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Bosnian Chardaklia House: Mara Popovic's House in Gracanica

Ahmet Hadrović*

Faculty of Architecture, University of Sarajevo, Sarajevo, Bosnia and Hercegovina

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***Correspondence:** Ahmet Hadrović, Faculty of Architecture, University of Sarajevo, Sarajevo, Bosnia and Hercegovina. E-mail: ahmeth@af.unsa.ba

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Abstract

Mara Popovic's house in Gracanica, although built in an urban setting, seems to belong to the classic solution of a three-tract bosnian house chardaklia. The house was built in the city district named Varos on a gently sloping terrain with southern exposure.

The house was erected (1840) by a father-in-law, Mara Popovic, who lived in this house until her death, after which the property changed several owners.

Today, this house is owned by the Municipality of Gracanica, and is used by the well-known association “Gracanicko keranje”, which nurtures the tradition of making indigenous handicrafts from the Gracanica area – “keranje”. Due to its exceptional architectural, historical and environmental values, this house is included in the list of national monuments of Bosnia and Herzegovina.

According to its spatial concept, construction and materialization, long-term use and its present purpose, the house is an example of traditional and bioclimatic architecture of Bosnia and Herzegovina.

Introduction

The Bosnian chardaklia house is one of the most authentic and representative examples of traditional architecture of Bosnia and Herzegovina, reflecting the complex natural and social environment which with its architectural and spatial solutions, construction and materialization, flexibility and openness for long-term use (once and through four generations), both by the client and its immediate creator. It is the home of wealthy people who live in the countryside but are firmly attached to the city with their jobs and overall lifestyles [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12].

Unlike the oriental-type city house in Bosnia and Herzegovina [10], which, due to the fact that it is a „city“, was exposed to socio-cultural influences by other (Oriental) civilizations, the Bosnian chardaklia house is an expression of an authentic natural and social environment of Bosnia and Herzegovina. As Bosnia and Herzegovina is a complex multireligious, multiethnic and multicultural society [2, 3, 4], the Bosnian chardaklia house emerges as a common denominator for all these differences, often to such an extent that one does not notice from which of these identities the house in question belongs. Valuable examples of this house can be found in the three largest ethnic groups - Muslims (Bosniaks), Catholics (Croats) and Orthodox (Serbs).

The Bosnian chardaklia house evolved from the house of cattlemen, that is, from the dwellings of seasonal mountain settlements (katuns) which can more or less (today) be found on the mountains of the

Dinaric massif (Bosnia and Herzegovina, Serbia, Montenegro) [6, 7, 8, 9, 11]. One of the basic features of the bosnian chardaklia house of the is its spatial development vertically, in the basement-ground-floor (chardaks) scheme [11].

In addition to this fundamental feature, over time, several types of bosnian chardaklia house became known, which can be linked to the specificity of the natural and social environment of Bosnia and Herzegovina [11]:

a) Two-tracts (2 Tr),

b) Three-tracts houses (3 Tr),

c) Central House Solution (CHS).

Mara Popovic's house in Gracanica, although built in an urban setting, seems to belong to the classic solution of a three-tract bosnian house chardaklia. The house was built in the city district named Varos on a gently sloping terrain with southern exposure (Figure 1).

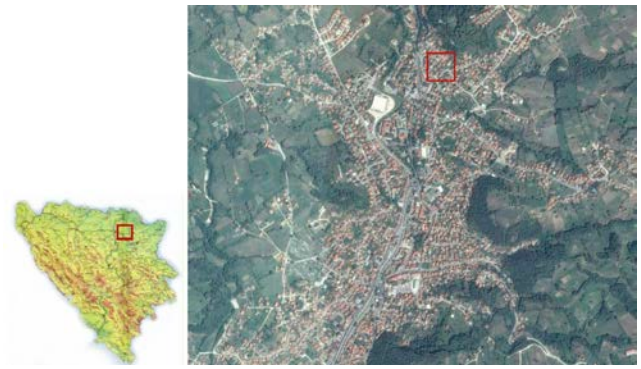

Figure 1: Mara Popovic's house in Gracanica; Location, Geographical coordinates: 44º42'41.02"N; 18º18'42.93"E; Elevation: 217 m (Source: Google Earth, Accessed: 03/01/2020)

Spatial-shape characteristics of the house

The Mara Popovic's house in Gracanica, according to the layout of its horizontal plans, belongs to the type of three-tract bosnian chardaklia house, which is vertically developed through the basement, ground floor and first floor (Figure 2 and Figure 3).

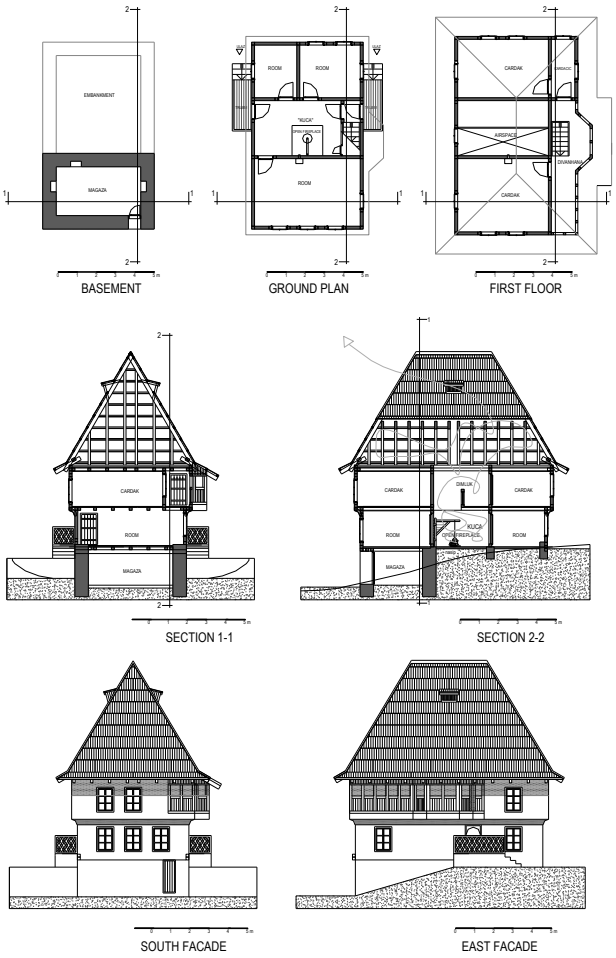

Figure 2: Mara Popovic's house in Gracanica. House layout

The house has been reconstructed and refurbished several times since its construction (last time in 2014). Much of its authentic physical structure is preserved (The Commission to Preserve National Monuments of Bosnia and Herzegovina, by its decision no. 06-6-94/03-1, from 10/7/7/2003, declared the Mara Popovic house in Gracanica a national monument of Bosnia and Herzegovina).



Figure 3: Mare Popovic's house in Gracanica; Left: Southeast view of the house; In the middle: view of the house from the east; Right: view of the house from the west.

The basement is arranged just below one, the far, basement tract of the ground floor house. It houses the main pantry of a household where more durable foods are stored. Given that the perimeter walls of the basement are made of stone, the temperature of its space is stable throughout the year (Figure 2 and Figure 4).



Figure 4: The space of the former storeroom has been adapted into a modern kitchen

The central ground floor tract is the core of the entire facility, both in its function and in its role in maintaining the cryptoclimate of the entire building. This tract is accessed from the two sides of the building, which is mainly a feature of the bosnian chardaclia house (Figure 5).



Figure 5: Left: gradation of plans. Right: Ground floor space of "house" („kuća") from which ground floor space is visible

This tract is a living room - a "house" ("kuća") with an open hearth and central communication from which it is accessible to all other rooms of the house. The space of this tract is open to the roof, whereby smoke from the open hearth freely reaches the wooden roof structure and cover, and to all surfaces of the rooms oriented to this tract. Smoke plays a key role in the traditional functioning of the bosnian chardaklija house as it acts as a protective agent against insects and rot.

Along one of the two entrances to the ground floor level, a windshield with a wooden staircase ("basamaci") is arranged, which is accessed on a part of the floor - into chardaks (Figure 6).



Figure 6: Left: view from the stairs to the divanhana space upstairs. Right: view from divanhana to access wooden staircase

In one of the two end tracts a large room is arranged and in the other two smaller rooms (Figure 7).



Figure 7: Arrangement of a large room. New elements incorporated into the preserved authentic elements of the physical structure of the home

The staircase is first accessed into the space of a loggia (divanhana). In the case of Mara Popovic's house, divanhana is particularly spacious, which, given the fact that the house was built in the city, is reminiscent of a "kamerija" solution in an oriental-type city house in Bosnia and Herzegovina , (Figures 8., 9. and 10.).



Figure 8: Left: divanhana space. Right: view of doxat divanhana from divanhana space



Figure 9: Left: view of doxat divanhana and entrance door to chardak; Right: view from the door of the small chardak to the divanhana space



Figure 10: View from the divanhana to the street

From the divanhana space it is accessed in two chardaks, a large one (above the large room on the ground floor), (Figure 11) and one small chardak, while the other small chardaks (in the original solution of the house) is accessed from the gallery from the air space of the central tract [10]. After the last renovation of the building (2014), the entrance from the gallery to one small chardak was closed, the barrier between two small chardaks was removed and an entrance hall was added with access from the divanhana to the (now unique) chardak (Figure 2).



Figure 11: Arrangement of a large chardak

Construction and materialization

The original design of the Mara Popovic's house, in its construction and materialization, used natural materials from the immediate natural environment: stone, wood and earth. The perimeter walls of the basement are made of stone (70 cm thick), and the walls of the ground floor and the first floor are made of wooden bondruck with a adobe (ćerpič) fill. The roof structure and cover are made of wood [13]. The mortar used was of loam with the addition of straw and chaff (Figure 12).



Figure 12: Left: the spatial-structural assembly of the house. Center and right: details of the structural assembly

The basement-ground and ground-floor ceiling structures are made of wooden beams at a distance of about 80 cm. In the basement-ground floor structure, thick wooden floors (7 cm thick) were installed on their upper sides, which were the final treatment of the basement ceiling. The ground floor- first floor ceiling structure is more complex: on the upper side of the ceiling beams is a floor made of wooden floors (5 cm thick), and at a certain height of the beams the ceiling is made of finely trimmed wooden boards (Figure 13). Between the floor and the ceiling is a loam embankment (with the addition of straw and chaff) that had the function of acoustic insulation [14].



Figure 13: Left and center: Ceiling structure basement ("magaza") - ground floor, basement space. Right: a wooden beam in the ceiling where the bulkhead between the two chardaks originally stood

The roof structure, visible from the central tract ("kuća" with open hearth) and the cover are made of wood (Figure 14). In the original design of the house, the smoke generated from the open hearth played a key role in maintaining the stability of all the wood elements, that is, on the aggressive effect of insects and rot.

In the last renovation of the building (2014), a cement mortar was used for grouting the basement walls and an extension mortar in plastering the interior and exterior wall surfaces of the ground and first floors.



Figure 14: Left: fully preserved, authentic roof construction. Right: staircase to exit the garret space

Doors and windows

The doors and windows of Mare Popovic's house, both in its original design and in its most recent renovation, are made of wood. In doing so, the new doors (Figure 15) and windows (Figure 16) made during the adaptation followed the design of the original solutions, with the former single glazing being replaced by double ("thermopan") glazing. Given that the original doors and windows of the house have not been preserved, we cannot speak of their craft and artistic value here.



Figure 15: Left: replica of original door (on large room). Center and right: original door replica (on small room)



Figure 16: Left: The new window follows the design of the original window solutions. Right: view out the window to the lobby of the house

Surface treatment

The interior and exterior surfaces of the walls are plastered, both in the original and in the home renovation solution. The interior surfaces are finished with lime milk, while the exterior surfaces are painted white with facade paint. The white walls, both in the interior and in the exterior, are in particularly pleasant contrast to the natural color of the wood (Figures 3. and 5). As mentioned, all ceilings are made of wood. Original ceilings were preserved in all rooms of the house (Figure 17).



Figure 17: Left: wooden ceiling in a large chardak. Right: preserved authentic wood ceiling in the chardak (where there used to be two chardaks)

The floor coverings in all rooms of the ground floor and first floor, in the last two tracts, are made of wooden flooring, which, as a rule, stretched bosnian woolen carpets in such a way that they covered part of the floor area while the rest of the floor was visible. The carpets, in a certain way, emphasized the main part of the floor surface with the highest concentration of functions (Figures 7, 10, 11 and 12.). The floor in the central tract ("house"-"kuća" with open hearth) is made of compacted earth with the addition of horsehair as reinforcement.



Figure 18: Wooden flooring as one floor finish in one chardak. Locally, this floor was called "bare floor" ("goli pod")

The present condition and purpose of the house. Perspectives

Today, the Mara Popovic's house in Gracanica is home to the association "Gracanicko keranje". Although, as a whole, the original disposition of the building has been preserved, some earlier rooms have been renovated and given a new function (for example, a small room on the ground floor has been adapted to a modern toilets).



Figure 19: Left: the original round table (sinija, sofra) still has the same function today; Right: renovated (preserved) authentic brickwork oven with ceramic "pots"

Interior design during the renovation of the house follows the spirit of the original interior of the house, where you can see the elements of the original equipment (mattresses on the floor, swing for baby, wooden chests – “sehare”, decorative linen weave, for example), but also modern elements - hand-made works of the “Gracanicko keranje” association (Figures 19, 20, 21, 22, 23, and 24).



Figure 20: Left: the handicrafts of the “Gracanicko keranje” association decorate the space of the house. Right: original treasure chest (“sehara”)

It seems that the new purpose of the Mara Popovic's house in Gracanica is the best solution for the preservation of this national monument of Bosnia and Herzegovina, which may qualify for its “active protection”.



Figure 21: The handicrafts of the ""Gracanicko keranje” association supplement the original used objects in the house



Figure 22: The handicrafts of the “Gracanicko Keranje” association supplement the original equipment in the house (baby bed - “bešika”). Right: in the place where the small room used to be (also used as a utility room), a modern toilets



Figure 23: In one of the chardak (accessed from the gallery in the original version of the house) were set up authentic “stanovi” for weaving canvas, rugs and various rugs



Figure 24: The artistic creations of the “Gracanicko keranje” association have places in every corner of the house

Bioclimatic principles of construction

The Mare Popovic's house in Gracanica is an example of traditional bioclimatic architecture of Bosnia and Herzegovina. The principles of bioclimatic architecture are reflected in the following [12, 15]:

1. The building is located on a sloping terrain with southern exposure,

2. The basement is partly buried in the terrain, ensuring its storage function with a constant temperature (during all seasons),

3. Natural materials used on site are used in all construction elements, with a location in the building that corresponds to their best features,

4. Disposition of the object (horizontal and vertical plan) ensures the function of a central space with an open hearth as a space that provides natural ventilation of the object (good cryptoclimate) and protection of all elements of the object made of wood against the aggressive action of insects and moisture,

5. Heating of individual rooms and chardaks is ensured by masonry stoves, using wood as firewood, whereby the smoke generated in them is released into the central space (“dimluk”), which to some extent additionally warms the rooms (“heat recovery”) and protects the wooden elements of the physical structure of the object,

6. The spatial concept of an object allows it to be used as a single and two-family house (flexibility of architecture),

7. The new purpose of the house is an example of the “active protection” of cultural and historical heritage.

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