

Three Mosques by Architect Ahmet Hadrovic

*Ahmet Hadrovic

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

Abstract— *The author, as a young architect, had his first encounter with the design task of a mosque in 1986, when he designed the New Mosque in Solun on Krivaja. Winning the first prize at the General Yugoslav architectural competition for the project of the Islamic Center in Rijeka, Republic of Croatia (1991), for the Author, meant entering the 'big door' into the world of architecture, in the area of then Bosnia and Herzegovina as well as in the area of former Yugoslavia. In addition to the projects of 'large urban mosques' (Adil Begova and Kuwait Mosques in Sarajevo, the Islamic Center in Novi Travnik, the City Mosque in Breza), the author edited and realized the designs of 'small mahal's mosques' (the Mosque in Japalaci near Tarcin, the Mosque in Binjezevo near Sarajevo, the Mosque in the Rakitnica village on the Bjelasnica mountain Plateau), which he presents in this work, and several mosque designs that were not realized. In everything, these mosques reflect the contemporary moment of life in Bosnia and Herzegovina - the contents of the mosque and the spatial solution. A mosque is not only a 'place of worship' but a place of bathing and a place of complex social life. According to its construction, materialization, overall design and the design of individual traditional elements of the mosque (dome, minaret, mihrab, mimeter...) these mosques represent an apparent expression of the synergy of the natural and social environment and the man for whom it was created. Mosques acquired the character of true 'genius loci' of a more or less wide area.*

Keywords— *Bosnia and Herzegovina, Mosque in Binjezevo, Mosque in Japalaci, Mosque in the Rakitnica village on the Bjelasnica mountain Plateau.*

I. INTRODUCTION

By capturing the royal city of Jajce in 1463, the Ottomans became the new masters of today's Bosnia and Herzegovina. The Ottomans found an almost completely Bogomil Bosnia, about which Vjekoslav Klaić in the History of Bosnia writes: "After the death of King Stjepan Dabiša (1395), dark days arose in Bosnia for the Catholic Church. The struggles for the throne and the raids of the Turks made the Patorene faith unusually felt and almost prevailed in its own country..." [1]. After the breakup (1991-1995) of the joint state of SFR Yugoslavia, Bosnia and Herzegovina began a new era of its existence. One of the important features of social life in this new state is the return to the national-religious identities of the three most numerous peoples in Bosnia and Herzegovina: Bosniaks (Muslims), Serbs (Orthodox) and Croats (Catholics) [2,3]. The construction of religious buildings within the framework of all three nations is becoming one of the most important features of this new historical epoch of Bosnia and Herzegovina.

Winning the first prize at the General Yugoslav architectural competition for the project of the Islamic Center in Rijeka, Republic of Croatia (1991), for the Author, meant entering the 'big door' into the world of architecture, in the

area of then Bosnia and Herzegovina as well as in the area of former Yugoslavia [4]. In addition to the projects of 'large urban mosques' (Adil Bey's and Kuwait Mosques in Sarajevo, the Islamic Center in Novi Travnik, the City Mosque in Breza) [5,6] the author edited and realized the designs of 'small mahal mosques' (the Mosque in Japalaci near Tarcin, the Mosque in Binjezevo near Sarajevo, the Mosque in the village of Rakitnica on the Plateau of the Bjelasnica mountain), which he presents in this work, and several mosque designs that were not realized [4]. In everything, these mosques reflect the contemporary moment of life in Bosnia and Herzegovina - the contents of the mosque and the spatial solution. A mosque is not only a 'place of worship' but a place of bathing and a place of complex social life. According to their construction, materialization, overall design and the design of individual traditional elements of the mosque (dome, minaret, mihrab, mimeter...) these mosques represent an apparent expression of the synergy of the natural and social environment and the man for whom it was created [7,8,9]. Mosques acquired the character of true 'genius loci' of a more or less wide area.

II. MOSQUE IN JAPALACI NEAR TARCIN (1989-2007)

The mosque in Japalaci near Tarcin is located at the northwestern edge of the local cemetery and the old mosque built in 1927 (Figure 1). The mosque was designed in 1989, and its construction and opening took place only in 2007, after the war (1992-1995). This is one of the first mosques in general that was 'designed' in the former SFRY (that is, SR B&H). With its location, the mosque 'preserves the energy' of the genius loci of the existing mosque with the local cemetery. The new mosque has a spacious yard ('harem') in which there is a parking lot, a green area with fruit trees, a lawn and decorative trees. The small river that begins the location is its great asset, which will be included in the final exterior decoration of the mosque complex.

Disposition of the mosque. The project task is, in addition to the traditional, main prayer area with a minaret and an entrance porch, an area for prayer washing ('abdesthana'), a classroom for religious instruction ('mekteb'), a room for a religious teacher ('mualim') and a boiler room (central heating). In relation to the traditional solutions of mosques in Bosnia and Herzegovina, it was about the vision of a 'modern mosque' (Figure 2).

The spatial-functional scheme of the traditional Bosnian ('mahal') mosque included the basic body of the building, on the ground floor of which there is a basic prayer space, and on its gallery ('mahfil') a space that is mainly intended as a prayer space for women. The main body of the building was accessed through the entrance porch, which served as an antechamber

for leaving shoes, as an entrance canopy, but also as a place for praying in the summer. Standard elements in the main

prayer area are:

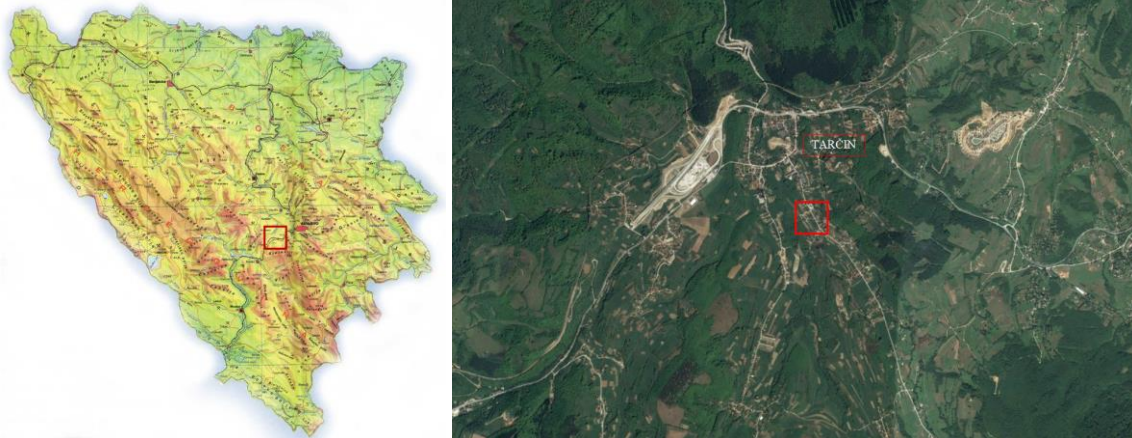


Figure 1. Mosque in Japalaci near Tarcin (1989-2007). Location (Geographic coordinates: 43°47'27.85"N, 18°05'51.97"E, Elevation: 658 m)

Sources:

<https://slidetodoc.com/regionalna-podjela-bosne-i-hercegovine-geografske-regije-bosne/>, Accessed 8/13/2022, (left)

Google Earth: Accessed 8/13/2022 (right)

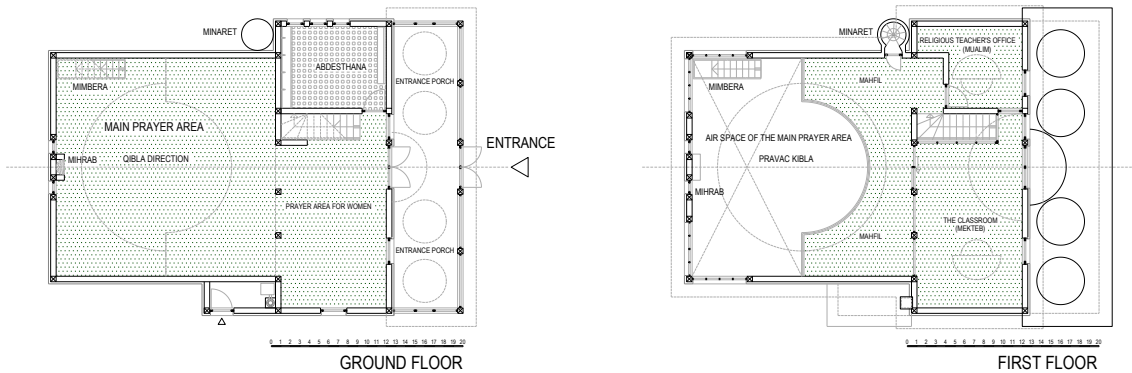


Figure 2. The mosque in Japalaci near Tarcin. Drawings

Source: Author (Drawings, 1989-2000)

- a niche in the wall ('mihrab') where the imam stood, leading the prayer. Mihrab also marked the orientation ('qibla') of believers towards the Kaaba, the most important point on Earth for Muslim believers;
- 'member' is a step-raised place where the imam stands and gives a speech ('vāz'), mainly during the performance of the central weekly prayer, 'juma prayer';
- 'kjurs' (jurs), a specially arranged place similar to a pulpit from which the imam (or another Islamic scholar in the religious hierarchy) gives a speech during solemn prayers (Bajaram prayer, for example), (Figures 3, 4, 5).

The traditional mosque in Bosnia and Herzegovina did not have a space for proper washing ('abdesthana'), and sanitary facilities in its basic body. These facilities were located outside the main body of the mosque, as auxiliary rooms accessed from the courtyard ('harem') of the mosque. It was generally understood that believers come to the mosque already prepared.

Design and spatial and social context of the mosque. Already on his first mosque project, the Author encountered a (as a rule) conservative approach to mosque design. The clients of the project (representatives of local religious communities-

congregations) had the idea of a mosque of 'their fathers and grandfathers', without 'innovations'. Every novelty in the disposition and design of the mosque brought doubt into their psyche, or the fear that they 'might make a mistake', that is, that they might deviate from the established canons.

The author respected this kind of caution on the part of those ordering the mosque project in a more serious approach to the whole work. He himself had to 'additionally prepare theoretically' in such a way that before presenting his project to the client, he talked with religious experts about many issues. The mosque in Tarčin, already at first glance, resembles the traditional solutions of the Bosnian mahal mosque. At the same time, the novelty can be noticed, both in its disposition and in its design. Namely, in relation to the traditional solutions of the Bosnian mosque, between the main prayer area and the entrance porch, an 'entire spatial grid' was inserted, i.e. an entrance hall with an ablution and an area for performing prayers for women, and a visibly emphasized staircase that connects the ground floor with the first floor. In this new layout, a classroom for religious instruction ('mekteb') and an office with a library for a religious teacher ('mualim') are arranged on the floor level. The gallery

('mahfil') above the main prayer area is shaped like a segment of a circular ring, which follows the base of the roof dome. A new element appears in the construction and design of the mosque, the segmental dome, which provides rich lighting to the classroom space on the first floor, and the general appearance of the mosque suggests a 'ceremonial entrance' in the form of an 'archway of light'. A design novelty that is first noticed in the design of mosques in Bosnia and Herzegovina is the specific solution of windows in the main cube of the building that appear in the part of the trompe or pendants in the classical solutions of domes on mosques.



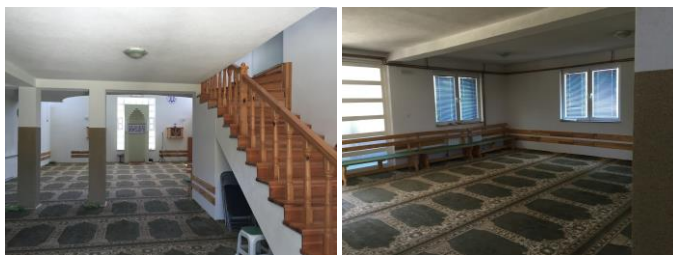
Left: Mahfil
Right: View from the mahfil of the main prayer area on the ground floor



Left: Entrance hall with shelves for shoes
Right: Staircase for access to the first floor ('mahfil')



Left: View from the mahfil to the mihrab and mumber
Right: View through the classroom from the direction of the mahfil



Left: View of the main prayer area by the entrance door in the hall
Right: A separate part of the main prayer area for women on the ground floor



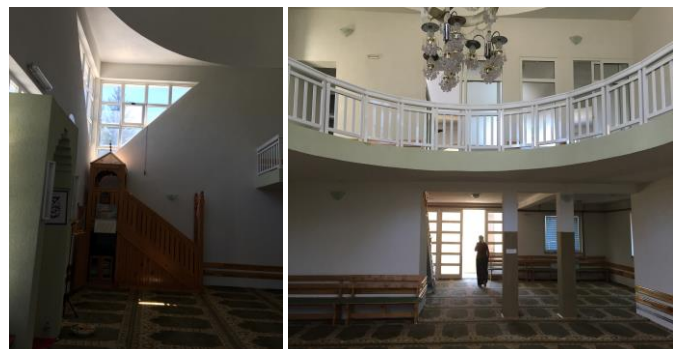
Left: Dome with 'heavenly arch' in the classroom
Right: Classroom ('mekteb')



Left: Space for prayer washing ('abdesthana')
Right: Mihrab and mumber (in the foreground is the circular edge of the mahfil)



Left: Office for the 'mualim' on the first floor
Center and right: Staircase from the main prayer area on the ground floor for the mahfil



Left: Mumber
Right: View of the entrance to the main prayer area from the direction of the mihrab



Left: Exit to the minaret from the mahfil
 Right: Boiler room for central heating
 Figure 3. Mosque in Japalaci near Tarcin
 Source: Author (July 14, 2017)

The specificity of this mosque (which will appear in various solutions in all the mosques presented here) is the design of the mihrab. In the design of this element of the mosque, light is always used, in such a way that during the day (viewed from the inside to the outside) it suggests 'the light of the perspective of the qibla', and during the night (viewed from the outside of the mosque) it suggests 'a place from which good messages are sent to the environment'.



Left: Drone camera view from the southeast
 Right: Drone camera view from the east



Left: Drone camera view from the north
 Right: Aerial view with a drone camera (Fifth facade)
 Figure 5. Mosque in Japalaci near Tarcin. Take photos with a drone camera
 Source: Vladimir Obradovic (July 27, 2017)

According to the original design, the design of the minaret of the mosque in Japalaci near Terčin was identical to the design of the mosque in Binježevo. Unlike the minaret of the mosque in Binježevo (which was completely built according to the author's design), the design of the sherefet was adopted from the original project in the construction of the minaret of the mosque in Tercin, while the body of the minaret was built according to the standard solution (Figures 3, 4, 5).



Left: View from the northwest direction
 Right: View from the northeast

III. MOSQUE IN BINJEZEVO NEAR SARAJEVO (1989)

Binjezevo is a relatively small place, situated between Sarajevo and Hadzic, along the main road Sarajevo-Mostar-Adriatic Sea (Figure 6). The client of the mosque proposed a project assignment which, in addition to the central building of the mosque, provided for a number of other contents: a school with a library, an office, a gas house, a room for central heating, a storage room.

Disposition of the mosque. In the beginning, the Author decided to emphasize the central prayer space by using simple geometric forms within the framework of the unique building, and to frame the rest of the contents with the forms of traditional profane architecture. At the same time, these two basic groups of content are physically separated by communication (staircase to the floor and mahfil). Working on the floor plan of the central prayer space, the author applied the form of a regular hexagon since one of its large diagonals occupied the position of the Qibla. The regular hexagon of the base of the main prayer space is one of the 'big geometric figures' that contains six equilateral triangles. In addition, the regular hexagon generates a regular six-pointed star, which is associated with the Prophet Abraham (Ibrahim), the forefather of Jews, Christians and Muslims.

This mosque has differentiated sanitary and ablution facilities, for men and women, which represents a high functional and psychological-aesthetic standard. The minaret



Left: View from the southeast
 Right: View from the southwest direction. The design of the mosque
 Figure 4. Mosque in Japalaci near Tarcin (1989-2007)
 Source: Author (July 14, 2017)



Left: Drone-camera view from the northwest direction
 Right: Drone camera view from the west

was designed (for that time, 1989) quite boldly, with slightly noticeable reminiscences of the Bosnian wooden minaret (in

the part of the sherefet), (Figure 7).



Figure 6. Mosque in Binjezevo (1989). Location (Geographic coordinates: 43°50'42.02"N, 18°13'39.43"E, Elevation: 524 m)

Sources:

<https://slidetodoc.com/regionalna-podjela-bosne-i-hercegovine-geografske-regije-bosne/>, Accessed 8/13/2022, (left)

Google Earth: Accessed 8/13/2022 (right)

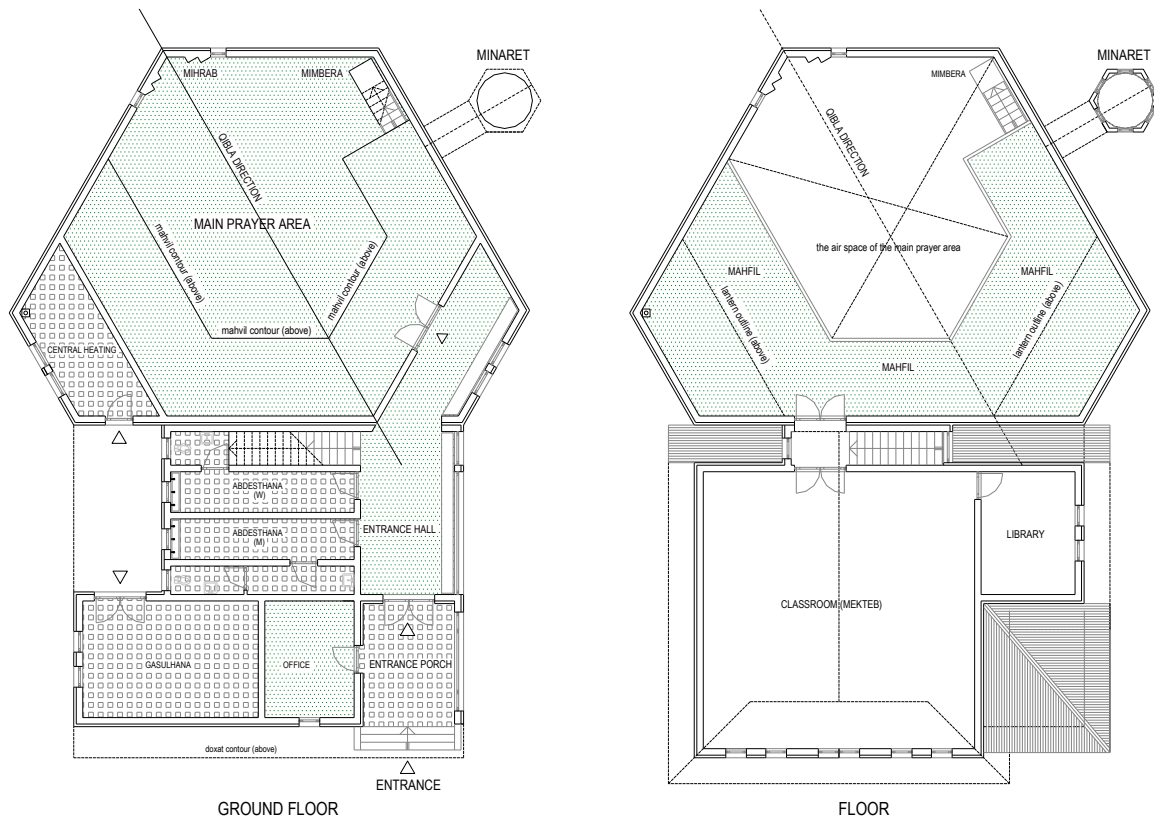


Figure 7. Mosque in Binjezevo near Hadzici (1989). Drawings

Source: Author (Drawings 1989, 2010)

Design and spatial and social context of the mosque. Seen from the side, the mosque in Binjezevo is a remarkably small building, to which the main prayer area, the six-sided prism with the dome and the minaret give the impression of monumentality. Part of the building with a sloping roof is

reminiscent of a Bosnian house, so it seems close and 'something well known'. In this mosque too, the Author uses light as an important element in solving the function of the object, as an aesthetic-compositional tool in the architectural expression of the idea of nobility and holiness. Namely, at the

level of the floor (that is, the mahfil), the Author makes extensions on two sides of a regular hexagon, thereby increasing the area of the gallery ('mahfil'). As the dome is constructed in the contour of a regular hexagon, the cantilevered volumes receive a roof-lantern, with plenty of daylight during the day. At night, internal lighting emerges through these lanterns into the open space and thus conveys the message of good (Figures 8,9,10).



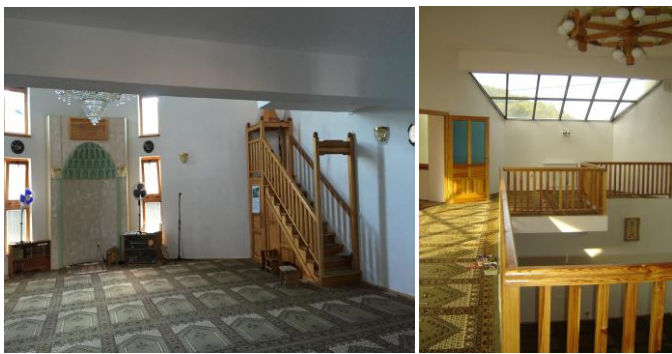
Left: Abdesthana for men
Right: Abdesthana for women



Staircase ground floor-floor

Figure 8. Mosque in Binjezevo near Sarajevo. Contained mosques
Source: Author (September 10, 2010)

The minaret of the mosque, in terms of its design and material, was at that time (1989) a complete novelty in the construction of mosques in Bosnia and Herzegovina. The element of the sherefat somewhat resembles the design of the sherefat of some solutions of the traditional wooden minarets of mahal mosques in Bosnia and Herzegovina. In fact, the minaret is designed as a 'giant lamp' where the solid reinforced concrete elements contrast with the metal-glass canvases of the minaret envelope. During the day, the reinforced concrete construction of the minaret stands out with its whiteness against the dark surfaces of the metal-glass curtain, while at night the opposite is the case: the light that emerges from inside the minaret through the metal-glass surfaces contrasts with the dark surfaces of the reinforced concrete construction of the minaret (Figures 9, 10).



Left: Main prayer area. Mihrab and member
Right: Mahfil



Left: Mimber and mahfil
Right: Classroom ('mekteb')



Left: Entrance to the mosque from the harem area

Right: Access to the building from the northwest via the bridge over the Zujevina river



Left: Economic part of the harem of the mosque. Boiler room for central heating

Right: Economic part of the harem of the mosque. Gasulhana



Left: View from the northwest direction

Right: View from the northeast



Left: View from the southeast
Right: Detail of the minaret

Figure 9. Mosque in Binjezevo near Hadzici. The design of the mosque
Source: Author (July 15, 2017)



Left: Drone-camera view from the northwest direction
Right: Drone camera view from the west



Left: Drone-camera view from the southwest direction
Right: Drone-camera view from the south



Left: Drone camera view from the northeast
Right: Aerial view with a drone camera (Fifth facade)

Figure 10. Mosque in Binjezevo near Hadzici. Take photos with a drone camera
Source: Vladimir Obradovic (July 28, 2017)

IV. MOSQUE IN THE RAKITNICA VILLAGE ON THE BJELASNICA PLATEAU (2008)

Although physically the smallest, this mosque, more than all the mosques presented in this paper, reflects the author's approach not only to the design of mosques, but also to architecture as a whole^[4,7]. The mosque corresponds to the

well-known Bosnian mahal mosques, whose physical body is no larger than the houses in the mahal. The mosque in the Rakitnici village in Bjelasnica has a sloping roof and a minaret (though constructed of steel pipes) which in its design resembles the wooden minarets of mahal mosques.

The mosque was designed and built for the needs of the inhabitants of Rakitnica, a small village on the vast plateau of the Bjelašnica mountain, about 25 km southwest of Sarajevo (Figure 11). Until 1992, Rakitnica, as well as the entire plateau of Bjelašnica, did not have a high-quality traffic connection with any larger settlement in its geographical surroundings. Partly during the 1992-1995 war. year, mostly after 1995, all the villages on the Bjelasnica plateau got high-quality asphalted roads with which, through the Bjelasnica and Igman Olympic centers, they were connected to the traffic network of Bosnia and Herzegovina. For the Author, this fact was one of the main inputs in the design approach of the mosque in Rakitnica.



Figure 11. Mosque in the Rakitnici village on the Bjelasnica Plateau (1989). Location (Geographic coordinates: 43°39'26.18"N, 18°16'24.21"E, Elevation: 1166 m)

Sources:
<https://slidetodoc.com/regionalna-podjela-bosne-i-hercegovine-geografske-regije-bosne/>, Accessed 8/13/2022, (left)
Google Earth: Accessed 8/13/2022 (right)

Disposition of the mosque. The mosque in Rakitnica basically follows the type of a small mahal mosque with a wooden minaret, of which there are the most in Bosnia and Herzegovina: the basic rectangular body with the main prayer area (on the ground floor), the gallery-mahfil (on the first floor), and the entrance porch (with two sofas placed symmetrically in relation to the main axis-direction of the Qibla). The roof of traditional Bosnian-Herzegovinian mosques of this type is voluminous, four-roofed, sometimes

with an extension of the roof plane above the entrance porch-sofa.

What is new about the mosque in Rakitnica (in terms of its range of functions) is the basement level, where new facilities are organized: a tea room, ablutions and sanitary facilities (especially for men, especially for women), a boiler room for central heating and a gas stove. In this way, even this small mosque becomes a 'polyvalent center' (Figure 12).

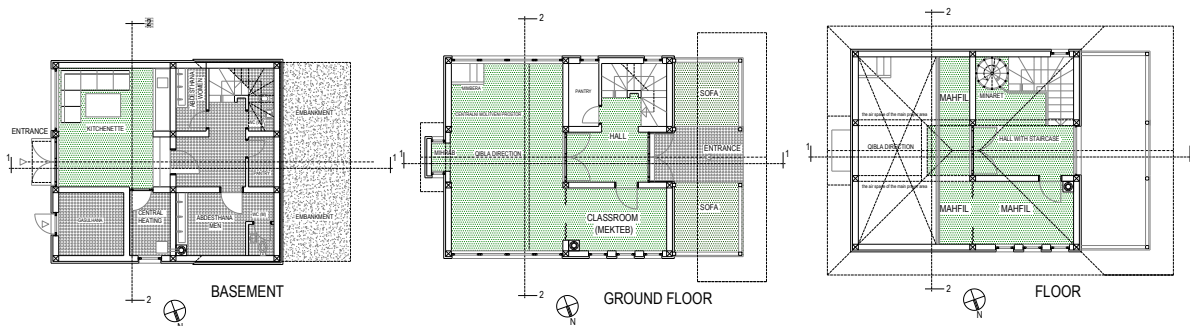


Figure 12. Mosque in the Rakitnica village, on the Bjelasnica plateau. Drawings

Source: Author (Drawings, 2008)

Design and spatial and social context of the mosque. The specificity of the author's approach to designing mosques is particularly visible in the construction and materialization of this mosque: he uses reinforced concrete as the basic construction material, the walls-filling of the reinforced concrete skeleton is made of brick blocks, the roof shell is made of a combination of reinforced concrete skeleton and wood, and for the roof covering he uses sheet steel (profiled in the form of tiles, plasticized in brown color), while the construction of the minaret is made of steel pipes (like a huge pillar-pipe) which, on the outside, is closed with aluminum panels. At the same time, the huge roof volume is not an empty attic (as in traditional mosques), but it is included in the open volume of the prayer space in a unique whole.

Knowing the effects of the 'empty ceiling' in traditional mosques (as a protective buffer of the interior of the mosque against the extreme effects of climatic influences, both during the winter and during the summer), the author was able to avoid the ceiling by materializing the roof shell with an empirical verification of its validity, using a 'reinforced thermal insulation' and an effective air layer for ventilation of the roof shell [8,9].

The author did not flatter the found buildings by 'citing' their forms and materialization (walls made of natural stone and wooden logs, roofs covered with wooden shingles, wooden minaret...); he designed a building that is functional, in everything according to high technical standards and, as such, durable and long-lasting.

As already mentioned, in terms of efficient traffic connections, this 'skūpa' mosque is much more 'sustainable' and 'bioclimatic' than any other building found or that 'new' construction that imitates old solutions (Figures 13,14,15).



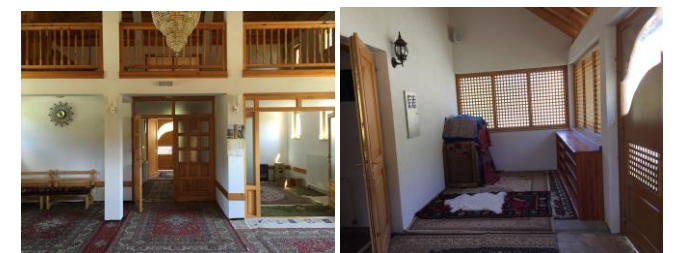
Left: Entrance hall (sofas)

Right: Abdesthana for men (basement)



Left: Men's toilets (basement)

Right: Abdesthana for women (basement)



Left: View of the entrance, classroom and mahfil from the direction of the mihrab

Right: Entrance hall (sofas)



Left: Mihrab
Right: Mihrab and member



Left: Mihrab (view from the mahfil)
Right: Member



Left: View of the mahfil from the staircase
Right: View from the mahfil to the mihrab and member



Left: View from the mahfil of the staircase and access to the minaret
Right: View from the mahfil towards the window facing the entrance hall



Left: Kafana sakuhinjo (basement, towards the local street)
Right: Access to ablutions, toilets and the staircase to the ground floor and further to the mahfil from the area of the tavern (basement)



Left: View into the room for the preparation of central heating from the tavern (basement)

Right: Pantry (basement)

Figure 13. Mosque in the Rakitnica village, on the Bjelasnica plateau

Source: Author (July 15, 2017)



The courtyard ('harem') of the mosque



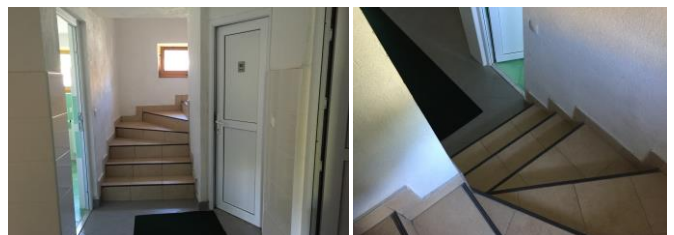
Left: View of the mosque from the southwest

Right: A view of the mahfil and a view of the roof from the main prayer area (ground floor)



Left: Staircase (ground-floor)

Right: Staircase exit to the first floor (mahfil)



Staircase (basement-ground floor)

Figure 14. Mosque in the Rakitnica village, on the Bjelasnica plateau. Shaping

Source: Author (July 15, 2017)



Left: Drone-camera view from the northwest direction
Right: Drone camera view from the west



Left: Drone-camera view from the southwest direction
Right: Drone-camera view from the south



Left: Drone-camera view from the east
Right: Zenith view with a drone camera (Fifth facade)

Figure 15. Mosque in the Rakitnica village, on the Bjelasnica plateau. Take photos with a drone camera

Source: Vladimir Obradovic (July 29, 2017)

V. CONCLUSION

The author of this work has done over 350 projects of architectural objects, urban plans, urban design, memorial architecture, interiors and furniture elements, of which he has realized over 200 projects. For him personally, the design of mosques was a particular challenge, since history and

tradition, based on the period of the Ottoman Empire, were especially important for these architectural contents (in Bosnia and Herzegovina). However, the author approached the design of mosques from a much broader basis, starting from the appearance of the (first) mosque (Mosque of the Prophet Muhammad, s.a.w.s.), through its meaning (as seen by the Qur'an and the Sunnah of the Prophet Muhammad, s.a.w.s.). Since Bosnia and Herzegovina is a complex geopolitical and social space inhabited by different peoples with three dominant religions (Judaism, Christianity and Islam), and in each of them several 'derivatives', designing mosques is an extremely complex job with a number of controversies. Over time, the 'Author's approach to mosque design' became more and more acceptable and in many segments became the standard for designing mosques in Bosnia and Herzegovina.

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