

Preserving a historic form on the model of the sixteenth-century Osman Cehaja Mosque in Tuzla

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Abstract

This study analyzes the possibilities of preserving the form and renovating the historic mosque with a wooden porch and minaret, based on the Osman Cehaja Mosque in Tuzla as an example. The research is based on direct observation of property over several decades and a comparison of formal qualities with other relevant structures of a similar type and period. Except for its foundation, no information is available on its past or potential interventions. It is only reasonable to assert that it was originally covered with a wood shake. It is assumed that its appearance has not changed since the early twentieth century, based on a common memory. The mosque was renovated four years ago. Analysis of the previous and current appearances showed that the complete renovation did not compromise its form. In this respect, it is feasible to renovate the mahalla mosque with a wooden porch and minaret while preserving its historical character. More challenging cases may necessitate more extensive investigation, planning, and experience.

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1. Introduction

Historic building preservation is a delicate task that might compromise the original shape, especially for structures that have been in continuous use for centuries. The historic mahalla (neighborhood) mosques in Bosnia and Herzegovina is a good example. The scale and proportions of these historic constructions are simple, yet they are valuable for their authenticity and environmental compatibility. Even though they were many in the past, many are no longer present in Bosnian towns and villages due to a variety of circumstances. Since they were constructed of aging materials (wood, mud-brick, and rubble), many of them decayed due to a lack of proper maintenance and unprofessional interventions. Having in mind long-term usage, different micro, and macro climatic conditions, and material deterioration, many extant old mahalla mosques require regular maintenance, re-roofing, or complete renovations. With no systematic preservation, these authentic Bosnian structures could entirely disappear soon.

Unlike monumental Ottoman buildings which were constructed by skilled, usually foreign masons, mahalla mosques were largely built by local builders, called *dunđeri* (*dülger*) [3]. These local masters were mainly engaged in carpentry, but they were able to perform complete construction, together with a building layout, sizing, and proportions. Although these structures have their origins in the Ottoman tradition, they have evolved

into a typical manifestation of a regional tradition that may be found in both urban and rural settings. Local landowners, military commanders, and other wealthy persons were the primary founders of mahalla mosques and masjids.

In comparison to a smaller number of domed structures, the majority of mosques in Bosnia and Herzegovina have pitched roofs that are far more regionally differentiated. The roof form, pitch, and covering material closely relate to a local tradition [2]. For instance, roofing with stone tiles prevails in Herzegovina; curved clay tiles (*čeremit*, *kiremit*) are typical in the Sarajevo region; while the use of wood shake (*šindra*) has been far more common in the central and north of Bosnia [2], [12]. Pitched roofs in the north, as well as in higher areas of Bosnia, have a steep slope and deep eaves, whilst roofs in the south have a lower slope and shorter or even no eaves at all. The roof is mainly in the hipped form, but occasionally in the shape of a pyramid. The distinctive hip form, which spans both the prayer room and the adjacent porch, is overwhelmingly dominant. Although they are uncommon, there are several mosques with an internal wooden dome formed within the hip roof structure [2], [4].

The mahalla mosques and masjids with wooden minarets are generally smaller but far more numerous. According to 1933 figures brought by Bećirbegović [2], the number of these primarily “wooden” structures far outnumbered monumental domed mosques. The typical wooden minaret in Bosnia and Herzegovina consists of a polygonal shaft with a more or less enclosed gallery (*šarafa*). Standing on the roof base, it rises through the roof slope on the right side. As this type of mosque was built for a local neighborhood in a town or country, they are rightly referred to as “mahalla” mosques [3].

A book entitled “Džamije sa drvenom munarom u Bosni i Hercegovini”¹ [2] is the only relevant reference that deals with mahalla mosques with a wooden minaret. The author² provides a very good analysis of many instances from across the country, describing and underlining the genuine significance of this component of Bosnia and Herzegovina’s autochthonous architecture. After this reference was published (1990), many of these structures were lost, either as a result of war destruction (1992–95) or for different reasons, while some of them were restored or completely reconstructed after 1995 [11].

The mahalla mosque is typically smaller in proportions and capacity than a spacious *çarşı* (bazaar) mosque, which dominates with accentuated formal components like domes, roofs, and tall minarets, and is, at the same time, constructed to fit into residential surroundings with white plain walls and a wooden roof and porch. As a result, only wooden minarets indicate their presence in the mahalla panorama. Bećirbegović [2] describes this type as a distinctive representation of the domestic building tradition, based on a large number of such structures within a tradition that spans more than four centuries.

Traditional materials are used to construct mosques with wooden minarets: timber, clay (mud), and stone. Rough-hewn timber was mostly used for roof and wall framing, whereas the sawn and finished timber, sometimes profiled or carved, was used for windows, *minber* (pulpit), porch, stairs, *mahfil*, and other visible wooden parts [3]. Oak, spruce, and pine were the most valuable timber species available. Roof shakes (*šindra*) were composed of chopped coniferous wood with a single side groove [12]. Earthen material was used in two ways: as a sun-dried clay brick (*čerpič*, *kerpič*), and as a clay-based plaster. The wet clay was usually mixed with sand, chopped wheat straw, and animal hair.

Clay-based plaster was used to render both sun-dried brick and timber-framed walls. Clay, sand, animal hair, and quicklime were frequent substances for this purpose. The majority of the wall surfaces were whitewashed, with only a few elements embellished with colored paint on occasion. Rubble masonry was utilized to construct walls and foundations wherever available. Horizontal oak tie beams (*hatule*) were used to reinforce the massive walls. When exposed to the weather and not maintained and repaired regularly, all of these materials,

¹ The Mosques with a Wooden Minaret (Translated by the author)

² Madžida Bećirbegović (1931–2022)

particularly clay and wood, degrade swiftly. Because wood dominates the interior and exterior appearance of this type of structure, it is commonly referred to as “wooden” [2].

These wooden mahalla mosques could be subject to fire, weather, and other causes of deterioration and damage during their lifetime. Many of them have most likely been renovated or restored multiple times over years. A challenging issue in this form of inquiry is the shortage of sources that testify to the buildings’ past. Preserved foundation charters (*vakfiye*) or court protocols (*sicil*) speak of mosques’ foundation from the Ottoman period in Bosnia and Herzegovina (1463–1878) [13], [15], [16]. They are difficult to access because they were written in Arabic or Ottoman Turkish unless they are translated. These documents, on the other hand, usually list only the name of the benefactor or restorer, followed by the number of finances or other sources of support, and finally instructions on how to administer the endowment (*vakıf*). So the first accounts of its former appearance came from the late nineteenth and early twentieth century. We can investigate and make a judgment on possible changes based on the available information on their earlier appearance, as well as the general understanding of this part of Bosnia and Herzegovina’s heritage [1], [3].

The focus of this study is on the most recent modifications to Tuzla’s Osman Ćehaja Mosque, with a particular emphasis on the mosque’s formal qualities. Its goal is to determine whether the property can be renovated and rehabilitated to maintain its historical form and character. Apart from the foundation and the name of the founder mentioned in historical records (*defter*), there is no other information concerning this structure, as is the case with many others [6], [8], [9]. As a result, this research is solely dependent on direct observation over a long period (almost four decades) and comparison to other constructions of comparable nature in Bosnia and Herzegovina. It has not been possible to discover any substantial work or other details regarding this mosque. Given the difficulty in comprehending the full picture of a typical situation like this, the study aims to emphasize the importance of preserving this centuries-old property

2. The historical context

Tuzla’s history may be traced back to Roman times when saline resources were utilized. The establishment of two *qasabas* (towns) – Gornja Tuzla and Donja Tuzla – began with the exploitation of salt springs during the Ottoman domination [8], [14]. Between 1477 and 1483, this region was part of the Ottoman administrative entity Zvornik Sanjak (*Sancak*) [17], [18]. Donja Tuzla expanded quicker than surrounding towns like Zvornik, Gračanica, Brčko, or Bijeljina, which eventually led to the *mutesarraf* (governor) seat being moved from Zvornik to Tuzla in 1851 [8]. For the first time before the Ottoman conquest, the late medieval town of Sol (Donja Tuzla) was fortified with wood, and it was referred to in the Ottoman sources from 1463 as Ağa Hisar (Wooden Town) [8]. Compared to stone-fortified medieval towns in the region, such as Zvornik, Teočak, and Srebrenik, Donja Tuzla was the only one that was named ‘wooden’. Despite being a prominent location in northeast Bosnia, Tuzla never possessed a significant Ottoman structure. Reasons can be found in political, economic, or material circumstances. However, one of the most evident arguments can be the lack of a nearby good quarry and, as a result, the underdeveloped stone masonry tradition. Furthermore, because the Tuzla region was densely forested, the carpentry craft has advanced significantly.

Since the beginning of the sixteenth century, the *qasaba* Donja Tuzla has been steadily growing. It had nine mahallas towards the end of the century, with three more being established at the start of the seventeenth century [6], [8]. Apart from the Christian *cemaat* (population, *város*), five Muslim mahallas had been founded in Donja Tuzla by 1548, according to scarce data [8]. Within the walled-in *palanka* (redoubt), at least four mahallas are thought to have developed. Meanwhile, unknown developments occurred, resulting in the disappearance or transformation of some mahallas, according to the census of 1600. Only the Atik Mahalla has been documented among the *palanka*’s four mahallas. Among other issues, Handžić [8] considers fire as a likely cause. This assumption is undoubtedly well-founded; given that wood was the principal building material in Donja Tuzla and that the fires for cooking salt in the square burned day and night. Several later reported fires in the Tuzla *çarşı* attested to this [15]. A plausible explanation for the new mahallas being built outside the walled *qasaba*

and far enough apart is the threat of fire. Eight additional mahallas had been built in Donja Tuzla by the end of the sixteenth century. The Christian város is the oldest, followed by the Mosque (Atik) Mahalla. It is unknown in what order they were established.

Their origins and mahalla titles are linked to the founder of the mosque or masjid, around which the settlement grew up. There were seven mosques and one masjid before the end of the sixteenth century, while three mosques and one masjid were built before 1644 [8]. The wooden pitched roofs were on all of the structures. Only three mosques were built with a stone minaret before 1600. Seven of the twelve mosques in Donja Tuzla are still standing today, whereas five were demolished between 1945 and 1957 [7]. Tuzla now has only three structures with wooden minarets and porches. In 1982, the Džindijska Mosque was restored, the Mejdanska Mosque was rebuilt in 2005, and the Osman Ćehaja (Brđanska) Mosque was renovated in 2018 (Figure 1).

The oldest mosque in Donja Tuzla was built shortly after 1533 in the Atik mahalla. The mosque's dominant location at the highest point in the town's center reflects the mosque's undeniable worth, which is referred to as Časna (Honorable) Mosque in early documents. Because it has no name, it can be assumed that it was erected with state funding to meet the needs of the crew and a minor Muslim population. There are no reputable sources that provide specific information about its appearance. The first mosque at Donja Tuzla, however, is thought to have been made of mud-brick and wood, with no minaret [7].

The sources on early mosques in the wider region of Tuzla are very scarce. According to Handžić [8], soon after the Ottoman conquest, the earliest mosques were built in captured fortresses for the needs of the military crew. Those were state mosques used and maintained by soldiers. They existed in Zvornik, Srebrenica, Kušlat, Teočak, Sokol and Srebrenik. Apart from the early structures within fortifications, mosques with wooden minarets were founded in many towns and villages in northeast Bosnia. Regrettably, the vast majority of them are not systematically documented and valued. There were a total of 258 mosques in the Tuzla muftiate district in 1933 [2]. Only 41 (16%) of the mosques had a stone minaret, whereas 205 (84%) had a wooden minaret. It is difficult to foresee how many mosques exist today since no later information about them is obtainable. War destruction, first during World War II and then more notably during the 1992–95 war, as well as a variety of other factors leading to poor care or extinction of this element of the cultural history, have all resulted in a major decline in their number and authenticity. The remaining mosques were maintained or reconstructed using donor funds at the behest of their users. Some have been under the legal protection of government agencies for decades, while many were designated as protected cultural monuments after 1995. The Džindijska Mosque in Tuzla is an example (2018).

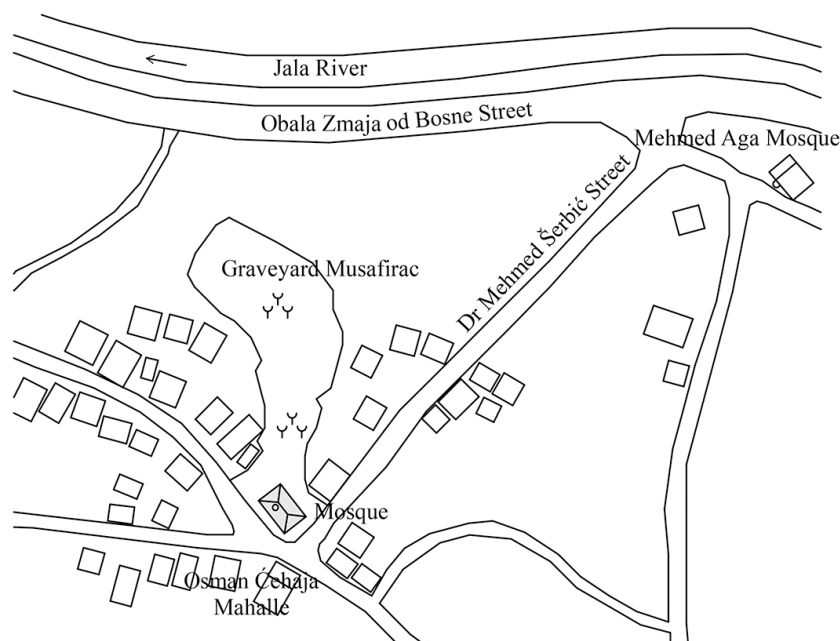


Figure 1. Map of the Mahalla of Osman Ćehaja in Tuzla (drawings by the author)

2.1 Form typology of mahalla mosque with wooden porch and minaret

Mosques with pitched roofs and wooden minarets are modest buildings intended for the needs of the neighborhood population, built from the late fifteenth century until the end of the Ottoman period in 1878 [3]. In addition to common features such as a unique prayer space of modest size under the hip roof with an integrated wooden minaret, the shape of the entry space determines the exterior of the mosque. In terms of porch design, four characteristic forms predominate. The majority of them feature a single-level, open porch, while others have a gallery above it. Some mosques have a closed vestibule instead of an open porch. Finally, there are mosques without porches.

The mosque with the porch is the basic type, and it is similar to many mosques with a pitched roof and stone minaret. Depending on size, a porch is typically bordered with six to ten, mostly slender timber posts that support the front roof end. This type is common in central and eastern Bosnia. The majority of Sarajevo's mahalla mosques dating back to the sixteenth century belong to this type [13] (see Kemura, 1913, for more detail), but they were also built in Banja Luka [4], Tešanj, Tuzla, Jajce, Srebrenica, and other places.

Since the prayer space needed to be enlarged, a two-story porch was developed. The porch's upper level might be open on three sides (gallery), partially closed, or completely walled. The last two scenarios are less common. The gallery can be reached via steep stairs from the porch (*sofa*) or the mahfil within the mosque. Its timber construction is more intricate than in the previous type, which could be one of the reasons for the slightly lower number of instances extant. This type, like the previous one, can be found throughout central and eastern Bosnia. In exceptional cases, such as the lack of space, or for other reasons, mosques without a porch were built. The old mosque in Kušlat, the Dizdareva Mosque in Jajce, and the mosque in Šturlić are typical examples.

Mosques with a closed vestibule are an alternative to open porches. The vestibule's width is the same as that of the mosque, but its depth is notably shorter. The mahfil is normally accessible by stairs. This type is most common in western Bosnia and Herzegovina, but it can also be found elsewhere. It's difficult to say with certainty which mosques had porches at the time of building because of particular occurrences of subsequent porch walling [10]. Konatur Mosque in Travnik, Fethiyye Mosque in Teočak, and Zavra Mosque in Livno are three examples, however, the last two may be evidence of the porch's subsequent closure.

3. Formal characteristics of the Osman Ćehaja Mosque

In 1600, the Mahalla of Osman Ćehaja was noted for the first time in historical records [8]. The mahalla's name is coming from a person named Osman Ćehaja, who erected a masjid that is now known as the Brđanska (Hillside) Mosque. The location of this structure is unmistakably indicative of the customary setting of historic mosques concerning neighboring crossroads (Figure 1). Later records show that the masjid's founder was also involved in the exploitation of salt water, which he left to finance the masjid and pay the wages of responsible officials. Osman was a *kethüda* (deputy) commander of the palanka (*ağa, dizdār*) between 1548 and 1600.

The Osman Ćehaja Mosque is a typical Bosnian mahalla mosque with a wooden porch and minaret. In terms of common qualities, it shares typological values with numerous similar mosques in Bosnia and Herzegovina (Figure 2). Timber items, notably the roof cover, are likely to have been repaired and replaced regularly. The mosque is a single-unit structure with a slightly elongated rectangular prayer chamber and a wooden porch, both of which are crowned by a hipped roof covered with clay tiles. Probably when clay tiles became more widely available, the original decayed wooden cover (*šimla, tahta kiremit*) was replaced. A wooden minaret rises on the right side of the roof, typical of many mosques of this type. Unlike the typical arrangement of the lower and upper openings, which usually means sixteen windows, the peculiarity of this mosque lies in the unusual arrangement of the window openings. There are only ten rectangular windows, four in the *qibla* wall, two uppers on each side wall, and two lower windows on the entrance wall (Figure 4). A 1.8-meter-deep wooden mahfil is supported by side walls and two posts (*direk*) inside the mosque (Figure 3). The mihrab has a simple portal with a semicircular niche. A wooden carved minber typically stands in the right corner.

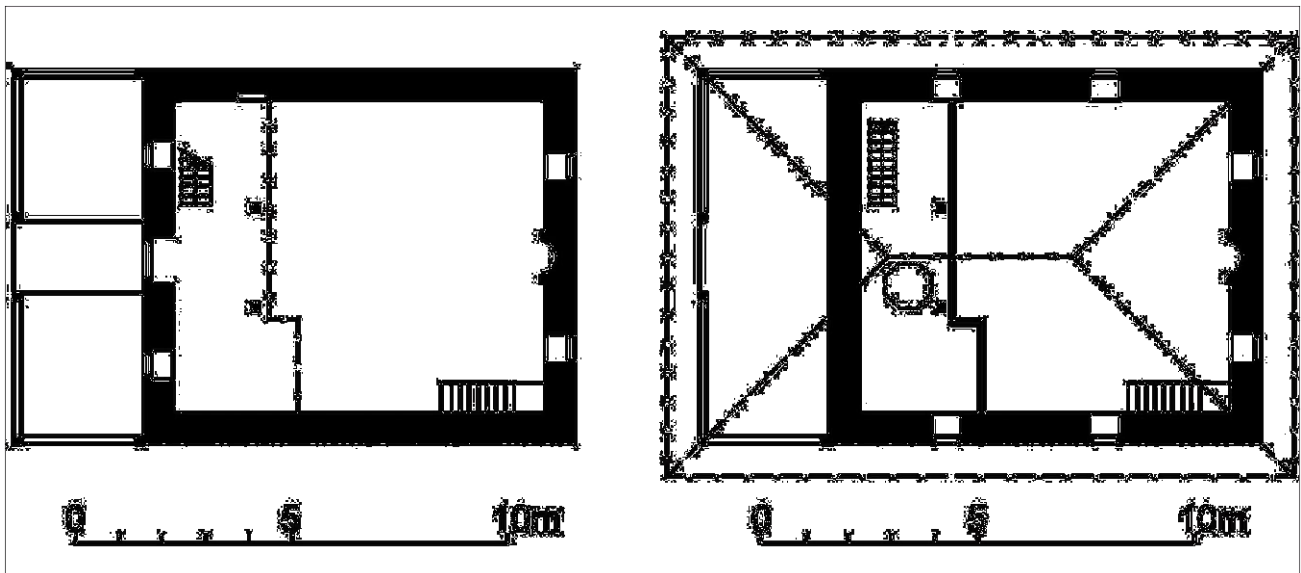


Figure 2. Floor Plans of Osman Ćehaja Mosque in Tuzla: Ground Floor (left), Mahfil (right) (drawings by the author)

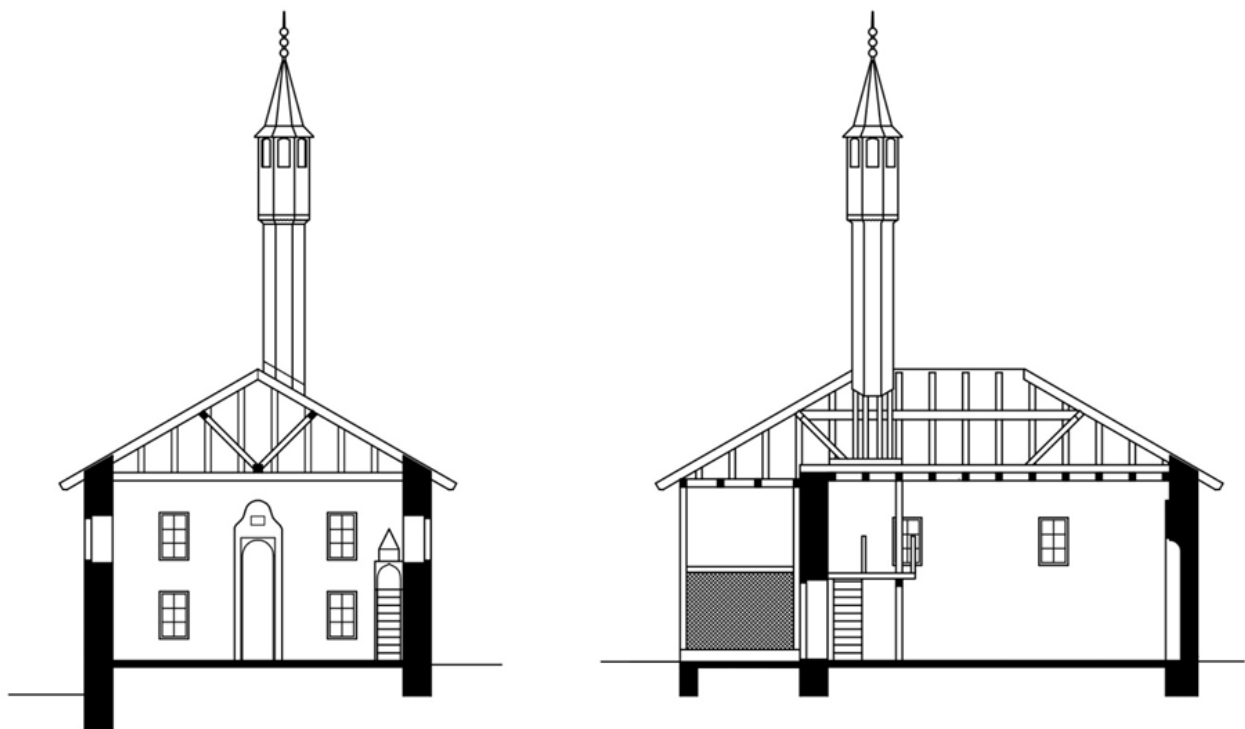


Figure 3. Cross sections of Osman Ćehaja Mosque: Transverse (left), Longitudinal (right), (drawings by the author)

To determine the relationship between the interior and porch dimensions, the Osman Ćehaja Mosque has been compared with several characteristic mosques in Bosnia and Herzegovina (Table 1). The selected examples share similar formal characteristics and belong to the basic type of mosque with a single-level open porch. All of the mosques were built between the end of the fifteenth and the end of the seventeenth century. According to comparative analysis, the width of the prayer space does not exceed eight meters, and the depth of the porch does not exceed four meters. These measures and relations are based on the construction practice of the time, which was largely influenced by the available timber and carpentry. As can be seen in Table 1, the mosque of Osman Ćehaja is the closest in its dimensions to the average values. Besides, taking into account the shape and

dimensions of the roof, minaret, windows, and other parts, it is possible to deduce that its proportions and shapes represent a typical mosque with a single-level wooden porch and minaret in Bosnia.

Table 1. Comparison of characteristic examples of mosques with a single-story wooden porch

Mosque	Prayer room depth × width (m); area [m ²]	Porch depth × width (m); area [m ²]	Prayer room area relative to the average	Porch area relative to the average
Bali-beg Malkoč Mosque in Sarajevo (1475-76)	8.1 × 8.1 [65.61]	3.9 × 10 [39]	1.07	1.3
Atik Mosque in Fojnica (1551)	7.6 × 6.8 [51.68]	4 × 8.7 [34.8]	0.85	1.16
Ašik Memi Mosque in Sarajevo (1551)	8.2 × 6.8 [55.76]	2 × 7.8 [15.6]	0.91	0.52
Ibrahim Beg Mosque in Jajce (1692)	8 × 7 [56]	3.9 × 8.4 [32.76]	0.92	1.09
Avdi-paša Mosque in Tešanj (17th century)	9.5 × 8 [76]	3.1 × 9.25 [28.67]	1.24	0.96
Osman Ćehaja Mosque in Tuzla (before 1600)	8.4 × 7.3 [61.32]	3.3 × 9 [29.7]	1.00	0.99
Average area [m ²]:	61.06	30.09		

3.1. Preservation of the historical form

Many mosques in Bosnia and Herzegovina have been renovated in recent decades, with varying degrees of success. Mosques in major cities, as well as smaller mosques in neighborhoods of towns and villages, have been restored. There appeared to be no shortage of motivation or resources to execute the assigned work. However, the most prevalent issues came when the initiatives for the renovation were directed by daily mosque users, most typically people from the surrounding neighborhoods and villages. Of course, no expertise is expected from them, but mistakes at an early stage led to unacceptable results. These are, for example, self-initiated works without professional help, or more seriously, hiring unqualified architects or engineers. In such circumstances, there is no recognition of the historical values of property, and valuable elements of the structure are eliminated, the shapes and dimensions of individual parts are modified, or new, inappropriate shapes and materials are introduced. The mosque's functionality may require innovation, such as the inclusion of heating and ventilation systems, as well as other services. These tasks, however, can only be completed with the help of professionals. In this regard, the Islamic community should take a stronger attitude and be involved from the beginning.

In 2016, the Islamic Community in Tuzla initiated activities to refurbish the Osman Ćehaja Mosque. The works were completed and the mosque was opened in 2018 (Figure 5). The roof structure, minaret, porch, and other wooden sections were all consistently replaced, except for the walls. They were newly rendered and whitewashed on either side. The decaying roof structure and the wooden porch have been fully renovated with new timber material. As before, the roof is covered with clay tiles. In the interior, a new mahfil and minber were built based on the existing appearance and dimensions (Figure 6). The old windows were replaced with new ones that were the same size and shape. A comparison of its condition before and after the recent renovation demonstrates that it hasn't changed considerably from its former state. The renovation work was completed to a suitable level. However, some details needed more attention. The quality and thickness of the porch pillars are now a source of contention. They should be made of high-quality oak or pine, with the same (bigger) thickness, as in the prior condition. Secondly, the arch above the porch gate does not exactly match the former

state's semicircular design (Figure 7). These are the fine details that the architect had to notice on time. Because this historic property is not officially protected by the state commission, there were no strict guidelines addressing all aspects of the renovation.



Figure 4. Osman Ćehaja Mosque in Tuzla before the renovation (Photo by the author)



Figure 5. Osman Ćehaja Mosque after the renovation (Photo by the author)



Figure 6. Interior of the mosque after the renovation showing minber (Photo by the author)



Figure 7. Front façade after the renovation (Photo by the author)

4. Conclusion

Historic mahalla mosques with a wooden porch and minaret in Bosnia and Herzegovina are valuable for their authenticity and environmental compatibility. Since they were constructed of dilapidated materials (wood, mud-brick, and rubble), many of them decayed due to a lack of proper maintenance and unprofessional interventions. These predominantly "wooden" structures could be subject to fire, weather, and other causes of deterioration and damage during their lifetime. Many of them have most likely been renovated or restored multiple times during their history. This study depicts a possible case of renovation of the centuries-old heritage based on the case of the Osman Ćehaja Mosque in Tuzla. Given the lack of credible information regarding its history, it was unable to ascertain whether its form and look had altered over the long past. However, upon a closer exploration of this type of heritage, it can be assumed that its shape, look, and distinguishing features point to a typical mahalla mosque with a wooden porch and minaret, which were built in large numbers in Bosnia and Herzegovina during the Ottoman period.

Since this property was refurbished a few years ago, it was possible to directly observe its former construction method as well as the possibilities of renovation and improvement in its functionality. Except for a few minor components, the renovation work entailed the replacement of all worn-out materials and parts in their entirety while maintaining the existing appearance and dimensions. Although the building is not under institutional protection, this study demonstrates that it is possible to renovate this type of mosque and retain its historical form and character. However, complex interventions should be based on a comprehensive study of the building's past before renovation work can be undertaken.

Declaration of competing interest

The author declare that they have no known financial or non-financial competing interests in any material discussed in this paper.

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