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# NATURAL RESOURCES AND TECHNOLOGY

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## TYOLOGY OF HOUSING UNITS IN THE REGION OF OHRID

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### Abstract

The rural typology of the settlements in Ohrid is usually of a compact type, placed in flat or hilly areas. The settlements in the hilly areas are formed according to the configuration of the terrain, usually within a steep terrain (the villages of Ramne, Velestovo, Racha). The location of the settlements was created according to the needs of the newly settled families at the period. It was necessary to have arable land in the surrounding area, to satisfy the needs of the occupation of the families, for example for fishing (the villages of Peshtani, Trpejca, Konjsko, Ljubanishta), for agriculture (the villages of Lakocheraj, Orman), livestock farming (the villages of Velestovo, Ramne) etc. The families carried with them certain traditional beliefs regarding the shape and size of the house, and with that a certain appearance of the settlement was formed. The surrounding landscape dominated, with the forest areas that were in the immediate vicinity of the settlement, comfortable conditions were created for the life and prosperity of the families.

At the end of the 18th century, the settlements were small, with a small number of houses while in the 19<sup>th</sup> and 20<sup>th</sup> centuries, new families settled more intensively in the area. There was visible increase in the number of houses and the number of the population.

**Key words:** *rural settlements, housing typology, Ohrid region, steep terrain.*

### INTRODUCTION

The settlements in the Ohrid region are mostly of compact type with variable sizes of yard area. In the steep settlements and sub-mountain belts (the villages of Ramne, Velestovo, Skrabatno) they have a small yard area, which is mostly used for the organization of a garden, farm buildings (oven, barn, etc.) and for the economic needs of the family, while in the flat areas the settlements have arable agricultural land in the immediate vicinity of the houses (the villages of Upper Lakoceraj, Lower Lakoceraj, Velgoshti, Orman, Vapila, Leskoec).

According to the density of the houses in the settled area, the age can be determined. The older dated settlements have a denser position of the houses (the villages of Peshtani, Trpejca), while the settlements with a less dense arrangement of the houses have a more modern concept; as a result, a greater distance was left between the houses. The division of the territory into neighborhoods was practiced, where an open space was arranged in the middle of the settlement-called the middle of the village. The names of the neighborhoods were determined according to the groups that settled.

According to the size of the population in the settlements, the number of the population changes at the end of the 20<sup>th</sup> century, that is, in the villages with a plain terrain we have immigration; Velgoshti (pp. 2200) Dolno Lakocheraj (pp.650), as well as the lake settlements Peshtani (pp. 1400), Trpejca (pp. 360), while in the sub-mountainous settlements there was a tendency to reduce the population; Velestovo (pp.1100) Konjsko (pp.590) Kosel (pp.650) Vapila (pp.125) ) Ramne (pp.590), Ljubanishta (pp.185), Zavoj (pp.41), Openjca (pp.104), Kuratica (pp.417) [1]

In the beginning, ground-floor houses with several rooms were built, according to the family's capabilities and conditions. This type of ground floor houses was built until the beginning of the 20th

century, when the economic power of the Christian population increased and houses with a ground floor and a floor were built.

At the same time, the settlements developed in a certain continuity according to the economic conditions and the migration of the population from the rural settlements to the city. In that way, the traditional way of building the houses was abandoned, along with the application of modern materials, the shape and external appearance of the houses changed. [1]

### Typology of housing units

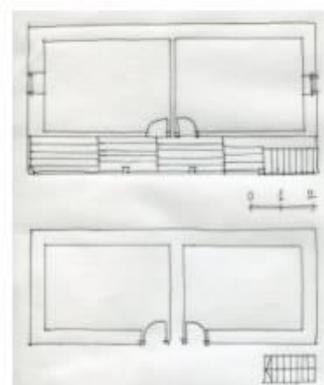
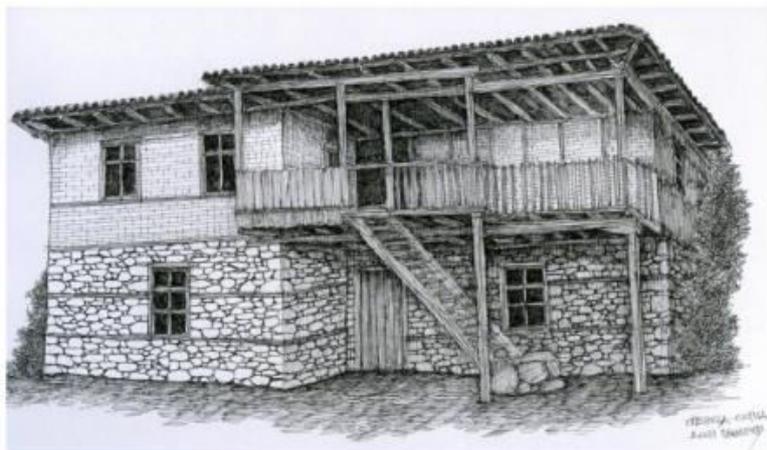
The great variety of house models that were built in this region creates the possibility to define certain specific typology, which could be called characteristic of the settlements. However, according to the number and representation of certain forms that are repeated in the largest number, we can single out several characteristic models of houses. [2]

#### Houses with ground floor, with an open veranda (village Kosel)

Houses with a ground floor and a first floor, where the veranda<sup>1</sup> is represented on the largest part of the base, is the most common model of spatial layout, which is clearly reflected in the external appearance. The veranda is open because of the mild climate, but also because of its function as a space that connects all the other rooms. The ground floor is mostly closed, with auxiliary rooms for storing food and household items.

The spatial organization of the floor contains a spatial solution, usually with a central corridor or loggia (open with a balcony or closed), which on the front facade ends with a balcony covered with a pediment construction, open or closed. In addition to this spatial dimension, when the surface of the loggia is dominant on the floor, as part or along the entire width of the front facade, then an open concept is created, with the greatest influence from the size and shape of the loggia. [3]

The structural system is implemented on the ground floor with a stone wall, while on the first floor, depending on the size of the veranda and its floor, the two structural systems are combined with the skeletal wooden structure. This model is the most widespread in all regions and, more broadly, in the areas of the Balkans in the same time period of the 19th century. The house with the most common open porch called - chardaklia, has the greatest impact and was the most common type of house in the region [2].



<sup>1</sup> Veranda-a type of bay window which projects from a wall.



**Figure 1.** Ground floor houses of a closed typology, without a veranda (oriel, open space on the floor) (Zavoj, Gorno Lakoceraj, Dolno Lakoceraj)

While forming the structural system, the complex spatial content of the house was realized, where the openings and reinforcements of the structure were formed in the same construction process. At the same time, a certain influence is felt by the large number of builders who transferred certain experiences from other regions. Regarding the decoration of the exterior of the house from the region, a modest applied treatment of certain structural elements is defined, the saddles at the junction between the wooden columns and beams that have, in addition to the constructive role of strengthening the skeletal system, a decorative role too. Openings with correct geometric shapes are also applied to the wooden fence of the veranda, along its entire length (Dolno Lakoceraj). Certain modest decorative incisions with a certain rhythm are applied during the processing of the eaves, the wooden elements of the windows, doors, bay windows, etc. [4]

According to the shape and position of the loggia, we can define: 1.1. a house with a lateral loggia (Kosel, Kuratica, Livoišta, Openica, Ramne, Skrabatno, Zavoy, Dolno Lakoceraj), 1.2. a house with a central loggia (Kosel, Kuratica, Rasino, Skrabatno, Vapila, Zavoj, Dolno Lakoceraj, Orman and 1.3. House with wooden beams along the entire width (Kosel, Kuratica, Livoišta, Openica, Ramne, Rasino, Skrabatno, Vapila, Velestovo, Velgoshti, Dolno Lakoceraj) (Figure 1).

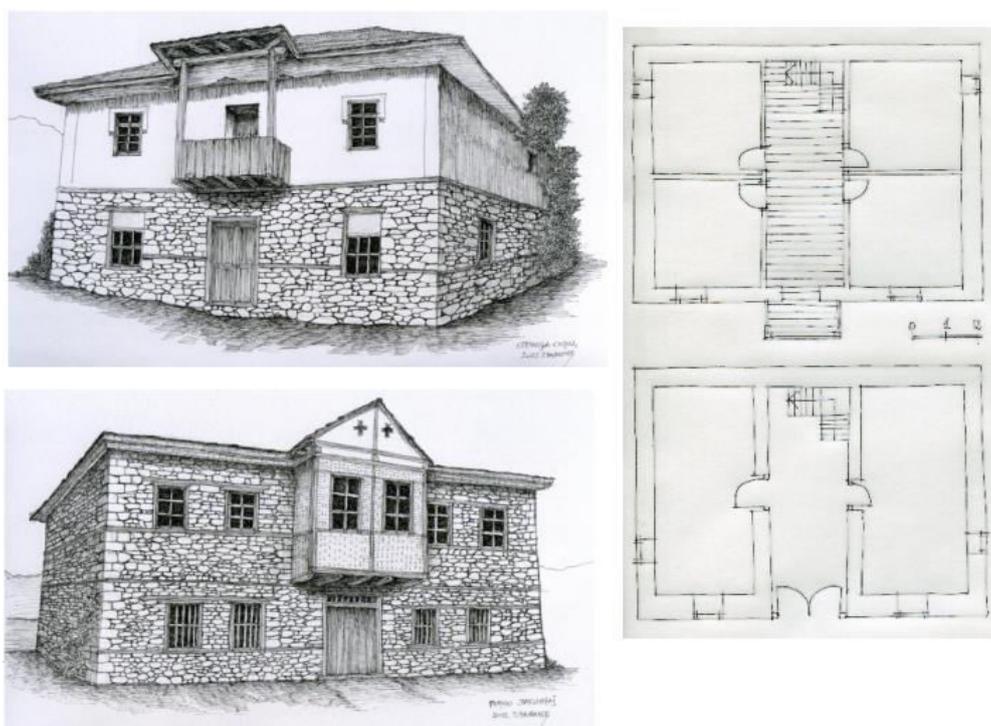
This type of dwelling represents the simplest spatial concept consisting of several rooms, which are necessary for the purpose of living. Although they were built in the period of the first half until the middle of the 20th century, they still have a modest setting.

### **Closed type of house with and without a central balcony**

The construction of the house has common features of a country house of the same period in the surrounding area. Most often, a stone wall is placed on a base of stone foundations, mostly on the back side, while the other external walls are formed with a light bonded construction, filled with slabs, and coated on the outside with a mixture of mud and straw. The covering is usually with a four pitched roof, with roof tiles as a cover. The spatial content is placed in one unit, in a symmetrical arrangement with a central corridor on both sides.

This type of a closed spatial construction system represents an initial and a simpler type of dwelling, where the family's economic position and modest needs are dominant. Often this type is associated with one of the initial forms of dwellings that were built in the 19th century, and which were later developed according to the growing needs and understandings for a more suitable form of house in the region. Most often in the spatial organization, only the ground floor is used, while later on the first floor a balcony is built, which is an extension of the space of the closed loggia.

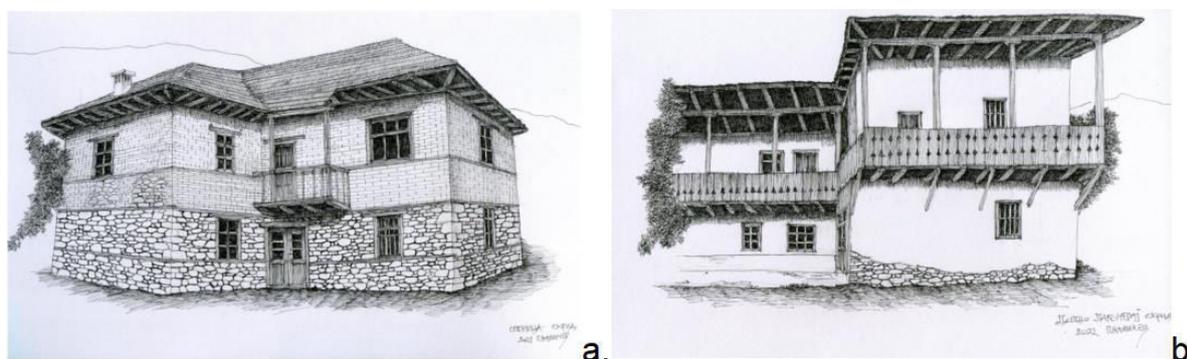
According to the shape and position of the porch we can define: Figure 2-a. Closed type house with a central balcony and tympanum (Kosel, Kuratica, Openica, Vapila, Zavoj, Gorno Lakoceraj, Dolno Lakoceraj, Orman). 2-b Closed type house without a balcony and a veranda (Kuratica, Ramne, Zavoy, Dolno Lakoceraj, Orman).



**Figure 2.** a) Closed type house with a central balcony and tympanum (Kosel, Kuratitsa, Openica, Vapila, Zavoj, Gorno Lakoceraj, Dolno Lakoceraj, Orman). b) Closed type house without a balcony and a veranda (Kuratica, Ramne, Zavoj, Dolno Lakočeraj, Orman).

### House with an open loggia with an L-shaped base

According to the shape of the base of the house, we can define *Figure 3.a.* House with an open loggia with an L-shaped base (Kuratica, Openica, Rasino, Zavoj, Dolno Lakočeraj, *Figure 3.b.* House with a loggia along the entire length (Dolno Lakočeraj)



**Figure 3.** a) House with an open loggia with an L-shaped base (Kuratica, Openica, Rasino, Zavoj, Dolno Lakočeraj, b) House with a loggia along the entire length (Dolno Lakočeraj)

The type of house which basically has the shape of the letter L, represents a house that was built at the beginning until the middle of the 20th century, as a reflection of the influences from other regions and an adjustment to modernize the rectangular shape of the spatial organization of the base with the overall appearance of the facade of the house. At the same time, this improved the building procedures and additions to the basic form of the house, adaptation to the conditions of the location, and the use of new current building materials (ceramic tiles, additional stone processing, new building materials and techniques).

All the listed types of the spatial organization of a house have their own chronology of development, which is related to the real needs and possibilities of a community or family. The transformation of the space is also realized according to the current changes in the family where individual members form their own separate family. Thus, in the context of the current needs of the period in which the houses were built, they have a certain mark, which is recognizable not only in the applied spatial organization and the use of a certain construction system, but also in the external appearance of the facade, i.e., the structure of the materials used. [5]

The initial conception of the dwellings started from the local needs of the population, which dominated in addition to the structure of the family community and the availability of building materials. Natural resources are related to local deposits of stone, the quality of forest landscapes, where wood is used as a building material, as a basis for the construction concept of the building and the quality of the structure of the earth, which is incorporated in the construction in several ways (binding agent, coating, filling, additional treatments, etc.)

At the same time, the concept of a dwelling gets a different plan according to certain elements of tradition, as well as the overall form of the building. The model of the size of the residence was constantly changing in order to follow the current needs of the population. However, despite great possibilities, we cannot talk about a greater representation of a certain house model without mentioning all the factors that influenced the architectural construction form. [5]

The climate factor has a relatively large influence, in a region where there is a lake in the immediate vicinity as a body of water, which affects the climatic and natural specifics, up to the hilly forest areas, and Galichica, which creates a landscape favorable for the creation of settlements, economic structure of courtyards places, with auxiliary facilities, as well as integration into the surrounding landscape. [6]

However, when choosing the construction system and the applied materials, in addition to the local conditions, the dominance of stone still prevails during construction, mostly on the ground floor, where part of the floor is built in a skeleton-bond system. The veranda as a more functional space, open most of the time, has adapted to the tradition of its use, but also to the climate of the region. The veranda is less often closed on the first floor, as a space for communication with the other rooms.

The surrounding landscape, where stone is the dominant available building material, affects especially the construction of the ground floor of the house and its connection to the foundation, due to the longevity of the construction. Different types of stone are used, with a solid structure (granite, river, lake) or a weaker structure (foliage). The processing of stone is less common, it is applied in its raw form, for building the walls, bases, stairs, while in its processed form it is applied for the precise corner pieces or for certain decorative details on the facade or as part of the decoration of the entrance door or gate. In a smaller number of cases, the eaves are covered with stone slabs, over which the wooden construction of the roof rests.

The soil with certain characteristics is located in the immediate surroundings, from where it is transferred to the surroundings of the house, usually red or brown clay, which is good for further preparation. The soil is used to connect the stones in the stone wall, to fill the floors, wall surfaces on the inside and outside, etc. [7]

The wood is procured from the surrounding forests, and it is installed as the supporting construction of several levels. The wooden material used for building the houses comes from the immediate surroundings, and, according to the vegetative characteristics, the color and the structure successfully fits into the surrounding landscape.

The material used for building the houses used to be prepared according to certain previous folk knowledge and beliefs about the method of bringing the materials for cutting the trees, processing the land for different purposes, etc. [7] In this way, according to the needs of the family, the spatial layout and the construction system of the residence are defined.

## CONCLUSION

The overall appearance of the dwelling is of a closed type, with all economic and residential contents organized in one, often in two, and less often in three levels. The form of the house fits into the usual system of organization of the dwellings of the region, with minimal specific deviations, which are more the result of the ingenuity of the builders than of the significant needs of the community. At the same time, a certain model specific to the region cannot be strictly defined, under the influence of

the lake and other natural resources, but rather to adapt the existing models to certain minimal modifications, related to the specific occupation of the population.

Certain specifics of the residential buildings from the Ohrid region also apply to the houses and settlements from the Struga region, in terms of the way of building, the model of the house, the application of building materials, etc. [3]

The house in the region of Ohrid kept the new traditional values, in terms of the shape of the settlement, the way of placing the house in relation to the natural landscape, the optimality of the space adapted to the needs, while respecting the already existing forms. Several basic models were observed in the region, which were modified over time, but kept the basic concept of functionality, economy, as well as in relation to ecological materials that were taken from the immediate environment. [1]

The impression of the built environment of the region has its own line of authenticity of the choice of houses, which was formed according to certain needs and understandings of the tradition of the population. At the same time, we can define certain specifics of the local expression, where the contribution of the builders has a noticeable influence, especially on the external processing, on the selection and processing of stone and wood, which creates a certain specificity of rural houses in Ohrid.

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## ТИПОВИ НА КУЌИ ВО РЕГИОНОТ НА ОХРИД И ОХРИДСКО

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### Резиме

Руралната концепција на населбите во охридско најчесто е од збиен тип, поставени во рамничарскиот или ридскиот предел. Населбите во ридскиот предел се формирани според конфигурацијата на теренот со пад (Рамне, Велестово, Рача). Положбата на населбите се одредувала според потребите на новите населени семејства при нејзиното оснивање. Потребно било да има обработлива површина во околината, да ги задоволи потребите на занимањето на семејствата, на пример за риболов (Пештани, Трпејца, Коњско, Љубаништа), за земјоделие (Лакочерај, Орман,) сточарство (Велестово, Рамне) и сл. Семејствата со себе носеле одредени свои традиционални верувања во однос на формата и големината на куќата, а со тоа се формирал и одреден изглед на населбата. Доминирал пејсажот од околината каде со шумските предели кои биле во непосредната околина на населбата, се создавале удобни услови за живот и просперитет на семејствата.

Според густината на куќите во населбата, може да се одреди и староста, односно постарите датирани населби имаат погуста положба на куќите (Пештани, Трпејца), додека населбите со помалку густ распоред на куќите се со посовремена концепција, односно поголемо растојание се оставало помеѓу куќите. Се практикувала поделбата на територијата по маала, каде во средината се дрелуваат отворен простор - сред село. Имињата на маалата се одредувале според доселените родови во населбата. Во периодот на крајот на 18-от век населбите биле мали, со мал број на куќи, подоцна во 19-от век се населуваат поинтензивно нови фамилии, а особено после почетокот на 20-от век се чувствува видливо зголемување на куќите и бројот на населението.

**Клучни зборови:** селски населби, типологија на домување, Охридско, стрмен терен.