex substances are released into the atmosphere. Some gases condense already at the plant itself ('kupa'-'hupa') and end up on the ground and in the river.

Figure 31. The interior of a coal-coal storehouse, Hadrovice village near Kacuni
Source: Photos: Prof. Dr. Faruk Mekic (August 21, 2010)

In any case, a detailed examination of the possibly negative impact of traditional charcoal production on the natural environment should be carried out.

Figure 32. Emptying of finished charcoal from the charcoal store, Hadrovice village near Kacuni
Source: Photos: Prof. Dr. Faruk Mekic (August 21, 2010)

**Conclusion (Perspectives)**

By the term 'Perspective' (in the framework of the theory of Architecturally Defined Space) we mean „that dynamic relationship that connects now-future, existing-possible, realized-desired“ [1]. The Kozica river valley in the Fojnica municipality is just one of many similar areas in Bosnia and Herzegovina where people make their living in a self-sustainable way. The authentic scheme of the spatial layout of villages in the Kozica river valley changes over time. Villages, which are allowed by their location (Rizvici and Botun, for example), in the last 20-30 years have turned into 'line settlements', stretching from their original nucleus towards the main road Kaćuna - the valley of the river Kozica. Some villages (Vladici and Kozica, above all) are 'old' and poorly regenerated. The Majdan village looks as if it has been 'preserved', with extremely valuable examples of autochthonous architecture. The construction of weekend houses in Majdan testifies to the love of people (who now live in Fojnica) for their roots and the need to rest in a natural environment of exceptional beauty. From the very entrance to the valley of the Kozica river from the Kacuni direction, along the road and the course of the Kozica river, a new settlement sprouts up, in all respects similar to the settlements around larger cities in Bosnia and Herzegovina. In order to explain all dimensions of the self-sustaining life of people in a community, one must have a good insight into the natural environment (a range of available resources), a good insight into the social environment (history of the area, anthropological profile of the people, cultural heritage, infrastructural connection of the area in the context of the wider region and country...). In this way, not only the real strength of the self-sustainability of people and their communities will be explained, but also its perspective will be predicted. More than that, the self-sustainability of one region can become an example of achieving self-sustainability in other areas, and all together a precious heritage of humanity as a whole. There is a lot of symbolism in the picture that the author noticed: the inhabitants of the valley of the Kozica river perceive the

tekija in Vukeljići (that is, the practice of tasawf and zikr - especially the expression of respect and love for Allah) as the very essence of the life of people in this valley. Geographically and physically, the tekija in Vukeljici occupies the highest point (elevation) of all buildings erected by man in the Kozica river valley. A few years ago, Dr. Cazim Hdzimejlic (descendant of Sheikh Hadza Mejli-baba), at the end of the Kozica river valley, in Kacuni, built a new tekia and a modern polyclinic. In this way, the entire valley of the Kozica river was placed in the 'arms of two tekijas', or was the original spirit and strength of the tekija in Vukeljici weakened?

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