

SAKRALNI OBJEKTI OD DRVETA U BOSNI I HERCEGOVINI

WOODEN SACRAL OBJECTS IN BOSNIA AND HERZEGOVINA

Naida ADEMOVIĆ
Azra KURTOVIĆ

STRUČNI RAD
PROFESSIONAL PAPER
UDK:726.2/5(497.6)
doi:10.5937/grmk1703061A

1 UVOD

Bosna i Hercegovina bogata je šumom s različitim listopadnim i crnogoričnim drvećem koje je pogodno za izgradnju konstrukcija, a drvo kao građevinski materijal našlo je svoju masovnu upotrebu u najstarijim periodima. Brvnara¹ je tipični oblik objekta koji je građen ne samo u brdskim područjima, nego i u Sloveniji te u zapadnoj i centralnoj Srbiji. Nije iznenađujuće da je mnogo crkava brvnara izgrađeno od drveta te da džamije imaju drvene munare.

Istorijski značaj sakralnih drvenih konstrukcija tek je u skorije vrijeme prepoznat u Evropi, a u Bosni i Hercegovini u posljednjoj deceniji. U tom smislu, početna tačka jeste prepoznavanje vrijednosti i značaja objekta, te njihovog odgovarajućeg konstrukcijskog ponašanja koji će biti osnova prilikom razmatranja različitih postupaka konzervacije i restauracije. Drveni sakralni objekti dugi niz godina bili su zapostavljeni i bili su stavljeni na marginu da budu zaboravljeni. Značaj ovih objekata prepoznat je tek u posljednjim decenijama što nije bilo slučaj prije nekoliko decenija, kada su ovi objekti ili rekonstruisani na neadekvatan način (što se još uvijek dešava u pojedinim slučajevima), ili u potpunosti uništeni, ili su kao rezultat neodržavanja doživjeli značajno propadanje. Nepotrebne popravke veoma često dovode do gubljenja istorijskog materijala i kao posljedica gubi se istorijski karakter i autentična vrijednost naslijeđa.

Doc.dr Naida Ademović, dipl.građ.inž.
prof. dr Azra Kurtović, dipl. građ. inž.
Građevinski fakultet Univerziteta u Sarajevu, Patriotske lige
30, 71 000 Sarajevo, Bosna i Hercegovina,
email: naidadem@yahoo.com

1 INTRODUCTION

Bosnia and Herzegovina is rich in forests with different deciduous and coniferous trees which are suitable for construction, and timber as a construction material found its massive usage in the oldest periods of time. Brvnara¹ (Log cabin) is a typical building form which was built not only in the hilly areas but as well in Slovenia and in West and Central Serbia. It is of no surprise that many of the log cabin churches are made of wood and that mosques are with wooden minarets.

The historical significance of sacral wooden structures has only recently been recognized in Europe and in Bosnia and Herzegovina only in the last decade. In that respect, the starting point is recognizing the value and significance of structures and then their proper structural behavior which will be the basis for considering different conservation and restoration approaches. Wooden sacral objects for a long time have been abandoned and were put on a margin to be forgotten. The significance of these structures has been recognized in the last decades which was not the case several decades ago, when these structures were either reconstructed in an inappropriate manner (which is still happening in some occasions), or completely destroyed, or as a result of non-maintenance they have significantly deteriorated. Unnecessary repairs very often lead to the loss of historic material and consequently the loss of

Doc.dr.sci. Naida Ademovic
Prof.dr.sci. Azra Kurtovic
Faculty of Civil Engineering, University of Sarajevo,
Patriotskelige 30, 71 000 Sarajevo, Bosnia and
Herzegovina
Corresponding email: naidadem@yahoo.com

¹ Tipična kuća u Bosni i Slavoniji, zapadnoj i centralnoj Srbiji.

¹ Typical house in Bosnia and Slavonia, West and Central Serbia.

Dakle, može se konstatovati da nekada neznanje ljudi dovodi do gubitka autentičnosti objekata kulturno-istorijskog naslijeđa. Nakon utvrđivanja stanja konstrukcije na licu mjesta neophodno je izvršiti modeliranje i proračun ovih konstrukcija uzimajući u obzir karakteristike poprečnog presjeka, uslove veze, te veliki broj nepoznanica. S obzirom na to što se radi uglavnom o linijskim elementima drvenih konstrukcija, to može dovesti do netačne ideje da se radi o jednostavnim elementima što kao posljedicu može imati neadekvatno modeliranje i analize. Ovo je nešto što treba imati na umu.

Drveni sakralni objekti koji su preživjeli nisu prepoznati kao prenos spoznaja o razvoju konstruktivnog projektovanja i prakse zanatskih radnika. Ali, ovo je u nekim slučajevima dovelo do drugog ekstrema a to je „lažiranje“ originalnosti konstrukcija. Sakralni objekti kao što su džamije s drvenim munarama i crkve brvnare, bilo da su pravoslavne ili katoličke, jesu reprezentivi drvenih objekata u Bosni i Hercegovini, koji nisu samo međusobno prepleteni nego su čvrsto povezani stambenom arhitekturom što ih čini još interesantnijim. Ove konstrukcije imaju zajedničku arhitektonsku stambenu bazu a razlikuju se u nekim specifičnim svojstvima. Zajedničke elemente predstavlja tehnika izvođenja temelja od drvenih greda, zatim dva načina izvođenja zidova od dugačkih brvana, kao i ista konstrukcija krovova, a sve je preuzeto iz domaće tradicije gradnje drvetom. Razlika je jedino u tome što se kod drvenih džamija u Bosni kao pokrov primjenjuje samo šindra, a kod crkava sitni drveni klis. Ove zajedničke karakteristike mogu se objasniti radom domaćih majstora. U XIX stoljeću domaći majstori grade jednostavne crkve bez ukrasa i u tlocrtnom smislu su jako slične seoskim kućama.

2 DŽAMIJE S DRVENIM MUNARAMA NA TLU BIH

Sama lokacija Bosne i Hercegovine, koja je bila smještena na perifernom području Osmanskog carstva, igrala je značajnu ulogu i imala je veliki uticaj na arhitekturu džamija. Dodatno sveobilje drveta i kamena, kao i konfiguracija zemljišta i tradicije građenja, imali su značajan uticaj. Džamije u Bosni i Hercegovini mogu se podijeliti u dvije osnovne grupe. Džamije s krovom na četiri vode s drvenim ili kamenim munarama predstavljaju prvu grupu. Najmanji broj istraživanja posvećen je ovim konstrukcijama mada one odražavaju tipičnu bosansku arhitekturu i manje se mogu povezati sa osmanskom a više s lokalnom tradicionalnom arhitekturom. Zasvođene džamije predstavljaju drugu grupu, pri čemu one nisu mnogobrojne (iz registra iz 1933. godine samo 3.2% predstavlja ovu vrstu konstrukcija), međutim, proračene su značajnim istraživanjima zbog svoje veličine ili monumentalnog izgleda. Ove objekte karakterizira tzv. osmanska arhitektura [1], [2], koja za objekte u BiH podrazumijeva pojednostavljenu matematičku

historic character and loss of authentic value of the heritage. So, it can be stated that sometimes peoples' ignorance leads to the loss of authenticity of cultural heritage structures. Once the state of the structure is determined on the site it is necessary to make adequate modeling and calculation of these structures taking into account section properties, support conditions, and a vast number of uncertainties has to be taken into account. Due to the fact that here one is dealing mainly with linear elements of the timber structures, it can lead to a false idea of their simplicity, resulting in inadequate modelling and analysis. This is something that should be kept in mind.

The surviving wooden sacral objects are not recognized as passing on evidence of the development of structural design and craftsman practice. However, this on some occasions has led to the other extreme and that is "faking" the originality of the structures. Sacral objects such as mosques with wooden minarets and log cabin churches either orthodox or catholic are representatives of wooden structures in Bosnia and Herzegovina, which are not only interconnected but connected by the residential architecture which makes them even more interesting. These structures have a common architectural residential basis on one hand and they still differ in some specific features. The construction technique of foundation made out of wooden beams represent a common feature; two possible construction techniques of building walls of long logs, construction of the roof are the same, and all of this is actually taken from the local domestic traditional wood building. The only difference is that mosques with wooden minarets in Bosnia use only shingles and churches use tinny wooden plagues. These common characteristics can be explained by the works of the domestic carpentry workers. In the XIX century domestic workers build simple churches without any decorations and regarding the layout, they are very similar to the rural houses.

2 MOSQUES WITH WOODEN MINARETS IN BOSNIA AND HERZEGOVINA

It is the position of Bosnia and Herzegovina, located in the peripheral region of the Ottoman Empire, that played an important role and had a great influence on the architecture of mosques. Additionally, the abundance of wood and stone, as well as the land configuration and the building traditions had a great impact. The mosques in Bosnia and Herzegovina can be divided into two basic groups. The mosques with four-sided roofs (broached roofs) with wooden or stone minarets represent the first group. The smallest amount of research was conducted on these structures. Even though they reflect the typical Bosnian architecture and cannot be entirely connected to the Ottoman architecture but to the local traditional architecture. The domed mosques form the second group, which are not so numerous (from 1933 registry only 3.2% were these type of structures); however major research has been done due to their size or monumental appearance. These structures are characterized by the so-called Ottoman architecture [1], [2], which for the

kompleksnost geometrijskog sklada osmanske imperije, ali i zadržanu tradicionalnost zasnovanu na stambenoj arhitekturi bosanskog prostora. Interesantno je primjetiti da su najpriznatije džamije, kojima su posvećena značajna istraživanja, one zasvođene, tj. s kupolama [1], [2], iako brojčano nisu zastupljene u velikom broju. Donekle se može razumijeti da su ove vrste džamija bile najinteresantnije za istraživanja sa arhitektonskog gledišta; međutim, nezainteresiranost za džamije s drvenim munarama ne može se prihvatiti jer iz istorijskog aspekta, aspekta zaštite, kao i stručno-građevinskog gledišta, ove konstrukcije predstavljaju integralni dio urbanog i ruralnog okruženja Bosne i Hercegovine već više od pet stoljeća.

Bosna i Hercegovina specifična je po broju džamija s drvenim munarama, preostalih iz doba osmanske imperije u odnosu na ostala područja zapadnog Balkana.

Međutim, ove vrste džamija bile su neprimjetne i na neki način ostale su u sjeni monumentalnih džamija, a nazivane su „drvenim” ili „ruralnim” džamijama. Ipak, postojalo je veoma mnogo ovih objekata koji su bili smješteni ne samo u malim mjestima nego i u gradovima kao što su Sarajevo, Tuzla, Banja Luka i tako dalje, te svakako zaslužuju pažnju kao kulturno-istorijski spomenici.

Češki arhitekt Josef Pospíšil bio je prvi koji je priznao arhitektonsku vrijednost ovih objekata, a radio je u Sarajevu od 1908. do 1918. godine i istraživao kulturno naslijeđe u Bosni. Do 1990. godine u Bosni su postojale 992 džamije, i od toga 770 (77,6%) bilo je s drvenim munarama, 186 (18,7%) s kamenim munarama i 36 (3,6%) bez munara, kao karakterističnog arhitektonskog obilježja. S druge strane, u Hercegovini je ukupno bilo 128 džamija, a od toga samo 16 (2,5%) s drvenim munarama, 73 (57%) s kamenim munarama i 39 (30%) bez munara [3]. Prema tome, u Bosni i Hercegovini 70% od svih džamija predstavljaju džamije s drvenim munarama. Najveći broj džamija s drvenim munarama bio je u Banjalučkom muftijstvu², 307 (40%), zatim u Sarajevskom muftijstvu, 254 (33%), dok ih je najmanje bilo u Tuzlanskom muftijstvu – 205 (27%).

2.1 Osnova konstrukcije objekta džamije s drvenim munarama

U konceptualnom smislu postoje dva tipa džamija s drvenim munarama u Bosni i Hercegovini. Prva vrsta džamija su džamije s jednim prostorom za molitvu, a drugi tip su džamije sa stubovima kao posebnim konstruktivnim elementima unutar džamije. Površina džamija je različita i kreće se od malih, sa 25 m² osnove do velikih koje dostižu 460 m².

Tipična konstrukcija džamije s jednim prostorom prikazana je na slici 1. Uobičajeno je da krov na četiri vode pokriva sof³ izgrađenu od drvenih stubova i

buildings in B&H implies the simplified mathematical complexity having a geometrical harmony of the Ottoman Empire, but retained its traditionalism based on the residential architecture of the Bosnian territory. It is interesting to note that mostly recognized and investigated were domed mosques [1], [2] even though numerically they are non-numerous. From the architectural aspect, it is to a certain extent understandable that these types of mosques were the most interesting for research; however, the lack of interest for the mosques with wooden minarets cannot be accepted because from the historical, preservation and engineering aspect of view, these structures are an integral part of urban and rural environment of Bosnia and Herzegovina already for more than five centuries.

Bosnia and Herzegovina is specific regarding the number of mosques with wooden minarets remaining from the Ottoman Empire in respect to other areas of the Western Balkans.

However, these types of mosques were rather unnoticed and in a way stayed in the shadow of monumental mosques, and were referred to as “timber” or “rural” mosques. Yet, these types of structures were numerous, and placed not only in the small “rural” places but in cities like Sarajevo, Tuzla, Banja Luka etc. and they indeed deserve attention as cultural heritage monuments.

Czech Architect Josef Pospíšil was the first one who acknowledged the architectural value of these structures. He worked in Sarajevo from 1908 to 1918 and conducted research on cultural heritage in Bosnia. Until 1990 in Bosnia there were 992 mosques, and from that 770 (77,6%) were with wooden minarets, 186 (18,7%) with stone minarets and 36 (3,6%) without minarets, as a characteristic architectural feature. On the other hand, in Herzegovina, there were in total 128 mosques, and from that, only 16 (12,5%) with a wooden minaret, 73 (57%) with stone and 39 (30%) without minaret[3]. So, in Bosnia and Herzegovina, 70% of all the mosques were with wooden minarets. Most of the mosques with the wooden minarets were in Banja Luka muftiate² 307 (40%), then in Sarajevo muftiate 254 (33%), while the smallest was in Tuzla muftiate 205 (27%).

2.1 The layout of the mosque with wooden minarets

Conceptually mosques with wooden minarets in Bosnia and Herzegovina are of two types. The first type is mosques with a single-space room for prayer and the second type is mosques with the pillars as a specific construction element inside the mosque. The area of the mosques is various from very small ones, of 25 m² in layouts, to the biggest ones reaching 460 m².

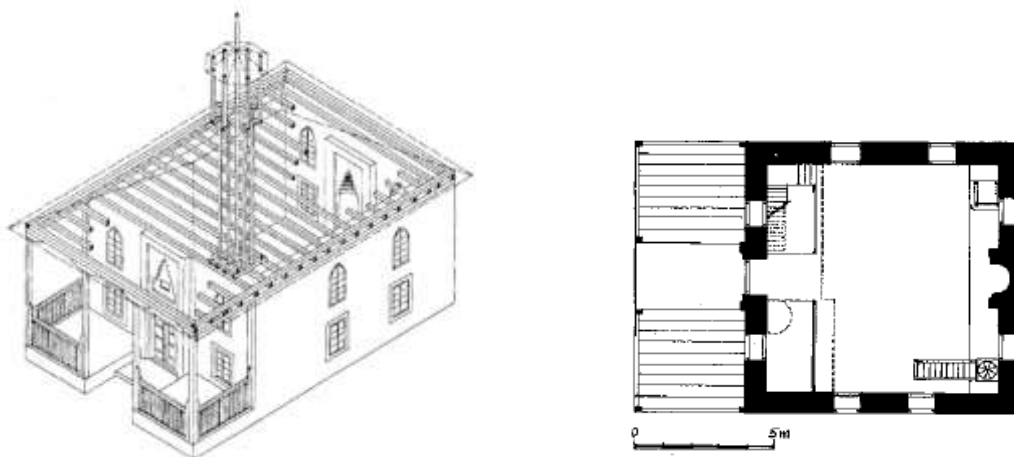
A typical construction of a mosque with a single space is shown in Figure 1. Usually, the four-sided roof covers the sofa³ made of wooden pillars and the space

² Administrativno teritorijalno područje koje je pod nadzorom muftije.

³ Istureni dio u vidu balkona.

² Is an administrative territorial entity under the supervision of a mufti.

³ put out a part like a balcony.



Slika 1. 3D izgled džamije s drvenom munarom i tlocrt tipične džamije s jednim prostorom [3]
 Figure 1. 3D view of a mosque with a wooden minaret and layout of a typical mosque with single space[3]

mjesto za molitvu koje je ili kvadratno ili pravougaono u osnovi. Pored korištenja različitih materijala za izgradnju i arhitektonskih oblika ovih elemenata, razvio se veliki broj mogućnosti rasporeda različitih religioznih elemenata. Stari krovovi u Bosni su uglavnom pokriveni drvenom šindrom, kao dijelom tradicionalne arhitekture, a koji su kasnije u XIX stoljeću zamijenjeni crijepom. Međutim, u Hercegovini, krovni pokrivači su od kamenih ploča/šindri, što je rešenje direktno povezano s podnebljem i tradicijom.

Ovo je karakteristika bosanske islamske arhitekture koja je široko rasprostranjena u gradovima i selima. Interesantna je činjenica da je u Sarajevu i Tuzli više od 50% džamija ovog tipa, dok je u Travniku više od 66%, a u Banja Luci više od 75%. U Bosanskoj Krajini skoro sve džamije su s drvenim munarama.

Interesantno je naznačiti da je kod džamija s drvenim munarama naglasak bio na formiranju što većeg prostora za molitvu a ne na monumentalnosti konstrukcije. U tom smislu, položaj mujezinskog mahfila⁴ određen je tako da se minimizira upotreba građe i da se obezbijedi što veći prostor za molitvu. U Sulejmaniji džamiji u Travniku, mujezinski mahfil je izgrađen duž tri zida (slika 2) ali ova džamija je s kamenom munarom, kao i džamija u Bužimu (2.2.4.).

Zidovi džamije s drvenim munarama napravljeni su od različitih materijala koji su bili korišteni prilikom izgradnje stambenih objekata, od drveta, čerpića do kamena. Ista filozofija je korištena i kod starih crkava brvnara (poglavlje 3). Kod džamija s drvenim munarama najzanimljiviji je način oslanjanja drvenih munara na drvene tavanice, tj. njihova veza s njima, kakva im je konstrukcija, ukrućenja i visina munare u odnosu na dio objekta koji je predviđen za molitvu. Drvene munare mogu biti oslonjene na mujezinski mahfil, prislone uz džamiju, s tim što je drvena munara postavljena na kamenu postament koji ima visinu zidanog dijela objekta (npr. stara džamija sa haremom u Špionici Donjoj kod

for prayer is either square or rectangular in plan. A large number of variations regarding the inner positioning of different religious elements has been developed in addition to the usage of different materials for construction and architectural features of these elements. The old roofs in Bosnia were usually covered with wooden shingles, as a part of the traditional architecture, and later on, in the 19th century replaced by tiles. However, in Hercegovina, the roofs were covered with stone plates, which is directly connected to the geographical area and tradition.

This is a characteristic of Bosnian Islamic architecture which is widely spread in towns and villages. An interesting fact is that in Sarajevo and Tuzla, more than 50% of the mosques are of this type, while in Travnik more than 66% and in Banja Luka more than 75%. In Bosanska Krajina almost all mosques are with wooden minarets.

It is interesting to state that the emphasis lies in creating as large space as possible for the prayer and not on the monumentality of the structure. In this respect the position of the Müezzinmahfil⁴, is formed in a way to use minimum construction elements and obtain maximum space for the prayer. In Sujelmanpashic mosque in Travnik, Müezzinmahfil is constructed along three walls (Figure 2) but it has a stone minaret, as well as the mosque in Bužim(section 2.2.4.).

The walls of the mosques with wooden minarets are made of different materials which have been used for the construction of residential buildings, from timber, adobe to stone. The same philosophy was used for the old log cabin churches (chapter 3). The most interesting feature for the mosques with wooden minarets is the way the wooden minarets are supported by the wooden ceilings, i.e. their connection to them, their structure type, stiffeners and the height of the minaret in relation to the part of the object intended for prayer. Wooden minarets can rest on the Müezzinmahfil, be aligned to the mosque,

⁴ Posebno uzdignuti prostor/platforma u džamiji, obično smještena nasuprot položaja munare.

⁴ Is a special raised platform in a mosque, usually opposite the minaret.



Slika 2. Sulejmanija džamija u Travniku – poznata kao Šarena džamija [4]
 Figure 2. Sulejmanpashic mosque in Travnik-known as “The colorful mosque”[4]

Srebrenika). Visina drvenih munara uglavnom se kreće od 7 do oko 20 metara. Tijelo drvene munare veoma često je dvanaestrostrano, što odgovara broju stavaka u pozivu na molitvu koje mujezin izgovara s munare. Konstrukcija drvenog krovišta koju čine rogovi (12x13 cm) postavljeni na međurazmacima od cca 90 cm i grebene grede, oslanja se na podrožnice (rubnu gredu vjenčanicu i središnju podrožnicu). Podrožnice se oslanjaju na višestruke uspravne stolice (stubove cca 13x13 cm). Stubovi stolice, na visini od cca 1,20-1,30 m (mjereno od poda tavana) ukrućeni su s kliještima 2x8/10 cm, a same stolice se oslanjaju na vezne grede (presjeka cca 16x16 cm), postavljene u podužnom pravcu. Unakrsno u odnosu na vezne grede, a s njihove donje strane, pričvršćene su na osovinskim međurazmacima od cca 90 cm, stropne grede. No, svaka džamija ima svoje specifičnosti. Materijali i tehnike gradnje isti su kao i za stambene objekte [5].

with a wooden minaret set on a stone construction that has the height of the masonry part of the building (e.g. the old mosque with a harem in ŠpionicaDonja near Srebrenik). The height of the wooden minarets varies from 7up to approximately 20 meters. The body of the wooden minaret is very often twelve-sided, which corresponds to the number of mosque-goers in the call for pray that the Müezzín pronounces from the minaret. The structure of the wooden roofing is made of rafters (12x13 cm) placed at a distance of cca 90 cm and the ridge beams which is placed on purlin (tie beam and central rafter).Rafters are placed on multiple upright constructions (pillars approximately 13x13 cm). The pillars are at a height of approx. 1,20-1,30 m (measured from the floor of the attic), stiffened with pins 2x8 / 10 cm, and the upright construction is supported by the connecting beams (cross section approximately 16x16 cm), placed in the longitudinal direction. In relation to the connecting beams, and from their bottom, they are attached to the axle spacing of approximately 90 cm, ceiling beams. But each mosque has its own specificities. The materials, construction techniques are the same as for residential architecture [5].



Slika 3. Karta rasporeda objekata od drveta, čerpića i kamena [5]
 Figure 3. Map of wooden, adobe and stone houses [5]

Na karti na sjevernom dijelu (slika 3) kuće su izgrađene od čerpića [5]. Centralni dio zemlje je bio, i još uvijek jeste bogat drvetom, što je rezultiralo da su kuće u ovom području izgrađene od drveta, dok su u južnom dijelu, u Hercegovini, kuće uglavnom izgrađene od kamena. Čerpić se takođe nalazi u centralnom dijelu zemlje i u velikom broju slučajeva zamijenio je objekte od drveta u centralnom dijelu, ili je napravljena kombinacija u obliku bondruka. Ovo sve upućuje na karakteristike džamija u pojedinim područjima.

2.2 Primjeri džamija s drvenim munarama

2.2.1 Sarajevo: Golobrdica džamija

Mahala⁵ gdje je smještena džamija prvi put se spominje u 1528. godini, što znači da je džamija izgrađena nekoliko godina ranije, jer su prvo izgrađivane džamije a onda su oko formirana naselja. Radi se o jednodimenzionalnoj džamiji unutarnjih dimenzija 9,80x7,40 m. Munara je napravljena bez stubova. Specifičnost ove munare je da se ona oslanja na mujezinski mahfil. Godine 1982. na samoinicijativu građana koji idu u ovu džamiju, munara je pomjerena na prethodno pripremljene temelje na sjeverni vanjski zid džamije, i na taj način poremećena je autentičnost džamije. Ova intervencija je ugrozila jednu od rijetko očuvanih specifičnih munara grada Sarajeva, munara koja je bila smještena unutar konstrukcije krova i koja se oslanjala na mujezinski mahfil. Ovo je jasan pokazatelj neadekvatnih intervencija na povijesnim spomenicima i u suprotnosti je s Venecijanskom konvencijom [6].

Tokom rekonstrukcije munare džamije, jedan od osnovnih zadataka bio je da se munara povрати u prvobitni položaj, tako da se džamiji vrati njen autentičan izgled [6]. Nakon demontaže jednog dijela tavanice krova kao i dijela konstrukcije mahfila, a na osnovu vidljivih ostataka, ustanovljen je autentičan položaj munare (slika 4). Munara (visine 7 metara) vraćena je na prvobitno mjesto, u unutrašnjost džamije, na mujezinski mahfil (slika 4). Ovaj posao je izvršen 2009. godine [7].

Jedna od karakteristika sarajevskih džamija s drvenim munarama jeste blago nagnuti krov kojem je kao pokrivač najpogodniji bio ćeremit. Za razliku od sarajevskog tipa, drugom tipu džamije s drvenom munarom pripadaju objekti strmih krovnih ravni, s drvenim pokrovom. Osim razlika u krovu, njihove munare imaju manje istaknute galerije s višim parapetom, prema tome s manjim otvorom. Ovoj grupi pripadaju džamije u Tuzli.

⁵ Znači „susjedstvo” ili „čtvrť”, dio ruralnog ili urbanog naselja, datira iz vremena Osmanskog carstva.

On the map shown in figure 3, the houses in the northern part are made of adobe [5]. The central part of the country was rich and still is, in the wood making, which resulted in numerous houses made of wood, while in the southern part, Herzegovina, houses were mainly made of stone. Adobe is as well seen in the central part of the country and in many occasions replaced the wooden building in the central part, or a combination has been made in the form of “bondruk” construction. This all points to the characteristics of the mosques in certain areas.

2.2 Examples of mosques with wooden minarets

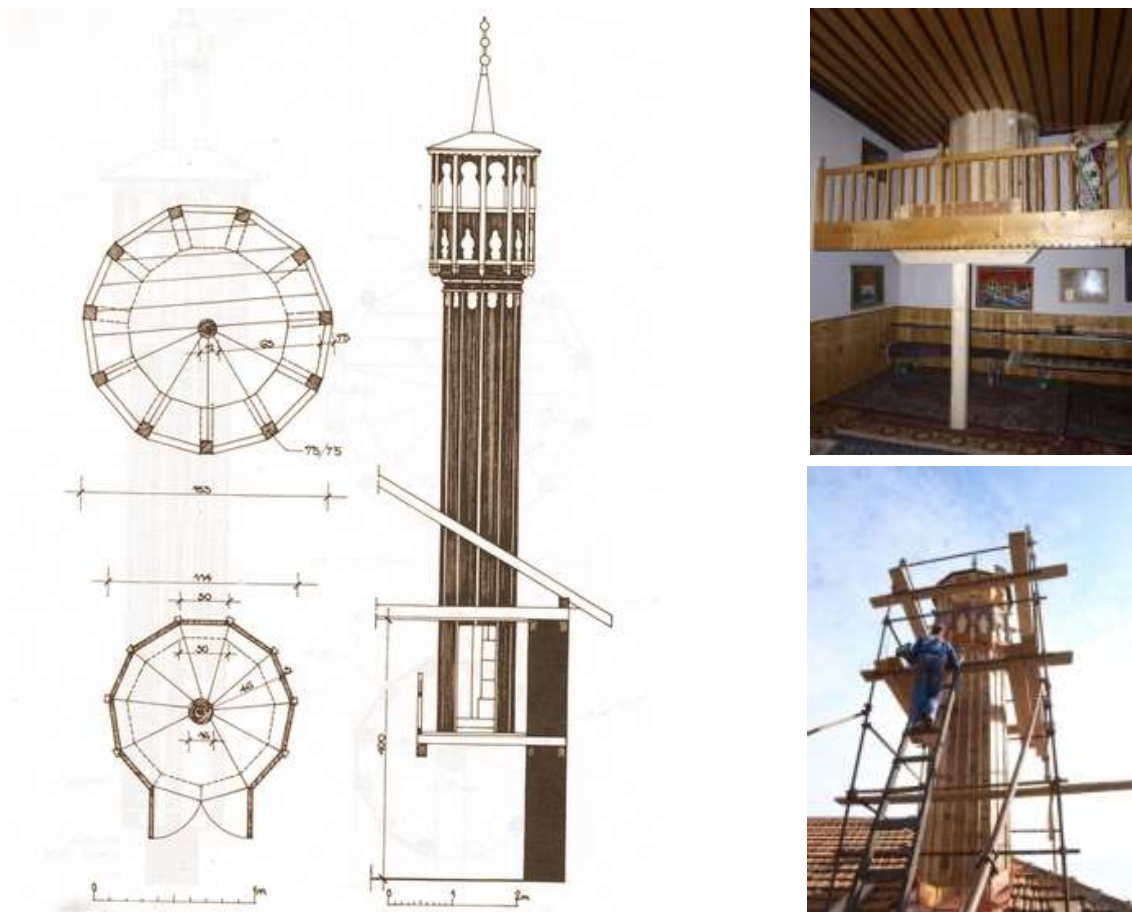
2.2.1 Sarajevo: Golobrdica Mosque

The mahala⁵ where this mosque is located is mentioned for the first time in 1528, meaning that the mosque was built before that year, as the mosques were built initially and then the settlements were formed around it. It is one space mosque having inner dimensions of 9,80x7,40 m. The minaret is made without pillars. The specific feature of this minaret is that it is supported by the müezzinmahfili. In 1982, as a self-initiated intervention by the local people going to the mosque, the minaret was moved to a prepared foundation on the northern outer wall of the mosque, thus disrupting its authentic appearance of the mosque. This intervention jeopardized one of the rarely preserved specific minarets of the city of Sarajevo, a minaret that was placed inside the roof structure and supported on the müezzinmahfili. This is a clear indication of inadequate intervention on the historical monuments and is contradictory with the Venice-Charter [6].

During the reconstruction of the mosque's minaret, one of the basic tasks was to restore the minaret to the original position, so that the mosque would return its authentic appearance [6]. After disassembly of one part of the roof ceiling, as well as part of the mahfil structure, and on the basis of the visible remains, an authentic position of the minaret was established (Figure 4). The minaret (of 7 meters height) was returned to the original place, inside the mosque, on the müezzinmahfili (Figure 4). This work was done in 2009 [7].

One of the characteristics of Sarajevo's mosques with wooden minarets is a slightly sloping roof, which was the most suitable roof cover. Contrary to the Sarajevo-type, the second type of the mosque with a wooden minaret belongs to the objects with steep roofs, with a wooden lid. Apart from the differences in the roof, their minarets have a less prominent gallery with a higher parapet therefore with a smaller opening. Mosques in Tuzla region belong to this group.

⁵ Means "neighborhood" or "quarter", a section of a rural or urban settlement, dating to the times of the Ottoman Empire.



Slika 4. Džamija Golobrdica Sarajevo i oslanjanje drvene munare na mujezinski mahfil, izgradnja drvene munare 2009, te unutrašnjost objekta [7]

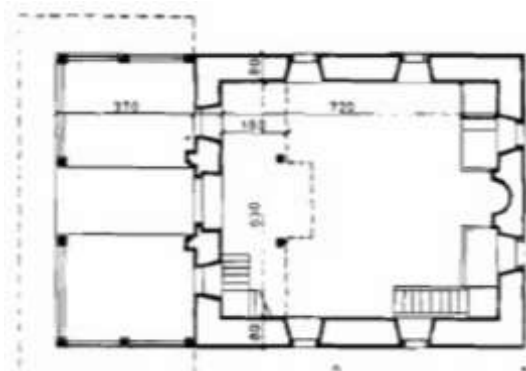
Figure 4. Golobrdica Mosque in Sarajevo and placement of the wooden minaret on the müezzinmahfili construction of the wooden minaret in 2009,—interior of the structure[7]

2.2.2 Tuzla: Džamija Husein Čauša

Jedna od najstarijih džamija u Tuzli je džamija Husein Čauša ili Džindijska džamija koja je prikazana na slici 5 [8]. Ona se prvi put spominje u 1701. godini. Iako je bila zatvorena u nekoliko navrata zbog slijeganja zemljišta i renoviranja (u periodu 1863–1864. godine, kao i 1961. godine), zadržala je svoj prvobitni oblik. Statistički podaci pokazuju da ova džamija predstavlja jedan od rijetkih sačuvanih primjera džamija sagrađenih od drveta u islamskom svijetu. Nalazi se u zoni s najintenzivnijim slijeganjem terena u Tuzli, koje je poznato po prirodnim izvorima soli – bunari soli. Ovo je tipična mahalska džamija, s jednom prostorijom za molitvu, dimenzija 6,3x7,2 m, s drvenom munarom i 16 prozora. Pravokutnog je oblika i s veoma dekorativnim drvenim vratima. Ona je građena od čerpića i pokrivena visokim krovom s pokrovom od šindre, dok je okvir oko vrata izgrađen od kamena krede (cretaceous). Zanimljivo je napomenuti da se gornji dio iznad sofe oslanja na osam drvenih stubova, čije rezbarenje predstavlja rad lokalnih majstora.

2.2.2. Tuzla region: Hussein Čauš's Mosque

One of the oldest mosques in Tuzla is Hussein Čauš mosque or Džindia mosque which is shown in Figure 5 [8]. It was mentioned for the first time in 1701. Even though it had been closed on several occasions because of soil settlement and renovations (in 1863-64 as well as in 1961), it has retained its original appearance. Statistics show that this mosque is one of the rare surviving examples of mosques built of wood in the Islamic world. It is located in the zone with the most intensive settlement of the terrain in Tuzla, which is well known by the natural salt wells. This is a typical mahala mosque, with one room for praying, dimensions 6,3x7,2m, with a wooden minaret and 16 windows. Rectangular in shape and with a highly decorative wooden door. It is built of adobe and covered with a steep wooden roof, while the frame around the door has been constructed by cretaceous stone. It is interesting to note that the upper part beyond the sofa rests on eight wooden posts, whose carving represents the work of the local craftsman.



Slika 5. Tlocrt džamije i izgled džamije Husein Čauša u Tuzli [3], [9]
Figure 5. Layout and view of the Hussein Čauš's Mosque in Tuzla[3], [9]

2.2.3 Područje Tuzle: Atik džamija u Čivi

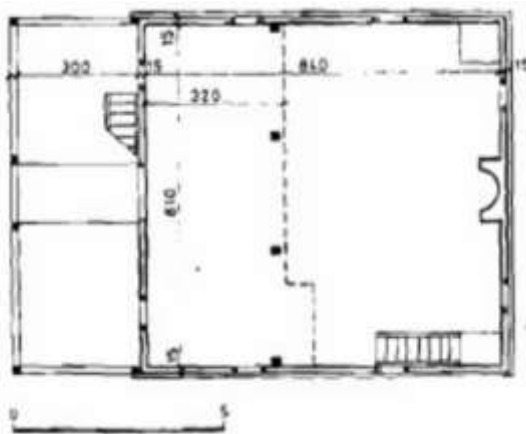
Već sredinom druge polovine XX stoljeća lokalno stanovništvo Gornje Spreče u blizini Tuzle znalo je za postojanje ove džamije i da je već u to vrijeme bila stara 300 godina. Na turskom „atik“ znači „stari“ [3]. Prije četiri desetljeća stručnjaci sa Arhitektonskog fakulteta u Sarajevu sprovedli su istraživanje o arhitektonskim karakteristikama Atik džamije. Pokazano je da je napravljena kao bondruk konstrukcija [10]. Tlocrtne dimenzije džamije su 8,1x8,4 m. Interesantno je da kao i džamija Husein Čauša ima sređenu kompoziciju sa 16 prozora. Karakteristika poligonalne munare (visine osam metara) ove džamije jeste da je opšivena drvenim daskama u „riblja kost“ rasporedu, što doprinosi njenoj nosivosti i povećanju krutosti i stabilnosti (slika 6). Džamija je obnovljena u dva navrata: 1996. i 1997-1998. godine. Trenutno je u proceduri da bude proglašena nacionalnim spomenikom pod zaštitom na nivou Bosne i Hercegovine.



2.2.3. Tuzla region: Atik Mosque in Čiva

It was already in the mid-second half of the 20th century that the local citizens of the Upper Spreča near Tuzla known about the existence of this mosque and at the time it was already 300 years old. In Turkish “Atik” means “old”[3].Four decades ago experts from the Faculty of Architecture in Sarajevo conducted research on the architectural characteristics of the Atik mosque. It was shown that it was made by bondruk construction [10]. Layout dimensions of the mosque are 8,1x8,4m. It is interesting that this mosque has a composition of 16 windows the same as Hussein Čaušmosque. The characteristic of the polygonal minaret is its coverage with “zig-zag” wooden planks, which contributes to its resistance and increase its stiffness and stability (Figure 6). The mosque was reconstructed in two occasions 1996 and in 1997-1998. Currently, it is in the process to become a national monument under the protection of Bosnia and Herzegovina.

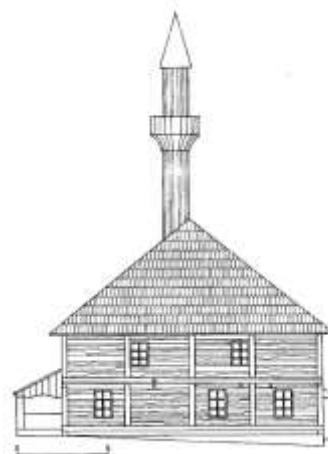
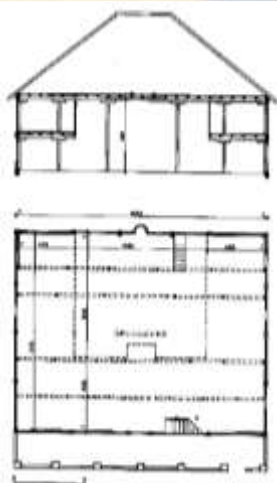




Slika 6. Atik džamija u Čivi, detalj opšivanja munare [10] i tlocrt [3]
 Figure 6. Atik mosque in Čiva, detail of the diagonal wooden planks [10] and layout [3]

2.2.4 Područje Bihaća: Džamija u Bužimu

Džamija u Bužimu (slika 7) najveća je drvena džamija u Bosni i Hercegovini, a najvjerojatnije i u Evropi. Nalazi se u Bužimu, malom gradiću koji je nakon Bihaća bio najveća utvrda u Krajini. U stanju u kojem se nalazi danas, smatra se da je obnovljena 1838. godine [11]. Na osnovu ovoga može se zaključiti da je džamija još starija, međutim, iz natpisa se ne može zaključiti kakva vrsta restauratorskih radova je izvršena [12]. Na mezarju u džamiju najstariji grob datira iz 1856. godine [13].



Slika 7. Džamija u Bužimu [3]
 Figure 7. Bužim mosque [3]

2.2.4 Bihać region: Mosque in Bužim

The mosque in Bužim (Figure 7) is the biggest wooden mosque in Bosnia and Herzegovina, and most probably in Europe. It is located in Bužim, a small town which after Bihać was the largest fortification in Krajina. As it stands today, it is believed that it has been reconstructed in 1838[11]. On the basis of this, it can be concluded that the mosque is even older, however, from the inscriptions it cannot be concluded what kind of restoration works took place [12]. In the cemetery within the mosque, the oldest grave dates from 1856 [13].

Ovo je najveća džamija ovog tipa, dimenzija 18x14 m i visine 5 m, a visina munare iznosi 17.2 metara. Ukupna površina iznosi 414 m². Zanimljivo je napomenuti da je džamija napravljena od vrlo rijetke vrste hrasta lužnjaka, koja raste u ovom području u blizini granice s Republikom Hrvatskom, a ono što je dodatno zanimljivo jeste da tokom izgradnje nisu korišteni ekseri niti bilo kakva druga vrsta metalnih spajala. Kruta veza je napravljena sa usjecima i drvenim klinovima (vidi sliku 7).

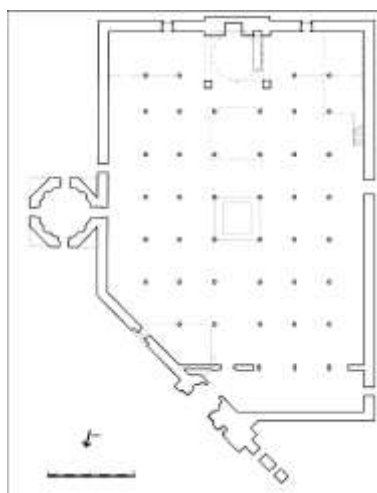
Dodatna karakteristika koja čini ovu džamiju jedinstvenom jesu redovi stubova (slika 7). Džamije s redovima drvenih stubova vrlo su rijetke i nastale su iz anadolskih seldžučkih velikih džamija (Ulu Cami), među kojima su najvažnije Eşrefoğlu džamija u Beyşehiru izgrađena 1296-99. godine sa sedam redova drvenih stubova i Ahi Elvan džamija u Ankari s tri reda drvenih stubova [14], sagrađena 1382. godine na kosim stijenama s jednostavnom fasadom. Ovi stubovi pripadaju rimskom i vizantijskom periodu. Ahi Elvan džamija obnovljena je 1413. godine. Njena fino izrezbarena ograda od hrasta odražava karakteristike seldžučke tradicije gradnje drvetom.

Eşrefoğlu džamija je pravougaonog tlocrta sa oko 29.25 metara u pravcu istok-zapad i 43.9 metra u pravcu sjever-jug s bruto unutarnjim prostorom od 1187 m² u prizemlju. Ovo je čini najvećom drvenom džamijom. Krov džamije je podržan sa šest redova stubova koji su postavljeni okomito na zid kible, pri čemu se u svakom redu nalazi sedam redova drvenih stubova. Postoje ukupno četrdeset dva stuba [14], slika 8. Drveni stubovi su od kedrovine i prema usmenim predanjima bili su potopljeni u jezero Beyşehir šest mjeseci prije no što su upotrijebljeni za izgradnju. Dvadeset dva stuba su ortogonalnog oblika, dok je jedan stub dekaon a 19 je kružnog oblika. Visina stubova iznosi 7.5 metara dok poprečni presjek varira od 0.40 m do 0.45 m. Kaptoli stubova imaju tzv. kalemişi ručno izgravirane ornamente. Ovi ornamenti su crvene, plave i krem boje. Džamija stara preko 700 godina, kao drvena džamija, opstala je zahvaljujući „sniježnoj jami” koja se nalazi u sredini džamije. Prema predanjima sniježna jama se popunjavala snijegom sa okolnih planina. Usljed postepenog topljenja snijega omogućavano je u toku toplih mjeseci

This is the biggest mosque of this type, having dimensions of 18 x 14 m and a height of 5 m, while the minaret's height is 17.2 meters. The total area is 414 m². It is interesting to note that the mosque is made of a very rare type of oak, "quercusrobur", which grows in this region near the border with the Republic of Croatia, and what is additionally interesting is that during the construction no nails or any type of metallic connections were used. A rigid connection is made with cuttings and wooden wedges (see Figure 7).

An additional feature which makes this mosque unique are rows of columns (Figure 7). Mosques with rows of wooden piles are very rare and are derived from the Anatolian Seljuk Great mosques (Ulu Cami), among which, the most important, the Eşrefoğlu Cami in Beyşehir built 1296-99 with seven rows of wooden poles and Ahi Elvan Cami (Ahi Elvan Mosque) in Ankara with three rows of wooden columns [14], built in 1382 on a sloping rock with a simple façade. These columns belong to the Roman and Byzantine periods. Ahi Elvan Mosque was restored in 1413. Its finely carved walnut-timber (pulpit) reflects the characteristics of the Seljuk wood tradition.

Eşrefoğlu mosque has a rectangular plan of roughly 29.25 meters east to west and 43.9 meters north to south with a gross interior area of 1187 square meters on the ground floor. This makes it the largest of the remaining wooden hypostyle mosques. The mosque's roof is supported by six rows of columns perpendicular to the kible wall, with seven ranks of columns in each row. There is a total of forty-two columns [14], picture 8. The wooden pillars are made of cedarwood and according to folk tales were immersed in the lake Beyşehir for six months before they were used for construction. Twenty-two pillars are orthogonal, while one pillar is decagonal, and 19 are of circular cross section. The height of the pillars is 7.5 meters, while the cross section varies from 0.40 m to 0.45 m. Pillar capitals have the so-called "kalemişi" hand-drawn ornaments. These ornaments are red, blue and cream colors. The mosque over 700 years old, as a wooden mosque, survived thanks to the "snow cave" which is located in the middle of the mosque. According to the



Slika 8. Eşrefoğlu džamija u Beyşehiru [14]
Figure 8. Eşrefoğlu Mosque in Beyşehir [14]

da se unutrašnjost objekta hladi i da se obezbijedi potrebna vlažnost drvene konstrukcije. Nakon XIV stoljeća nema podataka o izgradnji ovakvih džamija. Džamije s redovima stubova pripadaju tzv. starijem tipu i prestale su da se grade kada su Turci usvojili tip džamije zasnovan na vizantijskim crkvama, naročito nešto kasnije kada je uzor postala Sveta Sofija.

Stubovi u džamiji u Bužimu protežu se od podruma kroz cijelu konstrukciju do krova [3], što se jasno može vidjeti na slici 7. Kada se uporede ove džamije, evidentno je da u džamiji u Bužimu stubovi nisu ravnomjerno raspoređeni kao u slučaju navedenih džamija u Turskoj. Džamija u Bužimu je proglašena nacionalnim spomenikom 2003. godine [12].

Konstrukcija džamije u Bužimu je sistem s nosivim zidovima, izrađen od drvenih talpi debljine 7 cm i visine 25 cm, vertikalno užljebljenih u drvene stubove dimenzija 21x21 cm i 24x24 cm. Zidovi u unutrašnjosti su fiksni sa spregovima dimenzija 12x12 cm. Temelj je izrađen od drvenih greda 21x21 cm, koji se nalaze na kamenoj podlozi [12]. Izgled džamije je prilično jedinstven i ne postoji sličan tip džamije u cijeloj Bosni i Hercegovini.

Džamija je nekoliko puta rekonstruisana [3,12]. Po prvi put 1937. godine, gotovo stotinu godina nakon njene izgradnje. Tada je krov uklonjen i promijenjen iz šindre u crijep. Osim toga, munara je skraćena, te je šerefet⁶ iz zatvorene galerije pretvoren u otvoreni, u orijentalnom stilu, i na taj način podsjeća na stare kamene osmanske džamije. Sa stanovišta Venecijanske povelje [6], ovaj vid konstrukcijske realizacije je nešto što je uistinu promijenilo karakteristike džamije.

Najspecifičnija restauracija izvršena je 1960-ih godina, kada je čitava džamija podignuta iznad temelja. Ovo je bilo neophodno radi zamjene dotrajale grede – tzv. jastuci koji su bili u temeljima - i da se sazida zid ispod drvene konstrukcije. Kao što je izjavio lokalni imam, rekonstrukcija se dogodila tokom nekoliko mjeseci i za to vrijeme, što je prilično zanimljivo, molitve su obavljane u džamiji. Nakon što su novi temelji napravljeni, džamija je, bez izazivanja bilo kakvih oštećenja, ponovo vraćena na temelje.

Tokom 1980. godine, konstrukcija je ponovo obnovljena i kao unutrašnja obloga je postavljena lamperija unutar džamije. Kada se referira na Venecijansku povelju [6] i ICOMOS [15] ovo je prilično upitno, jer je to značajno promijenilo unutarnji izgled konstrukcije.

Generalno, nema pisanih podataka kada su izgrađene najstarije drvene džamije u Bosni i Hercegovini, već se znanje prenosi s generacije na generaciju i povezano je s početkom osmanske uprave. Općenito govoreći, džamije posjeduju sve arhitektonske karakteristike stambene kuće: od načina gradnje, građevinskih detalja do oblika i forme krova. Ova vrsta gradnje vidljiva je u nekim starim kućama u Krajini (sjevernoj Bosni), te na putu iz Sarajeva prema Vlasenici (istočna Bosna). U Karićima džamija je izgrađena kao brvnara, što se povezuje sa crkvama (poglavlje 3).

folk tales, the snow pit was filled with snow from the surrounding mountains. Due to gradual snow melting, it was possible during the warm months to cool the interior of the building and to provide the necessary humidity of the wooden structure. After the XIV century, there was no data on the construction of such mosques. The mosques with rows of columns belong to the so-called older type I, and they have ceased to be built when the Turks adopted a type of mosque based on Byzantine churches, especially a little later when Hagia Sophia became a role model.

Columns in Bužim mosque extend from the basement throughout the entire structure to the roof [3], which can be clearly seen in Figure 7. When comparing these mosques it is evident that in Bužim the pillars are not uniformly distributed as in the case of above-mentioned mosques in Turkey. The mosque in Bužim was declared a national monument in 2003 [12].

The structure of the Bužim mosques is a load bearing wall system, made of wood planks 7cm thick and 25 cm height, vertically grooved into wooden poles having dimensions 21x21 and 24x24 cm. The walls inside are fixed with braces of dimensions 12 x 12 cm. The foundation is made of wooden beams 21 x 21 cm, which are placed onto the stone backing [12]. The layout of the mosque is rather unique and there is no similar type of mosque in the entire Bosnia and Herzegovina.

The mosque was reconstructed several times [3,11]. For the first time in 1937, almost a hundred years after its construction. At this time the roof was removed and changed from shingle to tiles. In addition, the minaret was shortened, and Šerefet⁶ from the closed galleries transformed into an open, oriental style, recalling the old stone Ottoman mosque. Looking now at the Venice-Charter [6], this kind of structural changes is something that truly changed the features of the mosque.

The most specific restoration was done in the 1960s when the entire mosque was lifted from the ground up. This was needed because it was necessary to replace the worn-out beams, so-called pillows that were in the foundations, and to construct a wall under the wooden structure. As stated by the local imam, the reconstruction took place over several months and during that time, which is quite interesting, the prayers were performed in the mosque. After the new foundations were made, the mosque was restored to the foundations without causing any damage.

During 1980 the structure was again renovated and now wooden paneling was done inside the mosque. When referring to Venice-Charte [6] and ICOMOS [15] this is rather questionable, as this significantly changed the inner view of the structure.

Generally, there is no written data when were the oldest wooden mosques built in Bosnia and Herzegovina, but by the knowledge passed from generation to generation, it is connected to the beginning of the Ottoman administration. Generally speaking these mosques have all architectural characteristics of a residential house: from the construction method, construction details up to the shape and the form of the roof. This kind

⁶ Prošireni dio munare, vrsta galerije.

⁶ Enlarged part of the minaret, a kind of gallery.

3 CRKVE BRVNARE NA TLU BOSNE I HERCEGOVINE

Pored džamija, sakralne konstrukcije napravljene od drva specifične za ovu regiju su tzv. crkve brvnare (talpare) jer brvnare upućuju na oblu građu, a talpare na tesanu pravougaonu. Porijeklo brvnara u Bosni i Hercegovini, koje se koriste kao kuće, ili bogomolje, u vezi je s prvobitnom domovinom Slovena, karpatskom regijom poznatom po svojim gustim šumama. Sloveni su vjerovatno donijeli ideju o brvnari u zemlje koje su naseljavali i koje su također bogate šumama, brvnare se nalaze u Rusiji i Poljskoj, kao i na čitavom Balkanu. Naravno, pojava ovih brvnara je vrlo različita, zbog dominantnih društveno-historijskih i kulturnih odnosa u određenim područjima [16].

Prvi pisani dokazi o kapelama, drvenim crkvama i zvonnicama datiraju iz hronike kneževskog perioda X stoljeća u Ukrajini. Više od 800 crkava je izgrađeno u Norveškoj, Skandinaviji, Francuskoj, Njemačkoj i nekoliko u Engleskoj. Većina je izgrađena u periodu širenja hrišćanstva u cijeloj Evropi. Period izgradnje drvenih crkava počeo je u tim zemljama.

Drvene crkve u Bosni i Hercegovini su različitog tipa hramova i dijela narodnog stvaralaštva. U Bosni i Hercegovini danas postoji oko 30 crkava pravoslavne provenijencije [17], dok se spominje samo jedna katolička crkva ovakvog tipa - Sveti Josip na Palama [12].

One su zadržale bosanski tradicionalni način gradnje s jedne strane i imaju dosta sličnosti sa džamijama. Očuvani ostaci današnjih drvenih crkava vjerovatno su rezultat nekih transformacija, neke vrste evolucije iz originalnog koncepta drvenih objekata za stanovanje, što je vidljivo iz rasporeda i organizacije prostora unutar crkava brvnara, koje su sačuvane do danas. Čuvene drvene crkve u Bosni datiraju iz XVIII i XIX stoljeća.

Arhitektura drvenih crkava bila je na dobrom putu da se razvije u opsežnu arhitekturu s vlastitim tipičnim ukrasom kada je njena evolucija naglo prekinuta. Izgradnja crkava brvnara je poseban oblik gradnje koji proizlazi iz narodnog-stambenog objekta bez povezivanja za bilo koji kulturu. Dakle, arhitektura ovih objekata predstavlja prepoznatljive i autentične oblike radova izvedenih iz istorijskih okvira i uslova.

S ciljem očuvanja njihovog nacionalnog identiteta i religije od osmanskog carstva, stanovnici pravoslavne vjeroispovjesti gradili su svoje crkve od drveta, kako bi ih lako preko noći mogli prebaciti na druge lokacije. Pismeni dokazi i znakovi na konstrukcijama pokazuju da je u stvari došlo do pomicanja tih objekata za nekoliko kilometara te njihovog ponovnog sklapanja [18]. U produžetku vremena, veliki broj crkava brvnara je uništen. Dva faktora koji igraju dominantnu ulogu u uništavanju objekata jesu prirodni i ljudski faktor (neodržavanje).

of construction is seen in some old houses in Krajina (northern Bosnia), and along the road from Sarajevo to Vlasenica (eastern Bosnia). In Karići the mosque is built as a log cabin, which is a connection to the churches (Chapter 3).

3 LOG CABIN CHURCHES IN BOSNIA AND HERZEGOVINA

Besides mosques, sacral structures made out of wood which is specific for this region are so called log cabin churches. The origin of log cabin buildings in Bosnia and Herzegovina, being used as homes, or places of worship, is associated with the primordial homeland of Slavs, the Carpathian regions famous for their dense forests. Slavs probably brought the idea of a log cabin with them to the lands that they inhabited and which was also rich in forests, log cabins are found in Russia and Poland, and entire Balkans. Of course, the appearance of these log cabins is very different, due to socio-historical and cultural relations predominant in certain areas [16].

The first written evidence of chapels, wooden churches, and bell towers date back to the chronicles of the princely period of the 10th century in Ukraine. More than 800 churches were built in Norway, Scandinavia, France, Germany and several in England. Most of them were built during the period of spreading Christianity throughout Europe. A period of building wooden churches started in those countries.

Wooden churches in Bosnia and Herzegovina are a distinct type of temples and part of folk creativity. In Bosnia and Herzegovina today, there are about 30 churches of Orthodox provenance [17], while only one Catholic Church of this type is mentioned, Saint Joseph in Pale [12].

They retained the Bosnian traditional way of construction on one hand and have a lot of similarities with the mosques. Today's preserved remains of wooden churches probably are the result of some transformation, some kind of evolution from the original concept of wooden buildings for housing, which is evident from the layout and organization of the space inside the log cabin churches, which have been preserved until today. The famous wooden churches in Bosnia date from XVIII and XIX centuries.

Timber church architecture was on its way to developing an extensive architecture with its own typical decoration when its evolution was abruptly cut short. The construction of the church log cabin is a particular form of construction resulting from the folk building without binding to any culture. Thus, the architecture of these buildings represents a distinctive and authentic form of works derived from the historical framework and conditions.

In order to preserve their national identity and religion from the Ottoman Empire, the Orthodox residents built their churches from wood, so that they could easily overnight transfer them to other locations. Written evidence and signs on the structures indicate that in fact there has been a movement of these structure for several kilometers and their re-assembly [18]. Over time, a large number of log cabin churches was destroyed. Two factors which play the dominant role in the destruction of these objects is a natural or human factor (non-maintenance).

3.1 Crkve brvnare u BiH pravoslavne vjeroispovijesti: tipovi, osobenosti i primjeri

Postoje dvije vrste drvenih crkava koje se mogu razlikovati u zavisnosti od načina izgradnje i opštih arhitektonskih karakteristika [3]. Do današnjeg dana, ukupno je samo tridesetak objekata sačuvano, a oni se uglavnom nalaze u selima oko Banja Luke i Prijedora.

Prvi tip je povezan sa XVIII stoljećem i odnosi se na prilično male, jednostavne konstrukcije koje su i bez ukrasa i bez apside⁷. Crkve u ovoj grupi su jednostavne, skromnih dimenzija, tlocrtnih dimenzija 9x4 metara i površine od oko 30 m². Konstrukcija se nalazi direktno na zemlji bez bilo kakvih temelja ili kamene konstrukcije preko koje bi se prenosilo opterećenje na tlo. Većina su skeletnog sklopa, sa zidovima od užljebljenih dasaka, a pojedine od pravih brvana četvorougaoog presjeka. Brvna su na uglovima povezana na preklop. Zidovi se razlikuju i rijetko dostižu visinu čovjeka. Krovovi su vrlo strmi za brže odvođenje oborinskih voda i redovno zaobljeni na uglovima (grebenima). Na ovaj način, izbjegava se ugao na krovu koji je neprikladan, a istovremeno se formira polueliptični krov nad frontalnim zidovima koji pruža bolju zaštitu od atmosferskih uticaja i vizuelno djelimično oponaša apsidu koja se posebno ne izvodi, a što dodatno daje specifičan estetski izgled konstrukcije. Ove zgrade nemaju plafonsku/međuspratnu konstrukciju tako da je krovna konstrukcija u unutrašnjosti sasvim vidljiva. Otvori su jako mali, te je unutrašnjost crkve prilično mračna.

Ove crkve nalaze se u: Malom Blaškom (slika 9), Kolima (slika 10), Romanovcima (slika 11) i Javorinama.

3.1 Log cabins in Bosnia and Herzegovina of orthodox religion: types, characteristics, and examples

There are two different types of wooden churches that can be distinguished depending on the way they are constructed and general architectural characteristics [3]. To this day, only thirty of these facilities have been preserved, which are mostly located in villages around Banja Luka and Prijedor.

The first type is connected to the XVIII century and it refers to rather small structures of simple construction, without decoration and apses⁷. The churches in this group are simple, modest in size, with layout dimensions of 9x4 meters and an area of about 30 m². The structure is placed on the bare ground without any foundations or stone construction that would transfer the load to ground. Most of them are of skeleton type, with walls made of grooved boards and some made of logs with rectangular cross section. On the corner, the logs are connected with a flattened flap. The walls vary and rarely reached the height of a man. The roofs are very steep for faster drainage of rain water. At the corner, the faces of the roof are regularly rounded. In this way, a corner on the roof is avoided which is unsuitable for the roof, and at the same time a semi-elliptical roof of the frontal walls is obtained which provides a better protection from atmospheric effects. This additionally gives a specific esthetical vision of the structure. These buildings do not have a ceiling so the roof structure in the interior is fully visible. Openings are very small so the inside of the church is rather dark.

These churches are located in Malo Blaško (Figure 9), Kola (Figure 10), Romanovci (Figure 11) and Javorine.



Slika 9. Crkva brvnara u Malom Blaškom [19]
Figure 9. Log cabin church in Malo Blaško [19]

⁷ Zadnji, polukružni dijelovi crkava, naročito onih koje su građene u romanskom stilu.

⁷ Semicircular part of the altar, especially the ones that are made in Roman style.

3.1.1 Crkva brvnara u Kolima

Drvena crkva u Kolima potiče s kraja XVIII vijeka. Osnova i konstrukcija crkve su najjednostavnijeg tipa, s drvenim okvirom koji je popunjen daskama na pero i utor, vidljivim rogovima u enterijeru i krovom koji je pokriven šindrom. Crkva je pravougaonog oblika cca 7,18x4,21 m. Kao konstruktivni sistem upotrijebljen je drveni skeletni sistem. Na crkvi postoji samo jedan ulazni otvor koji se nalazi na sjeverozapadnoj strani. Ulaz je pravougaonog oblika (svijetle dimenzije 69x126 cm), sa okvirom od drvenih greda. Crkva Brvnara posvećena Vaznesenju Hristovom u Kolima proglašena je nacionalnim spomenikom u januaru 2009. godine [20].



Slika 10. Crkva brvnara u Kolima [20]
Figure 10. Log cabin church in Kola [20]

3.1.1 Log cabins in Kola

The wooden church in Kola dates from the end of the 18th century. The layout and construction of the church are of the simplest type, with a wooden frame filled with planks on a feather and groove system, visible rafters in the interior and a roof covered with a shingle. The church has a rectangular shape of approximately 7,18 x 4,21 m. A wooden skeleton system was used as a constructive system. There is only one entrance to the church and it is located on the northwest side. The entrance is of rectangular shape (bright dimensions 69 x 126 cm), with a frame made of wooden beams. The Log cabin is dedicated to the Worshipping of Christ in Kola and it was declared a national monument in January 2009 [20].

3.1.2 Crkva Brvnara u Romanovcima

Drvena crkva posvećena Svetom Nikoli u Romanovcima (slika 11) proglašena je nacionalnim spomenikom Bosne i Hercegovine, odlukom Komisije za očuvanje nacionalnih spomenika 2004. godine. Podaci o vremenu izgradnje crkve u Romanovcima ne postoje i uglavnom se odnose na narodna predanja. Osnovu crkve predstavlja pravougaonik dimenzija 7,42 m dužine i 4,16 m širine, što je jako slično dimenzijama crkava u Kolima.



Slika 11. Crkve brvnare u Romanovcima [21]
Figure 11. Log cabin church in Romanovci [21]

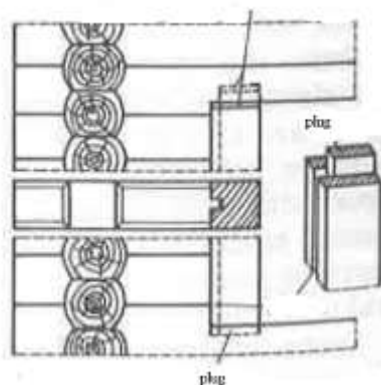
3.1.2 Log cabins in Romanovci

The wooden church dedicated to St. Nicola in Romanovci (Figure 11) was declared a national monument of Bosnia and Herzegovina by the Decision of the Commission to Preserve National Monuments on in the year of 2004. Data regarding the time of construction of the Church in Romanovci is not available and it is mainly related to the folk tales and traditions. The church's layout is a rectangle measuring 7.42 meters in length and 4.16 meters wide, which is very similar to the dimensions of the Log cabin in Kola.



Zidovi objekta su napravljeni od hrastovih talpi. Zidovi su ojačani podupiračima koji su raspoređeni samo iznutra. Drvena krovna konstrukcija vidljiva je iznutra, kao i kod crkve brvnare u Kolima. Crkva je pokrivena klisom⁸ od drveta jele malih dimenzija i sa užljebljenjima. Nosiva konstrukcija je izrađena od horizontalno postavljenih greda poprečnih presjeka 15/15, 17/16 i 13/12 cm. Ova crkva ima dva otvora, glavni ulaz na zapadnoj strani, a drugi otvor na južnoj strani. U 2000. godini izvršeni su konzervatorski radovi i oni su se sastojali od sanacije krovne konstrukcije, oblaganja krovnog materijala novim – klisom (slika 11), te od pripremnih radova koji su napravljeni za postavljanje kamenih ploča na pripremljenu podlogu od pijeska, šljunka i nabijene zemlje, kao i pripreme za izradu kanala koji će se koristiti za odvod kiše i vode koja pada s krova crkve [21].

Drugi tip se odnosi na crkve iz XIX stoljeća koje su izgradili majstori iz Osata i oni su uključili neke specifične islamske uticaje [3]. Zidovi su napravljeni od debala i u slučaju kada je crkva bila veća, pri čemu je to premašilo dužinu debala, to bi bilo riješeno tako što bi se u sredini perifernog zida pravio jedan stub u koji se užljebljuju „na čep” debala (slika 12).



Slika 12. detalji ukrucenja zidova [22]
Figure 12. Connections of the chumps [22]

Na ovaj način postignuta je željena dužina i ujednačenost materijala kao i debljina zida. Crkve ove grupe uvijek su imale poligonalne apside, gdje je izvršeno pričvršćivanje debala na uglovima na kompleksan način s dvostruko kosim preklopom (slika 13) i blago savijenim krajevima. Otvori prozora su većih dimenzija, dok su lukovi, vrata i okvratnici dekorisani. Svod je zakrivljen i širi. Svod iznad ulaza i na vratima vrlo često ima islamska svojstva [3]. Uglavnom, ove konstrukcije su većih dimenzija i s više dekorativnih elemenata.

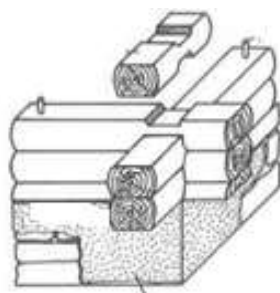
The walls of the building are made of oak planks. The reinforcement of the walls is done by struts arranged only on the inside. The wooden roof structure is visible from the inside, as is the case with the church in Kola. The covering of the church is made of “klis”⁸ firwood having small dimensions and chamfered. The bearing structure is made of horizontally placed beams having sections 15/15, 17/16 and 13/12 cm. This church has two openings, the main entrance on the west side and the second opening on the south side. In 2000 conservation works took place and they consisted of: repairs of the roof structure, cladding of the church was done with new roofing material – “klis” (Figure 11), and preparatory works were done for the placement of stone slabs on the prepared surface of sand, gravel and packed earth as well as preparations for making channels that will be used for rain drainage and water that falls from the church’s roof [21].

The second type refers to the churches from XIX century which were constructed by well-known, a craftsman from Osat and they incorporated some specific Islamic features [3]. The walls are made of chumps and in the case where the church was bigger and this exceeded the length of chumps, it was solved in a way that in the middle of the peripheral wall one pier was constructed in which the clamps were slammed "on the plug" (Figure 12).

In this way, the desired length and the uniformity of the material and thickness of the wall were achieved. The churches of this group always had polygonal apses, where the fastening of the beavers to the corners was performed in a complex manner (Figure 13) with a double flattened flap and a slightly curved corner. Window openings are of larger dimensions, while arches, doors and door mirrors are decorated. The vault is curled and wider. The arch above the entrance and on the doors very often has Islamic features [3]. Generally, these structures are of larger dimension and with more decorative elements.

⁸ Drveni crijep ili daščica u obliku crijeпа.

⁸ Wooden tiles or planks in the form of tiles.



Slika 13. Detalj veze na uglu [22]
Figure 13. Corner connection [22]

Zanimljivo je napomenuti da je unutrašnjost crkava dosta slična. Primjeri se mogu naći u nekoliko sela kao što su Palačkovac (slika 14), Dragivići, Rakelića i tako dalje [3, 19]. Smatra se da postojeća crkva u Palačkovcima predstavlja treću crkvu, i da 1843. godina jeste godina njene obnove. Izrađena je od vrlo kvalitetne hrastovine s vrlo preciznim vezama i spojevima. Proglašena je nacionalnim spomenikom 2005. godine [23].

3.1.3 Crkva brvnara u Palačkovcima

Urezana 1843. godina iznad ulaznih vrata crkve brvnare u Palačkovcima može navesti na možda pogrešan zaključak da je to godina njene izgradnje. Jedna od njenih karakteristika jeste da nema velike dimenzije (osnova dimenzija 9,70x4,80 m) kakve imaju druge crkve sagrađene u ovo doba. To navodi na zaključak da je morala nastati znatno ranije i da 1843. godina predstavlja godinu njene obnove. Prilikom restauracije carskih dveri, ispod postojećeg, otkriveni su stariji slikani slojevi daleko većih likovnih vrijednosti. Ovo slikarstvo, po svemu sudeći, pripada srpskom ikonopisu XVIII vijeka i to njegovim najboljim ostvarenjima. Otkriće ovog sloja, uz pronalazak starog poda od kamenih ploča ispod poda od opeke, kao i spomenute građevinske karakteristike objekta, bili bi pouzdan argument za tvrdnju da je objekat 1843. godine samo obnovljen [23]. Bez ikakvog pretjerivanja može se reći da je crkva brvnara u Palačkovcima – Prnjavorski srez – remek-delo ove vrste. Građevina spada u razvijeni, gotovo savršeni oblik crkava brvnara XIX veka.

It is interesting to note that the interior of churches is rather similar. Examples are found in several villages like Palačkovac (Figure 14), Dragivići, Rakelići etc. [3, 19]. It is believed that the existing church in Palačkovac is the third church and the year 1843, is the year of its last reconstruction. It is constructed of a very high-quality oak wood with very precise connections and junctions. It was declared a national monument in 2005 [23].

3.1.3. Log cabins in Palačkovac

The year 1843 engraved above the entrance of the church in Palačkovac may lead to perhaps an incorrect conclusion that it was the year of its construction. One of its characteristics is that it not of large dimensions (the base is 9.70x4.80 m), opposed to the other churches built at this time. This leads to the conclusion that it had to be constructed much earlier and 1843 it the reconstruction year. During the restoration of the imperial doors, under the existing one, older paintings were retrieved of far greater artistic values. This painting, most probably, belongs to the Serbian iconography of the 18th century, and to its best achievements. The discovery of this layer, with the discovery of an old stone floor beneath the brick one, as well as the aforementioned construction characteristics of the building, would be a reliable argument for the claim that the church was only renovated in 1843 [23]. Without any exaggeration, it can be that the Log cabin in Palačkovac - the Prnjavor region - is a masterpiece of this kind. The building belongs to the developed, almost perfect shape of the log cabin churches of the 19th century.



Slika 14. Crkva u Palačkovcima [12]
Figure 14. Church in Palačkovac [12]

3.2 Crkve brvnare u BiH katoličke vijeroispovijesti: osobenosti i primjer

Katoličke crkve brvnare u Bosni i Hercegovini potpuno su neistražene. Nema pouzdanih informacija o njihovoj izgradnji, obliku, niti se zna da li potiču iz autohtone arhitekture. Crkva Svetog Josipa se razlikuje svojim arhitektonskim karakteristikama od pravoslavnih crkava, kao i od katoličkih crkava u Republici Hrvatskoj.

Jedina katolička crkva u vidu brvnare je Rimokatolička crkva Svetog Josipa na Palama (slika 15). Crkva je izgrađena 1911. godine od strane austrijskih inženjera za njihove vjerske potrebe. Napravljena je isključivo od drveta, tako da je to jedina drvena crkva u Vrhbosanskoj nadbiskupiji [24], te je odlukom Komisije za očuvanje nacionalnih spomenika proglašena nacionalnim spomenikom Bosne i Hercegovine 2004. godine.



Slika 15. Rimokatolička crkva na Palama [24]
Figure 15. Roman Catholic church of Pale [24]

Spoljašnje dimenzije konstrukcije su 17x8 m, sa apsidom, ili 12x8 m, bez apside. Visina zidova crkve, mjereno od poda do početka svoda, iznosi oko 4 m, a visina do dna svoda je oko 7 m. Zidovi crkve su napravljeni od masivnih greda pri čemu je povezivanje izvršeno drvenim gredicama.

Brvna su postavljena na kamenoj platformi visine 40 cm. Kamena platforma je izgrađena od nepravilno klesanih i horizontalno postavljenih kamenih blokova. Zidovi crkve su malterisani sa unutarnje strane. Unutrašnji prostor je natkriven svodom, oslonjenim na podužne zidove i s natkrivenim dvovodnim krovom. Krov crkve je prekriven crijepom, dok je višedijelni krov apside i zvonik obložen limom [24].

Iznad ulaza u crkvu je postavljen zvonik s baroknim elementima. Zvonik u dvije razine, s kvadratnom osnovom prve i osmokutnom osnovom druge razine, završen je lukovičastom kupolom. Svojom obradom najistaknutije je ulazno pročelje (slika 16). Ulazni zid je obradom i upotrijebljenim materijalom podijeljen u horizontalnom smislu na tri polja. Prvo polje po svojoj visini odgovara visini posrednih stubaca, odnosno visine je oko 3 m. Građeno je kao i ostali zidovi crkve, od brvana s tankim drvenim gredicama između. Naredna dva polja, međusobno odijeljena horizontalnim, nazubljenim vijencem,

3.2 Log cabin churches in B&H of Catholic religion: features and example

Catholic churches of the log cabin type in Bosnia and Herzegovina are totally unexplored. There is no reliable information on their construction, form, and whether they originate from autochthonous architecture. The Church of St. Josip is distinguished by its architectural characteristics from Orthodox churches, as well as from Catholic churches in the Republic of Croatia.

The only Catholic church of the cabin log type is the Roman Catholic Church of St. Joseph in Pale (Figure 15). The church was built in 1911 by Austrian engineers for their religious needs. It is made exclusively from wood, so it is the only wooden church in the Vrhbosanska Archdiocese [24], and by the decision of the Commission to Preserve National Monuments declared a national monument of Bosnia and Herzegovina in 2004.



The outer dimensions of the structure are 17 x 8 m, with an apse, or 12 x 8 m, without an apse. The height of the walls of the church, measured from the floor to the beginning of the vault, is about 4 m and the height to the bottom of the vault is about 7 m. The walls of the church were made of massive beams (birch) with thin wooden planks between them.

The logs were placed on a stone platform 40 cm high. The stone platform is made of irregularly carved stone blocks placed horizontally. The walls of the church are internally lynched. The interior space is covered by a vault, lying on the longitudinal walls and with a covered gutter roof. The roof of the church is covered with tiles, while the multi-faceted roofs of the apse and bell-tower are covered with metal sheets [24].

Above the entrance to the church is a belfry with baroque elements. The two-level bell, with a square base of the first and octagonal bases of the second level, is completed with a bulbous dome. With its processing, the most important is the frontal facade (Figure 16). The entrance wall is divided into three fields in respect to the treatment and the used material in the horizontal direction. The first field corresponds to the height of the indirect columns, that is, the height is about 3 m. It was built like all other walls of the church, from

urađena su od dasaka postavljenih okomito na brvna. Daske su ukrašene reljefno izvedenom arkadom s polukružnim lukovima (slika 16) [24].



Slika 16. Zvonik i ulazno pročelje [24]
Figure 16. Bell and entrance [24]

Kako su dimenzije crkve veće, korišten je isti sistem povezivanja brvna kao i u pravoslavnim crkvama drugog tipa (slika 12). Izgradnja crkve se razlikuje od ostalih, budući da su ovdje korištene i talpe za gradnju. Enterijer crkve je prostran i pun svjetla, što je u suprotnosti s pravoslavnim crkvama, a slično s džamijama. Svi konstruktivni i dekorativni drveni elementi unutar crkve – stubovi, kosnici, ograde, vijenci i prozorski ramovi bogato su profilisani.

Stručnjaci Kantonalnog instituta za zaštitu kulturne, povijesne i prirodne baštine u Sarajevu tokom primarnog pregleda crkve 1985. godine utvrdili su prisustvo vlage u crkvi zbog blizine potoka Repašnice. Usljed neodržavanja tokom dugog razdoblja od tri godine (1992–1995) pogoršanje stanja konstrukcije bilo je više nego očigledno. Tokom 2004. godine u crkvi su izvršeni radovi obnove. Radovi nisu izvedeni pod nadzorom stručne službe za zaštitu spomenika [24].

4 ZAKLJUČAK

Džamije s drvenim munarama u Bosni i Hercegovini variraju u tlocrtu, arhitektonskom obliku i načinu gradnje, primjeni raznih materijala za zidove i oblaganje krovova, kao i u fasadnim oblicima, te u načinu konstruisanja i izvođenja različitih krovnih sistema i sistema munara.

Objekti brvnara u BiH koji su korišćeni za stanovanje bili su direktna inspiracija za objekte za bogoslužjenje,

the logs with thin wood plagues in between. The next two fields, separated by a horizontal beam, are made of planks mounted perpendicular to the logs. The boards are decorated with a relief arcade with semicircular arches (Figure 16) [24].

As dimensions of the church are larger, the same connection system was used as in the Orthodox churches of the second type (figure 12). The construction of the church differs in respect to others as here boards were used for construction as well. The interior of the church is spacious and lightly which is in contacts with the Orthodox Churches and similar to the mosques. All constructive and decorative wooden elements within the church - columns, trusses, fences, cornice and window frames are richly profiled.

Experts of the Cantonal Institute for the Protection of the Cultural and Historical and Natural Heritage of Sarajevo during the primary inspection of the church in 1985 found the presence of moisture in the church caused by the vicinity of the Repašnica stream. Due to no maintenance during a long period of three years (1992-1995) deterioration of the structure was more than evident. During the year 2004, renovation works were carried out in the church. The works were not carried out under the supervision of the experts for the protection of the monument [24].

4 CONCLUSION

Mosques with wooden minarets in Bosnia and Herzegovina vary in ground plan, architectural form, and manner of construction, application of various materials for walls and roofs, as well as façade forms, roofs, and minarets.

The origin of log cabin buildings in Bosnia and Herzegovina, being used as homes, have been the

bilo pravoslavne ili katoličke vjeroispovjesti. Sloveni su vjerojatno donijeli ideju brvnare na područja BiH iz područja koja su takođe bila bogata šumama, čemu su dokaz brvnare pronađene u Rusiji i Poljskoj, te na cijelom Balkanu. Naravno, izgled ovih brvnara veoma je različit, zbog društveno-istorijskih i kulturnih odnosa koji prevladavaju u nekim područjima. U Bosni i Hercegovini postoji samo jedna katolička crkva ovog tipa što je čini još vrijednijom.

Za sve vrste vjerskih građevina, građevinski materijal se koristi na isti način kao i za gradnju stambenih kuća. Vidljivo je da se sakralni objekti razlikuju regionalno na isti način kao i stambena arhitektura. Potrebno je stalno održavanje i popravak ovih vrsta konstrukcija. Nažalost, svijest o vrijednosti ovakvih objekata nije zadovoljavajuća. To je očigledno samom činjenicom da je sačuvan mali broj drvenih sakralnih objekata. Osim toga, intervencije koje su učinjene i koje se u nekoj mjeri vrše i danas, ne slijede pravila Venecijanske konvencije i pravila ICOMOS-a. Nedostatak finansija i osoblja predstavlja najveći problem za potpunu obnovu i konzervatorske radove na tradicionalnim sakralnim objektima od drveta. Sve ove konstrukcije moraju biti zaštićene, uključujući sve nematerijalne i materijalne elemente s ciljem očuvanja kulturno-istorijske baštine.

inspiration for places of worship, either Orthodox or Catholic. Slavs probably brought the idea of a log cabin with them to B&H from areas that were also rich in forests, the proof is log cabins in Russia and Poland, and entire Balkans. Of course, the appearance of these log cabins is very different, due to socio-historical and cultural relations predominant in certain areas. In Bosnia and Herzegovina, there is only one Catholic Church of this type which makes it even more valuable.

For all types of religious structures, the building material is used in the same manner as for local dwellings. It is seen that the sacral buildings differ regionally in the same way as the residential architecture. Permanent maintenance and repair of these types of structures are required. Unfortunately, awareness regarding the value of these types of structures is not satisfactory. This is evident by the fact that a small number of wooden sacral objects has been preserved. Additionally, interventions that have been done and that are even being conducted today do not follow the Venetian Charter and rules of ICOMOS and the maintenance of such structures is not satisfactory at all. Lack of finance and personnel are cumbersome for full restoration and conservation works on these types of structures. All of these structures need to be protected including all the intangible and tangible assets with the goal to preserve the cultural-historic heritage.

5 REFERENCE REFERENCES

- [1] Maximilian, H., The history of centre-periphery relations as a history of style in Ottoman provincial architecture, pp. 18–29, Proceedings of the International Conference Centre et peripherie in Ottoman architecture, Rediscovering a Balcan Heritage, (M. Harthmuth, Ed.), 22–24 April 2010, Sarajevo, Cultural Heritage without Borders;
- [2] Andrejević, A., „Islamska monumentalna umetnost XVI veka u Jugoslaviji: kupolne džamije”, Beograd: Filozofski fakultet u Beogradu, Institut za istoriju umetnosti: Srpska akademija nauka i umetnosti, Balkanološki institut, 1984;
- [3] Bećirbegović, M., „Džamije sa drvenim munarama”, 1990, Sarajevo, „Veselin Masleša”;
- [4] Komisija za očuvanje nacionalnih spomenika, Graditeljska cjelina – Šarena (Sulejmanija) džamija u Travniku, Official Gazette B&H, no. 29/06. <http://old.kons.gov.ba/main>
- [5] Deroko, A., „Narodno neimarstvo” 1 i 2 – Stara seoska kuća; 1968, SANU, Beograd;
- [6] Venice-Charter ICOMOS. 1964 [Online]// http://www.international.icomos.org/charters/venice_e. - International Charter for the Conservation and Restoration of Monuments and Sites
- [7] Kantonalni institut za očuvanje historijskog i prirodno naslijeđa Sarajevo, Sanacija munare džamije Golobradica, 2009, Sarajevo;
- [8] Takvim, Ljetopis tuzlanskih džamija, 1982, Sarajevo;
- [9] <http://tuzlanski.ba/carsija/jedna-od-najstarijih-dzamija-u-tuzli-dzamija-huseina-causa-video/>
- [10] Dokumentacija iz arhiva Zavoda za zaštitu i korištenje kulturno-istorijskog i prirodnog naslijeđa Tuzlanskog kantona, 1987, Tuzla;
- [11] Mujezinović M. „Epigrafika” III, 1987, Sarajevo – Publishing;
- [12] http://old.kons.gov.ba/main.php?id_struct=6&lang=1&action=view&id=1829
- [13] Mujezinović, M., „Islamska epigrafika Bosne i Hercegovine”, Knjiga 3, 1998, Biblioteka kulturno naslijeđe, Sarajevo – Publishing;
- [14] Hayes K., The Wooden Hypostyle Mosques of Anatolia Mosque - And State-Building Under Mongol Suzerainty, 2010, doktorska disertacija, Middle East Technical University;
- [15] International Council on Monuments and Sites (ICOMOS), Principles for the preservation of historic timber structures, 1999., Paris, France: ICOMOS;
- [16] Lalić S., „Folklorni elementi u dekoraciji u crkvama brvnarama u Bosni i Hercegovini”, Umjetnost u crkvama. Istorija. Konzervacija. Restauracija. Baština, 2005., pp. 329–359;
- [17] Momirović P., „Drvene crkve u istočnoj Bosni”. Naše naslijeđe. no. 3, 1956, pp. 149–167;
- [18] Cunjak, M., „Istorija timara i crkve brvnare u Jeličkoj, Rakelićima, Maričkoj, Busnovima i Omarskoj” 2009, Banja Luka: Eparhijski upravni odbor Eparhije banjalučke i Newpress Smederevo;
- [19] <http://www.upoznajsrpsku.com/index.php?language=SR&charset=latin&page=109>

- [20] Komisija za očuvanje nacionalnih spomenika, Građevinska cjelina – Crkva brvnara posvećena Vaznesenju Hristovom u Kolima, Grad Banja Luka, 2009, Official Gazette B&H, <http://old.kons.gov.ba/main>
- [21] Komisija za očuvanje nacionalnih spomenika. Pravoslavna crkva brvnara (crkva posvećena prenosu moštiju sv. Nikole) u Jelički, graditeljska cjelina, 2005;
- [22] Tehnička enciklopedija no.12. 1991, Zagreb, Leksikografski Zavod „Miroslav Krleža“;
- [23] Komisija za očuvanje nacionalnih spomenika: Privremena lista nacionalnih spomenika Bosne i Hercegovine, 2000;
- [24] Komisija za očuvanje nacionalnih spomenika, 2004, Graditeljska cjelina – Katolička crkva sv. Josipa na Palama.

REZIME

SAKRALNI OBJEKTI OD DRVETA U BOSNI I HERCEGOVINI

*Naida ADEMOVIĆ
Azra KURTOVIĆ*

Sakralni objekti, džamije s drvenim munarama i crkve brvnare, pravoslavne i katoličke, predstavljaju kulturno historijsko naslijeđe, reprezentante drvenih konstrukcija u Bosni i Hercegovini, koje nisu samo međusobno prepletene nego su povezane i sa stambenom arhitekturom što ih čini još interesantnijim. Ove konstrukcije su dugo vremena bile zapostavljene i stavljene su na margine zaborava. Sakralni objekti s drvenim obilježjima zadržali su zajedničke stambene osnove s jedne strane, dok se različitost ogledala u njihovim specifičnim karakteristikama. Neupitno je da ljudski faktor i prirodni uticaji na drvene konstrukcije zahtjevaju stalni monitoring i održavanje, što u nedostatku finansija i osoblja otežava konzervaciju i restauraciju tradicionalnih sakralnih drvenih građevina. U radu su prikazani osnovni podaci o ovoj vrsti građevina s najznačajnijim pojedinostima karakterističnih primjera.

SUMMARY

WOODEN SACRAL OBJECTS IN BOSNIA AND HERZEGOVINA

*Naida ADEMOVIC
Azra KURTOVIC*

Sacral buildings, mosques with wooden minarets and chapel churches, Orthodox and Catholic churches, represent cultural heritage, and are representatives of wood structures in Bosnia and Herzegovina, which are not only interconnected but also connected with residential architecture, making them even more interesting. These structures were for a long time neglected and placed on the margins to be forgotten. Sacral objects with wooden features retained common housing elements on one hand and the diversity is reflected in their specific characteristics. It is undoubtedly that natural influences and the human factor on wooden structures require constant monitoring and maintenance, which in the absence of finance and personnel makes it difficult to conserve and restore the traditional sacral wooden structures. This paper presents the basic data on this type of construction with the most significant details of characteristic examples.