The formation of settlements and residential construction of vokhas in the Bukhara

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Abstract. The article discusses the main characteristics of settlements in Bukhara. The formation of residential construction in the rural areas of Voxa was discussed, and the technology of residential construction built in 1925, located one hundred kilometers west of the city of Bukhara, was studied and analyzed. In the villages of the Bukhara region, two courtyards, outside and inside, were built. In two-yard dwellings, the rooms are placed in accordance with their purpose and the maximum possibilities for living are created. The outdoor courtyard was mainly intended for men, and there was a great opportunity to engage in production, waiting for guests.

1 Introduction

At the current stage of development of cities and villages, there is a need for sharp development of housing construction. It is necessary to improve further the living conditions of the population, to improve the functional-planning architectural-artistic appearance of the residential areas, to increase the efficiency of the use of the rural area, to fully take into account the urban development conditions of the Republic of Uzbekistan [1-3].

Uzbek folk dwellings, like a magical fortress, hide a treasure of folk art masterpieces within its seamless and continuous walls. The comforts of these residences are characterized by their spaciousness, spaciousness, naturalness, especially the installation of every detail with special attention. The type of residences, that is, houses, depends more on the conditions of this area than on other buildings. This type is the most complex and versatile of all objects in Uzbek memory. This complexity and multifacetedness is expressed by the inextricable connection with the multifaceted ancient cultural forms of the colorful life lived in these houses [4-6].

Usually courtyard dwellings are more complex than other architectural objects due to their forms. Residences consist of many units, and the combination of all the built-up rooms that are part of it creates a "courtyard ensemble" that creates such a circular movement. The main aspects of residential areas constitute a whole complex of various factors, which are characterized by the following: social, historical, ethnic, natural climatic conditions. Each change in the specific characteristics of each of these factors and their interaction leads to a change in the residential yard.

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2 The main part

The construction of low-rise houses in the Bukhara vokha has long been built in the trend of having a single courtyard and two courtyards. When thinking about low-rise courtyard dwellings, it is necessary to look at the past of the dwellings.

We count, because "they say that it is difficult to return to Mozi to work" (Abdulla Qadiri). Therefore, after studying the house of Grandfather Yunus built in 1925-1930 on the spot (Figure 1), and based on what old people living in the area saw and remembered, we determined the following:

Grandfather Yunus' house was built in 1930s. The house is located in the village of Karakulonchi, which belongs to the "Jigachi" neighborhood of the Karakol district. The house is mainly made of straw (Figure 2). The frame of the hotel and living rooms attached to the hotel is made of wood and planks by the "Chopkori" method (Figures 3,4) [7-9].

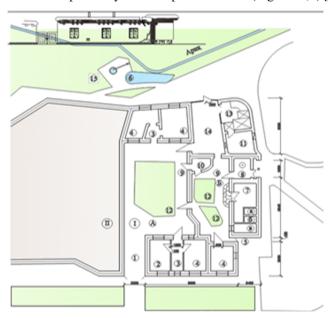
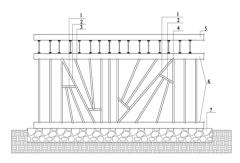


Fig. 1. The scheme of the location map of Grandfather Yunus's house in the area.

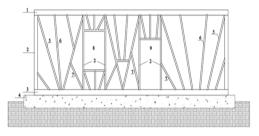


Fig. 2. A wall made of straw.



solid wall 1-box; 2-floor; 3- floor; 4-columns; 5-sarrav; 6-sinches; 7- base

Fig. 3. A wall frame to be built in the Chopkori method.



a wall with doors and windows left

1-place; 2-columns; 3- touch; 4- base; 5-hovan; 6-sinches; 7-cup; 8-window position; 9- door relay

Fig. 4. Solid wall. The wall is decorated with doors and window.

That's why the hotel and the attached living room were called "wooden" house.

The house is mainly composed of two outer (outside), inner (inside) courtyards and additional farm courtyards built in the south-west part of the house. Including:

the entrance to the main yard is organized through the gatehouse. The yard is designed for two families. A flower garden was established in the courtyard and vines (grapes) and fruit trees were planted. The flowers and trees planted in the yard served to keep the houses cool and the weather moderate. From the main yard, there is an exit to the farm yard and the yard intended for cattle, as well as the entrance to the bakery. A separate door to the farm yard made it convenient to get the necessary products from the warehouse. The entrance to the farm yard is from the main yard, the yard intended for the barn and the narrow door "darchacha" located on the west side of the yard. In the yard there is a living room, a storehouse, a mill (mill) and a bakery. The warehouse building in the yard is built in a unique style. The warehouse was built using stone and wooden piles to a height of 0.5 - 0.7 meters above the yard level. The warehouse was divided into several akhirs (akhir grain-dun, a special device for storing seeds), the height of the walls of the akhir was 1-1.2 meters, and the thickness was 20-25 centimeters. In order to protect grains from rodents, additional materials from broken pottery were placed between the walls. The mill served not only this family-yard, but also the villagers. Therefore, in front of the mill, a loading and unloading platform and a small porch were created, and a separate lane was built for the mill.

Placement of the oven and hearth (Figure 4) in the farm yard also brought a number of conveniences, for example: the proximity of the warehouse, the introduction of firewood and hay for the oven and oven from the side of the barn, lack of access to the main yard, etc. ...





Fig. 5. Furnace interior; a) furnaces; b) oven.

the entrance to the yard intended for livestock is provided from the main yard, the farm yard and the door intended for the entry and exit of cattle. The barn was also built for daytime and evening (winter and summer) cattle storage. Facilities for receiving messages from the goods at night and day are fully created [10].

All the houses and rooms located in the yard are one-story.

- The walls are made of straw and covered with clay mixed with straw. Holes (holes) with a diameter of 30-40 centimeters are placed from the floor markings of some rooms. These mainly in winter.
- All the rooms in the courtyard are closed with the help of bolors (Figure 5). Instead of a vassa or roof over the beam, woven reeds Chighi are laid. Small reeds or Lux stalks that grow in swamps and ditches are laid on top of it, and 7-10 centimeters of straw clay (golagir) is taken over it. Over the Gholagir, the low and high roofs were filled by pouring ash, made andava and (obdav) tarnavs were installed.

The main living rooms of the house are located in the northern part of the yard and are directed to the north.

Due to the fact that the region of Bukhara is located in the desert region of our Republic, the winds blow more than in other parts of the Republic, and there are small weak storms, so the houses are surrounded on all four sides. It consisted of dwellings with one courtyard, closed on all four sides, consisting of two, sometimes three courtyards (Figure 6).



Fig. 6. A type of roofing with beams and beams.

Currently, the main part of the house has been rebuilt with modern construction materials. The location of the yard in the area is preserved.

3 Conclusion

The main features of the architecture of low-rise courtyard residential buildings built and built in the Bukhara Valley in cities and villages can be done as follows:

- house-building consisted of inner and outer courtyards with a single courtyard;
- rooms, completely surrounded by buildings and walls on four sides of the courtyard, are divided into winter and summer rooms, as well as hotels;
- summer premises are located mainly on the northern part of the courtyard;
- windows built in residential premises are often directed into the courtyard without focusing on the street;
- roofs in courtyards are used as sleeping places in the summer.

References

- 1. Decree of the President of the Republic of Uzbekistan on the measure "Further improvement of the management of housing and communal services system" (2022)
- 2. M. Q. Akhmedov, *History of Central Asian Architecture* (Uzbekistan, Tashkent, 1995)
- 3. B. A. Askarov, B. A. Baimukhammedov, M. A. Koroli, G. I. Magametova, *Bukhara People's School of Architecture* (Tashkent, 1997)
- 4. Orolov, D. Nozilov, Sh. Torakulov, Country Houses (Tashkent, Mehnat, 1988)
- 5. T. A. Nizamov, *Architectural and planning features of the design of residential buildings in a hot climate*, Monograph (Tashkent, 2015)
- 6. *AVESTO historical-literary monument* (Publishing house named after Gafur Ghulam Tashkent, 2015)
- 7. V. N. Manakova, Journal Architecture and architecture of Uzbekistan **1991** 321-328 (1991)
- 8. M. M. Vakhitov, A. A. Tulaganov, I. I. Togiev, International Journal of Psychosocial Rehabilitation, Great Britain **24(08)**, 6158-6172 (2020)
- 9. L. I. Rempel, Far and near. Bukhara records. Pages of life, everyday life, construction business, crafts and art of Old Bukhara (Ed. Lit. and Arts, T., 1981)
- 10. Preservation and use of architectural monuments of Uzbekistan (theoretical bases and methodology of design) (Navruz Publishing House, Tashkent, 2020)