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# The Bosnian Chardaklia House: The Ejubovic Family House in the Poljice Village Near Tuzla

# **Ahmet Hadrovic**

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

Corresponding Author: Ahmet Hadrovic

# Abstract

The bosnian chardaklia house occupies a prominent place in the wide array of bioclimatic architecture in Bosnia and Herzegovina. With regard to its spatial organization, construction, materialization and equipment of its interior spaces, the bosnian chardaklia house is the most authentic expression of the natural and social environment of Bosnia and Herzegovina and the complex phenomenon of its man and his primary social community - the family. Built from natural materials taken on site, carefully situated in the natural environment, designed according to the conditions of the natural environment, this house is an example of bioclimatic architecture. In the wide range of her architectural-spatial solutions, her most developed type anticipates the 'family in its growth and development', from numerous 'nuclear' families to several families 'under one roof' derived from the nuclear family.

The Ejubovic family house in the Poljice village near Tuzla, in terms of its spatial organization and equipment, is a transitional form from the typical bosnian chardaklia house to modern concepts of the spatial organization of family houses in Bosnia and Herzegovina. In this sense, it is a good example for following the evolution of family houses in Bosnia and Herzegovina, from archaic solutions to modern houses.

Keywords: Bosnian Chardaklia House, Poljice Village Near Tuzla, Ejubovic Family

### 1. Introduction

The Ejubovic family house in the Poljice village near Tuzla is located on a gentle slope of southeastern exposure (Geogtaph coordinates: 44°28'17.71"N, 18°29'28.31"E, Elevation: 248 m), (Fig 1). The house was built in the middle of the 20th century by Mr. Mehmed Ejubovic<sup>1</sup>.



Source: https://slidetodoc.com/regionalna-podjela-bosne-i-hercegovine-geografske-regije-bosne/ (left) Google Earth: Accessed 7/6/2022 (right)

Fig 1: The Ejubovic family house in the Poljice village near Lukavac. Location

<sup>&</sup>lt;sup>1</sup> The author visited this house on  $\frac{6}{4}$  (2016. The hosts and informants were the owners of the house.

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**Source:** Author (6.4.2016.)

Left: View of the house from the southwest direction, Middle: View of the house from the northwest direction, Right: View of the house from the southeast

Fig 2: The Ejubovic family house in the Poljice village near Lukavac

The bosnian chardaklia house is, above all, the house of rich people in the countryside. It is, on the one hand, firmly rooted in the tradition of folk architecture, but it also has elements of a town house as a transitional form from purely folk architecture to the solution of a town house where the influences of other, often geographically distant cultures and solutions are visible <sup>[1,2, 3,4,5]</sup>.

The house he designed and built, in which he lives in the complexity of his overall being, is the most concrete tangible image of a man, his family, and the wider and wider community in which he lives (Fig 2). By getting to know the bosnian chardaklia house, one can also get to know those dimensions of the Bosnian human being that are not directly written about here [6, 7, 8, 9, 10].

### 2. Spatial-shape characteristics of the house

The Ejubovic family house in the Poljice village near Lukavac, according to the disposition of its horizontal plan, belongs to the type of two-story bosnian chardaklia house, which is divided vertically through the basement, ground floor and first floor <sup>[5]</sup> (Fig 3). The terrain on which the building is located is slightly sloping, drained and geologically stable, so the foundations were made very reduced: stones in a discontinuity over which goes a beam that follows the slope of the terrain. This is a bold and very rare way of foundation, since the foundation beam (wedding frame) is not in a horizontal position [A similar method of foundation can be seen at the much older the Camdzic family house in Puracic near Lukavac].



Source: Author (Drawing, 2016.)

Fig 3: The Ejubovic family house in the Poljice village near Tuzla. Disposition

The basement is a storage space and is developed only under one tract of the base of the ground floor. As the basement is not dug into the ground, its walls are entirely made of a wooden skeleton (massive oak columns) and filled with adobe. In order to ensure a satisfactory light height of the basement without its sinking into the ground, the ground floor level was raised from the ground by several steps, and the access area (which was developed only on the ground floor level) was placed on dotted supports (short concrete

### columns), (Fig 2).

From the entrance area of the ground floor (in one part of which there is a convenient storage room, the 'hujera') you can access the vestibule with a staircase ('hayat') to which the two rooms are oriented (Fig 4). A single-legged wooden staircase leads to the first floor, to the divanhana area, to which the two conservatories are oriented (Fig 4, 5, 6, 7, 8, 9).



Source: Author (6.4.2016.)

Left: Hayat with a staircase to the first floor and entrances to two rooms, **Right:** One-legged wooden staircase (basamaci) Fig 4: The Ejubovic family house in the Poljice village near Tuzla. Entrance hall (hayat)



Source: Author (6.4.2016.)

Left: View of the staircase from the sofa level, Right: A chest in the corner of the sofa

Fig 5: The Ejubovic family house in the Poljice village near Lukavac: a staircase with a hall on the first floor of the house ('remembering' the solution of the 'divanhana')



Source: Author (6.4.2016.)

Fig 6: The Ejubovic family house in the Poljice village near Lukavac: hall on the first floor of the house ('remembering' the solution of the 'divanhana')

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Source: Author (6.4.2016.)

Fig 7: View of the hall with the staircase from the small chardak



**Source:** Author (6.4.2016.)

**Fig 8:** The space of the large chardak



**Source:** Author (6.4.2016.)

Fig 9: The space of the small chardak

### 3. Construction and materialization

The structural structure and materialization of the Ejubovic family house in the Poljice village near Tuzla is 'visible' and 'readable', viewed from the exterior and interior (Fig 10, 11), done in everything according to the principles of traditional-bioclimatic architecture.

The foundations of the house are made of stones placed pointwise according to the floor plan contour of the house. A massive foundation beam made of oak wood was placed on the stones, in a position that follows the slope of the terrain (Fig 10). Oak wood columns are placed on the beam, and on them, according to the contour of the base of the house, double wooden beams (wedding rings) made of oak wood (Fig 10). The construction of the 'sycamore' walls is arranged as a skeleton in the plane ('bondruk') with filling of blocks made of adobe ('cerpic').

The walls of the ground floor and first floor are made of a wooden skeleton ('bondruk') with adobe ('cerpic') blocks. The walls are plastered, both inside and outside, with plaster of the same material from which the adobe blocks were made (loam with the addition of straw and chaff sawdust), (Fig 2, 11).



**Source:** Author (6.4.2016.)

Fig 10: Foundations of the building: stones in a discontinuity and an oak beam that follows the slope of the terrain



Source: Author (6.4.2016.)

Fig 11: Wall construction: wooden skeleton ('bondruk') and adobe filling

The basement-ground floor, ground-floor-floor and floorattic ceiling structures are made of wooden beams (at a distance of 80-100 cm) and wooden floors about 7 cm thick (Fig 12, 13, 14). The floor-ceiling ceiling construction also has a layer of compacted soil (placed on wooden floors, on the side of the ceiling) with the addition of sawdust, straw

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and chaff. In this way, the thermal insulation of the rooms on the first floor towards the attic is ensured.



Source: Author (6.4.2016.)

Fig 12: Ceiling in the room, ground floor



**Source:** Author (6.4.2016.)

Fig 13: Treatment of wall and ceiling surfaces in a small room, ground floor



Source: Author (6.4.2016.)

Fig 14: Ceiling in the large room, ground floor

The roof of the building is hipped, with a relatively small slope, with a wooden structure and a roof made of tiles. The construction of the roof is of the 'rafters with crossbar' type (Fig 15). The attic space is also a suitable storage for some foods (smoked cheese, smoked meat) as well as nuts, hazelnuts and dried fruits.



**Source:** Author (6.4.2016.)



#### 4. Doors and windows

Opening elements are of various designs, from archaic solutions to 'more modern' solutions (). The doors in the basement ('magaza') are made according to the patterns of traditional, 'archaic' solutions: the door jambs are powerful oak columns, and the door leaf is made of thick oak planks. The interior doors were made according to the 'modern' design - in accordance with the time of the 50s of the 20th century, and the design of one of the doors visibly follows the archaic design (Fig 16).



**Source:** Author (6.4.2016.) Doors to the basement (left) and to the big chardak (right)

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Source: Author (6.4.2016.) Entrance door on the ground floor of the house (left) and on the rooms (chardaks, in the middle and right)

Fig 16: Different door designs

Window design follows the solutions of 50 years of the 20th century in Bosnia and Herzegovina. The windows are double, double-hung and triple-hung, with single glazing

(Fig 17). Particularly interesting are the 'ventus wing' ('oberlicht') windows, which are particularly effective for room ventilation.



Different window designs



Windows on the first floor (on the chardaks)



Source: Author (6.4.2016.) Windows on the ground floor

Fig 17: Different window designs

# 5. Surface treatment

The internal wall surfaces were finished with milk of lime with a barely noticeable addition of blue pigment (Fig 18). The floors are wooden talpa, covered with 'bosnian carpets' and woven strips of wool or canvas ('struke', 'zatke'). The ceilings are made of wood ('shishe'), with finely polished beams and boards (Fig 18, 19, 20).



Source: Author (6.4.2016.)

**Fig 18:** Treatment of the surfaces of the big chardak



Source: Author (6.4.2016.)

Fig 19: Ceiling in a small chardak



Source: Author (6.4.2016.)

Fig 20: Wooden floors in one of the chardaks

# 6. Space equipment

In principle, the spaces of the bosnian chardaklia house are 'empty': the main rooms (living room, chardaks) have a multipurpose purpose where their current function is determined by the 'activation' of the equipment located in the corner of the room (folded bed linen, round low dining table - blue...). Each chardak (primarily bedrooms) must have a small 'shower cabin' ('banjica'), which, in addition to general hygiene requirements, is a reflection of religious requirements (Fig 21). Among the standard elements of the equipment is a sofa for sitting (minderluk, in the living room), a large chest (in some parts of Bosnia and Herzegovina it is called 'barn'/'hambar') for flour, smaller chests ('sehara') for storing household valuables, wall shelves (rafi) for keeping dishes, household utensils, books...), (Fig 18, 22).



Source: Author (6.4.2016.) Fig 21: Spa/'banjica' in a small chardak



Source: Author (6.4.2016.)

Fig 22: Wooden chest ('sehara') in the area of the mutvak with the entrance to the house

### 7. Current condition and purpose of the house

The Ejubovic family house in the Poljice village near Tuzla is today in a preserved state and it seems that it needs some work and resources to bring it to the state in which it was just built. This house has hidden embodied values that need to be revealed, since its materialization (wood and adobe) are not 'permanent materials' as one thinks of stone and concrete, for example.

This house is a masterpiece of folk architecture that deeply knows and respects nature, materials and their constructive assemblies, and the interaction of nature and human creations in it. The future of the house depends on the owner. Given that the current owners have built new houses, it seems that this house (similar to many examples of houses in Bosnia and Herzegovina) stands for possible housing needs, and above all as a sign of family continuity.

## 8. Conclusion

The Ejubovic family house in the Poljice village near Tuzla is an example of a traditional bosnian chardaklia house and an example of bioclimatic architecture. Features of the bioclimatic architecture of this house are:

- Construction and materialization of the house, where traditional construction methods and many years of experience are used and the use of all materials from the immediate natural environment. This house looks like a 'natural, man-made environment' <sup>[12]</sup>;
- Ensuring comfort in the house (in all seasons) is achieved by an adequate spatial concept of the house, the materialization of its envelope and the use of energy from the immediate environment (firewood) <sup>[12, 13]</sup>; the 'low air space' in the ground floor floor is particularly interesting, which 'cools' the ground floor space in the summer, and 'heats' it in the winter (when its ventilation is disabled); the attic space is a large 'winter pantry' (where dry cheese, dried fruit, nuts, smoked meat are stored), and from the aspect of architectural physics it is a 'buffer zone' that functions as a 'heat-insulating air cushion' both in summer and winter; the envelope of the building has relatively high thermal insulation and a stationary flow of water vapor <sup>[14]</sup>;
- Recycling of generated waste in the house (for example, the remains of human food are part of the diet of domestic animals);
- Use of rainwater for watering vegetables;
- 'The embodied spiritual energy of the house' (memory of childhood, parents and relatives, important family events) relaxes people and makes them especially convinced of their loyalty to their ancestors. By stacking material artifacts from different time periods, the house of the Ejubović family became a 'family museum'.

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