

## **Formation of the Mahalla System and Architectural-Planning Features in the Rural Settlements of Ancient Ustrushona (Case Study of Jizzakh Region)**

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**Abstract:** This article examines the stages of formation of the rural mahalla system and its architectural and planning characteristics in the Jizzakh oasis, which historically constituted the western part of ancient Ustrushona. Based on archaeological evidence and historical sources, the structural organization of communal settlements that emerged around “koshk” (fortified estates) during the Early Middle Ages (5th–8th centuries) is analyzed. The study reveals the patterns of adaptation of settlements located along the Sangzor River and the Arnasoy lowlands to the natural landscape, as well as the spatial relationships between key elements such as the guzar (community center), alou-khona (communal gathering space), and religious structures. The findings contribute to a deeper understanding of the architectural evolution of the rural mahalla system, which developed under the influence of socio-economic conditions and defense factors.

**Keywords:** Ustrushona, Jizzakh Oasis, Rural Mahalla, Architectural-Planning Structure, Guzar, Koshk (Fortress-House), Sangzor River, Arnasoy, Alou-Khona, Socio-Territorial Unit, Evolution

### **1. Introduction**

In the centuries-long history of statehood and cultural development of the Uzbek people, the mahalla system has developed not only as a territorial-administrative unit but also as a distinctive social institution representing national identity. In Central Asia, particularly in the territory of ancient Ustrushona, the emergence of rural settlements and the formation of a communal way of life—the establishment of the mahalla system—was a long evolutionary process. The Jizzakh oasis (Western Ustrushona) possesses a unique complexity in the architectural and planning structure of its settlements due to its geographical location at the junction of mountain, foothill, and desert zones[1].

By the 5th–8th centuries, large communal settlements of the ancient period in the territory of Ustrushona began to be replaced by smaller and larger “koshk” (castle-houses) based on private property ownership. This social transformation significantly changed the internal structure of rural settlements. The early elements of the mahalla system emerged precisely during this period, when groups of craftsmen or kinship communities began to concentrate around the fortified estates of local aristocrats[2]. Archaeological monuments located around Arnasoy, Sangzor, and Jilanuti in the Jizzakh oasis (for example, Munchaktepa and Qaliyayi-Dahyak) serve as architectural reflections of this process[3].

The relevance of the research lies in the fact that, today, during the modernization processes being implemented in rural areas within the framework of the “Obod Mahalla” programs, there is a growing need to take into account historical continuity and traditional architectural principles. Studying the stages of formation of ancient mahallas in the Jizzakh oasis, as well as analyzing the

spatial relationships between houses, guzars (community centers), water channels (irrigation canals and sardoba reservoirs), and public buildings (such as alou-khona communal houses or early mosques), makes it possible to enrich modern rural architecture[4,5].

The purpose of this article is to analyze the stages of the formation of the mahalla system in rural settlements of ancient Ustrushona using the example of the Jizzakh oasis, to identify their architectural and planning characteristics, and to reveal the influence of landscape and social organization on housing construction. The research objects include Early Medieval monuments located in the Sangzor and Arnasoy basins, their structural organization, and the communal living elements preserved within them[6,7].

## **2. Literature Review**

An analysis of scientific literature related to the development of rural housing shows that this topic has been widely studied in the humanities, particularly in the fields of archaeology, architectural history, and economic history.

S.P. Tolstov and E.E. Nerazik, using the example of Khorezm, proposed theoretical interpretations of rural communities and their “fortified settlement” forms. According to their views, the mahalla system emerged as a transitional stage from clan-based communal relations to territorial-neighborhood relations.

M.S. Andreev and A.S. Davydov, based on ethnographic materials from the Upper Zarafshan and mountainous Ustrushona regions, described the functional roles of “alou-khona” (communal houses) and guzars, which served as prototypes of the rural mahalla[8]. These sources are valuable for analyzing how ancient planning traditions were preserved until the 19th–20th centuries[9].

V.L. Voronina, in her work *“Architecture of Ancient Panjikent and Ustrushona”*, analyzed architectural elements of Ustrushona houses, including columns, verandas, and spatial connections between rooms[10]. These schemes are important for studying the “street–courtyard” relationships within the mahalla structure.

S.G. Khmel'nitsky examined the evolution of rural architecture in Central Asia during the Early Middle Ages, demonstrating that residential buildings gradually adapted more to social needs rather than purely defensive purposes, which also reflected the emergence of the mahalla structural system[11,12].

## **3. Methodology**

This study is aimed at a comprehensive examination of the historical, architectural, and socio-economic significance of rural residential architectural objects. It is based on a complex approach that relies on several key research methods.

## **4. Results and Discussion**

The research methodology applied in this study demonstrates that the division of ancient and medieval settlements in Central Asia into quarters has still not been sufficiently studied. Even in urban settlements, let alone rural ones, the quarters of this period have been examined only to a limited extent. However, materials have recently emerged that allow this issue to be addressed due to the complete or partial excavation of settlements such as Gardani Hisor, Yakkaparson, Qum, and the early medieval settlement located on the outskirts of Quva, dating to the 7th century[13].

The settlement located on the outskirts of Quva was divided into streets and consisted of six parts, which V.A. Bulatova referred to as quarters. According to Bulatova, a quarter is a group of houses

separated by streets[14,15]. The quarters of ancient Panjikent were also distinguished according to the same principle. According to V.L. Voronina, a quarter in Panjikent represented “a unified residential complex composed of several housing plots; evidently, the families occupying these plots had not yet lost their clan ties. Such a large extended family community could occupy an entire block stretching 100–150 meters.”

However, researchers also emphasize that the density of residential buildings should not necessarily be explained solely by family ties. First, due to constant conflicts and warfare during that period, people preferred to live compactly and close to one another for security reasons. Second, due to the limited availability of building space, houses were often constructed close together so that they shared common walls. Even today, in many villages, neighbors jointly use a wall between their houses or roofs when constructing new dwellings. This practice likely existed in the period under study as well.

A well-known saying reflects this density of settlement: “*There was such a large town (or village) where houses stood so close to one another that a goat released at one end could reach the other end without touching the ground.*” Dense and continuous development was therefore characteristic not only of cities but also of rural areas.

Excavations conducted in Gardani Hisor demonstrate that due to the density of construction, houses there did not even have small gardens nearby, unlike the houses of modern Tajiks in the Upper Zarafshan and other parts of Central Asia. Thus, ethnographic observations suggest that continuous construction does not necessarily reflect social relationships among residents of a particular quarter.

The principles for identifying mahalla units in Central Asian towns and villages also do not always correspond to information derived from written sources and ethnographic data. For example, the author of the History of Nishapur (early 12th century) mentions numerous quarters of the city, including Abumuslim, Maydon, Nasrobod, Ariz, Nana, Dorunbag, Kun, Khonzakobod, Saripul, Bogak, Sarikhucha, and others. These names themselves indicate that the quarters were distinguished by social, professional, or territorial features.

In studying the quarters of Bukhara, O.I. Sukhareva concluded that dividing cities into quarters was logically justified. According to her, this division was rooted in the social structure characteristic of feudal society, where small groups were united within a specific territory by kinship ties, common origin, or shared economic activities. These groups formed the basis for the spatial division of residential areas.

Sukhareva also noted that in the European sense a “quarter” usually refers to a rectangular block of houses surrounded by streets on four sides. Streets separate one quarter from another, and houses located on opposite sides of a street may belong to different quarters. In Central Asian cities, however, the situation was the opposite: the street served as the connecting element that united residents and formed the core of the mahalla. A quarter included all houses located along both sides of a lane and the cul-de-sacs branching from it.

Similar diversity in the naming and structure of quarters can also be observed in Bukhara, Ura-Tyube, and other cities of Central Asia. Thus, the principle of dividing settlements into quarters in Nishapur in the early 12th century corresponds to similar systems observed in Bukhara during the 19th–20th centuries and in Ura-Tyube during the 20th century.

The same principles are also applied in modern Tajik villages. For example, the village of Madi, where Gardani Hisor is located, is divided into four mahallas: Ka'da (the quarter located near the

fortress), Miron, Qanda, and Parvog. The Parvog mahalla emerged during the Soviet period, while the other three existed before the revolution.

In the village of Qum, there are four mahallas: Qurboviyon (inhabited by the descendants of a certain Qurboviyon), Chukurakh (a quarter located in a depression), Mvena (central), and Shishkneya. Each quarter consists of approximately 5–10 houses. In the past, these quarters were located relatively far from one another, but over time they expanded and eventually merged, both in Madi and Qum.

The principles of dividing villages into quarters are similar across the Upper Zarafshan region. For instance, in the village of Rarz, there are seven guzar centers, including Mirov Havli (the emir's palace), Eshonon Guzari, Husayn Havli (residence of the Husayn lineage), Guzoribekon, Sar, Sarituda, Chukurakh, and Mechetijami (the cathedral mosque). In the village of Obburdon, five guzar units exist: Navoxiya, Bolo, Kazno, Navruziye, and Havli Poyon.

In other villages of Tajikistan, quarters are also distinguished according to similar principles. For example, in villages of Darvaz and Karategin, settlements consist of one or several groups of houses arranged either compactly or in a dispersed pattern depending on the topography. In smaller clustered settlements, boundaries between groups of houses are clearly visible because fields lie between them. In larger settlements, however, the boundaries often run along the rear walls of houses rather than between groups of buildings.

Thus, the principles of identifying quarters in densely populated rural settlements are similar to those observed in cities. It is therefore likely that the tradition of dividing settlements into mahallas in pre-Islamic Central Asia followed principles similar to those observed in the 10th–12th centuries and later in the 19th–20th centuries. Consequently, dividing ancient Central Asian settlements strictly according to streets would not be entirely correct.

Based on the principles discussed above, several small quarters can be identified in Gardani Hisor. For example, houses numbered 5, 18, 21, and 22, located at the beginning of the third street, formed one quarter. Houses 12, 15, and 17 along the fourth street constituted another. The residents of the second quarter could directly access the gate through the defensive wall. Their interaction with other houses in the settlement occurred mainly through entrance corridors. Houses numbered 4, 6, 16, and 20 probably formed a third quarter, while houses 1, 3, and 11 were likely associated with structures that were later destroyed by landslides in the northwestern part of the settlement.

Thus, at least four quarters existed in Gardani Hisor, each consisting of 4 to 8–10 houses. The social center of each quarter was a house shrine. For residents of the first quarter, such a sanctuary was located in House IV. No sanctuary was found in the second quarter, but since it contained a wealthy two-story house, it is possible that the shrine was located on the now-destroyed second floor. Evidence from ancient Panjikent shows that wealthy houses often contained sanctuaries, sometimes located on the second floor.

The urban quarter was not only a territorial unit but also played an administrative role. In later periods, cities were governed through quarter elders. Although the exact role of quarters in the 7th–8th centuries is not entirely known, written sources indicate that in Sogdian cities elders performed administrative functions. In pre-revolutionary villages, each mahalla also had elders (aksakals). Often, these roles were performed by mullahs, and it is possible that similar functions were carried out in earlier periods by religious figures who combined the roles of elder, healer, teacher, and scholar.

Excavations at Gardani Hisor, Qum, Yakkaparon, Teshik Qala, and the settlement near Quva

show that these settlements were built according to a pre-planned layout. Their division into a fortified citadel and residential area corresponds to the classic Central Asian urban division into diz (citadel) and shahristan (town). In larger settlements, the fortress was often referred to as diz or kuhendiz.

For example, Narshakhi, describing major settlements of the Bukhara oasis, including Zandan, Barkan, and Narshakh, noted that each had its own kuhendiz. This information indicates that two-part settlement structures were characteristic not only of Sogdiana but also of other regions of Central Asia. The layout of Gardani Hisor, Qum, Yakkaparon, and Teshik Qala confirms this pattern. Similar examples can be found at Aktele near Ortik (southern Turkmenistan) and Aktele Yunusobod (in Chach). Under favorable conditions, such settlements could develop and transform into cities.

Residential buildings reflect the complex and multifaceted history of the development of a people's material culture. They embody achievements in construction technology, architectural planning techniques, economic development, dominant occupations of the population, social relations and property differences, family structures, as well as cultural traditions, art, customs, religious beliefs, and ethnic identity.

Therefore, studying the structure of rural houses is one of the most important issues in the history of the peoples of Central Asia, including the Tajiks, who represent one of the oldest sedentary populations of the region. Such research is particularly significant because it has only recently begun to develop.

At the Gardani Hisor settlement, 22 houses were excavated. The following criteria were used to identify them as residential buildings:

1. The house had to be isolated by solid walls and have a separate exit to the street.
2. The house had to contain a hearth for cooking, baking bread, and heating.
3. The house had to have spaces for sitting, sleeping, and performing household tasks.
4. The house had to include a special area for storing food supplies calculated for a certain period of the year.

If at least one of these features was absent, the structure could not be considered a residential dwelling. Another characteristic of rural houses—the presence of livestock stalls—was absent in Gardani Hisor, as in many other places in Central Asia during this period. It is likely that livestock were kept outside the settlements, a practice still observed today in villages of the Upper Zarafshan region, such as Azob, Rashia, and Kante.

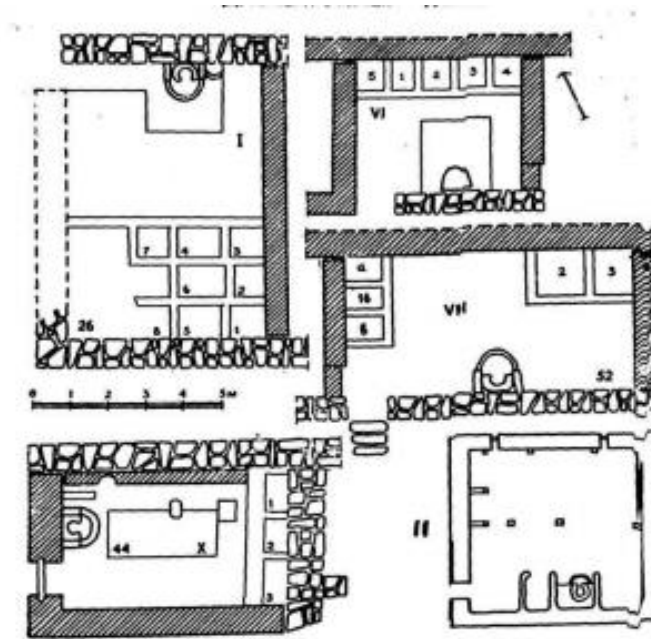
For example, in Zaika Abargarda, livestock shelters were located on a lower terrace near water sources. Similar arrangements were observed in other parts of early medieval Sogdiana.

These criteria are important because the correct identification of residential units is necessary for solving several key issues, including estimating the number of families in medieval settlements, determining demographic characteristics, and understanding social structures.

However, identifying individual family houses is often difficult, mainly because not all rooms of houses have survived. It is well known that during this period many houses in both towns and villages were two or even three stories high. Usually, the upper floors have not survived, making it impossible to determine the exact number of rooms in such houses.

As A.M. Belenitsky noted regarding houses in Panjikent, residential buildings were often directly

attached to one another, and the external wall of one dwelling could serve as the wall of another. As a result, dividing an entire block into independent houses can be extremely difficult and sometimes requires additional research.



**Figure 1.** Plans of one-room houses in Gardanne Hisor.

## 5. Conclusion

### 1. Socio-territorial principles of mahalla formation:

The study demonstrates that ancient mahallas (quarters) were not merely geographical units but communal systems with deep social roots. A distinctive feature of quarter division in the cities and large villages of Central Asia was that the street functioned not as a separating element but as a unifying one, serving as the central axis of the community. A single mahalla included houses located on both sides of a street as well as the cul-de-sacs branching from it. This structure confirms that residents were united on the basis of kinship ties and professional proximity.

### 2. Construction density and architectural adaptation:

The extremely dense construction pattern observed in early medieval rural settlements (as illustrated by the example of Gardani Hisor) can be explained by two main factors. First, due to constant military and political threats, the population preferred to live compactly within protected territories. Second, the scarcity of land resources led to houses being built very close to one another, often sharing common walls. Folk expressions describing how “a goat could pass across rooftops without touching the ground” metaphorically reflect the physical reality of such continuous architectural masses.

### 3. Mahalla hierarchy and governance system:

In the social life of quarters, spiritual and administrative centers—such as the house shrine or communal gathering space—played an important role. Materials from Gardani Hisor indicate that each block was governed by local elders (aksakals) or religious figures (magicians or later mullahs). This suggests that the mahalla system possessed a well-developed governance mechanism even in the pre-Islamic period and later integrated with Islamic institutional traditions.

#### 4. Demographic significance of family and residential structure:

The five criteria proposed for identifying individual residential units (a separate entrance, the presence of a hearth, living areas, storage spaces, and the location of livestock facilities) are of fundamental importance for determining the composition of medieval households and their demographic characteristics. The placement of livestock outside the settlement, typically on lower terraces, can also be interpreted as an early engineering solution aimed at maintaining sanitary and ecological conditions within the village.

#### 5. Historical continuity:

The results of the study reveal architectural and toponymic similarities between settlements of different historical periods, including Nishapur in the 12th century, Bukhara and Ura-Tyube in the late 19th and early 20th centuries, as well as modern villages of the Upper Zarafshan region such as Madi and Qum. This demonstrates that the mahalla system of Central Asia has preserved its structural stability and social significance for several millennia, remaining a living national institution rather than merely a historical relic.

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