

## CREATING PRINCIPLES OF CONSTRUCTING AND PRESERVING THE MONUMENTS OF “DESHAN KALA”

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### ABSTRACT

This article provides information about the brick thatched wall which is located in the centre of Khiva City and contains five neighborhoods. The wall was built in 1842 and has been finished within 36 days. This Ichan Kala wall amazes and attracts millions of foreign and local visitors and proves that construction and architecture were well developed in the ancient Khorezm.

**Key words:** architectural monuments, The brick thatched wall of “Ichan Kala” and “Deshan Kala” gate, crenellated wall (teeth-shape parts of the wall), restoration affairs, database.

About 100 fortresses related to the ancient history of Khorezm on the Southern Aral Sea are under state protection. There is a statement from Academic Yahyo Gulamov: “Herodotus, the father of history, said Egypt was a gift from the Nile, Istahriy had taken all the benefits of Khorezm” writes he. The people of these two nations could live in deserts and were famous all over the world. However, building walls, fortresses was very important in progressing nations. A country appears not in the places where people live in wickiups or cellars, but is formed where architectural buildings, fortresses and castles are<sup>1</sup>.

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<sup>1</sup> Durdieva. G.S. Architectural wall monuments of ancient Khorezm. Urgench. “Тезкор Марбаа”, 2017.



**1-picture. South-western part of “Deshan Kala” walls (taken by E. Salayev. 2022y)**

Most of the ancient cities in our country have gone through several cultural and historical periods, have saved urbanization heritage and changed itself for several times. Cities of each era and their separate centers have formed step by step. The sequence of changes in the architectural structure of the city is determined by the development of society, periods of growth alternated with periods of crisis, but in any case, the connection between social and economic factors and urban architecture remained unchanged. “Deshan and Ichan Kala” are good examples for that.

In this regard, the Deshan Kala architectural monument has come to the level of disappearance as a result of man-made negative effects related to natural and human activities over the centuries (see Fig. 1), but when our scientists researched the existing part by taking a sample, the strength of the wall is sufficient according to regulatory documents. It is noteworthy that it was determined.<sup>1</sup>

“Deshan Kala” walls were built by Allakulikhan in 1842 for defense of “Ichan Kala”. The length of the wall is 6620 m. The poet and translator Ogahiy writes about that wall saying: “Allakulikhan had this wall built in 36 days (at that time people were to work 12 days free for government.) 200 thousand people participated in the construction of the wall.”<sup>2</sup>

The wall of the “Kala” (Castle) had 10 gates from different sides, but only two of them remained so far. They are “Kusha darvoza” and “Quy darvoza”. As we mention all the gates of 6620 meters long “Deshan Kala” they are called “Northern gate”, from “Kusha darvoza” clockwise up to the east: Gadaylar darvoza, Gandimyan (Gandumkan) darvaza, Quy (Hazarasp) darvoza, Pishkanik darvaza, Angarik darvaza, Shixlar darvaza (Sheikhs), Toza bog darvoza, Shohimardon darvoza, Dashiak darvoza (Stone leg) [Khudaiberganov: 4].

<sup>1</sup> Durdieva. G.S. Architectural wall monuments of ancient Khorezm. Urgench. “Тезкор Марбаа”, 2017.

<sup>2</sup> Abdurasulov A. Khiva. T.: “Uzbekistan”, 1997

The main construction materials of the castle are clay, brick, soil and rubble. The wall of the castle is made of clay and the lower parts of the wall are made of large logs. They also have taken earthquakes into consideration, and in order to reduce the impact of groundwater, they covered the surface of the basement with sand. They have built 75-80 battlements at each perimeter of the walls not only for military purposes, but also for balancing the wall. The width of the top wall is 80-100 cm., it is made from brick of different sizes.

The distance between the square battlements (the openings at the top of the wall for shooting during wars) of the Deshan Kala wall is 40,0 to 48,0 meters. As can be seen from the plan of the castle, there were 135, 150 projecting battlements around the entire perimeter in an oval plan from the walls outwards in all directions. Those battlements are used to control the area<sup>1</sup>, but their main job was to increase the earthquake resistance of the walls. But most of them have been demolished for some negative reasons. (check figure 2)

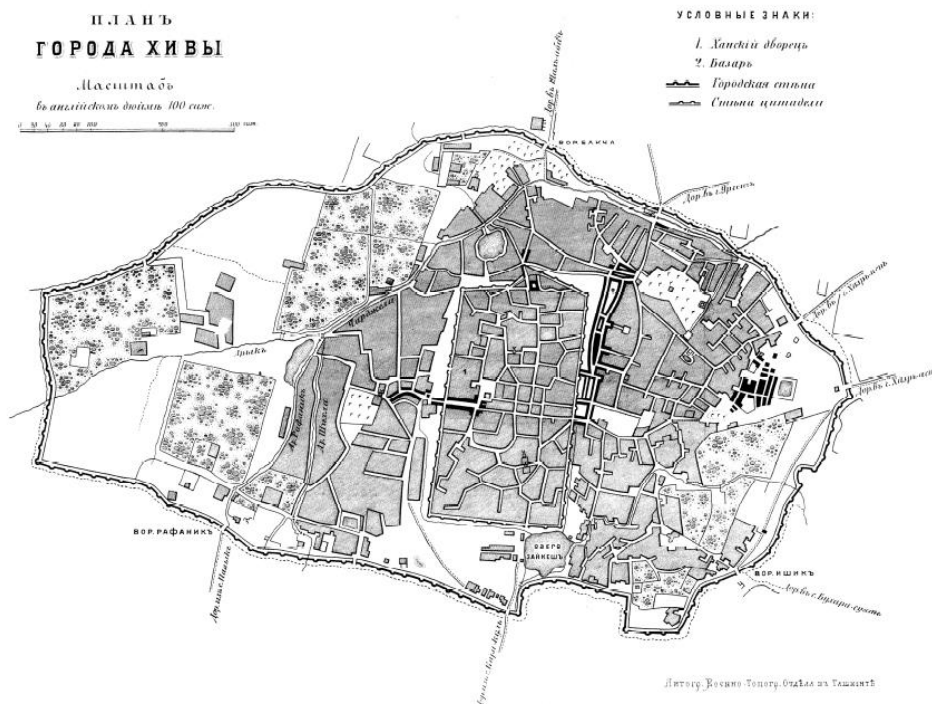


Figure 2. The plan of Deshan Kala which is located on 280 hectares in the centre of Khiva. (A map compiled in 1873 by Captain Lucilin, an officer of the military court of topographers of the Asian Department of the General Staff of the Russian Empire<sup>2</sup>)

<sup>1</sup>Алиханов-Аварский М. Поход в Хиву (кавказских отрядов). 1873. Степь и оазис. -СПБ.: Паровая скоропечатня Я.И.Либермана, 1899. 276-стр.

<sup>2</sup>Турксоборник. т.83, 82-бетлар

Wood logs were also one of the main construction materials in construction, builders have placed them inside the wall during the construction.

Those logs have been planned to keep the walls resistant to earthquakes and to absorb any moisture and then evaporate, and builders also used the logs as scaffoldings. (check figure 3)



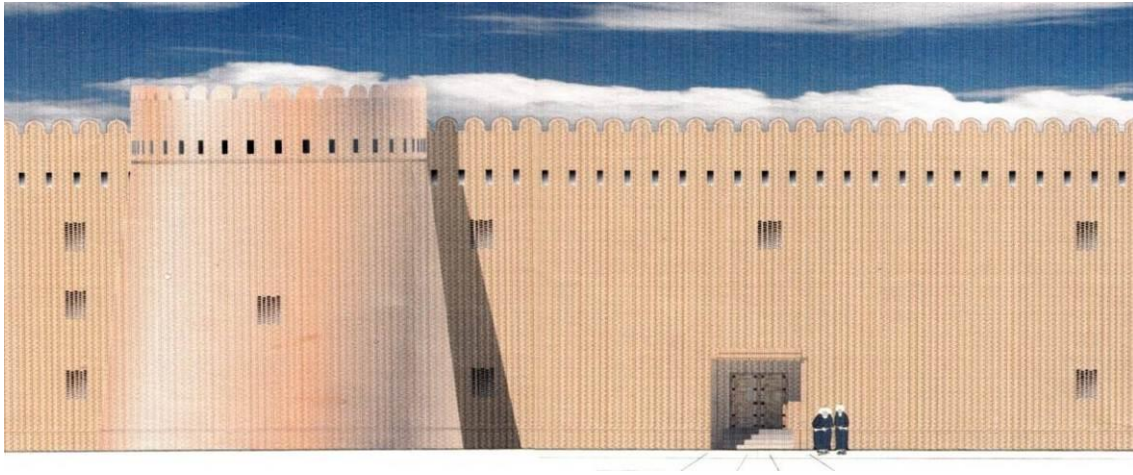
**Figure 3. The usage of the wood logs in the heritage of Deshan Kala wall.  
(Taken by Salayev Ergash in 2013)**

The research work carried out by the scientists of Khorezm Ma'mun Academy on preserving the wall of Deshan Castle is commendable. They are giving scientific recommendations to the officials for the repair work of Deshan Castle by analyzing the structural features of the castle, the materials used in its construction and the construction methods<sup>1</sup>. Currently, some parts of the walls have been restored, and some parts are still in the restoration process. Also, projects are being prepared for the complete restoration of the missing parts of the fortress wall (check figure 4).

Unfortunately time affects to the condition of architectural monuments, and that can't be returned. But what makes us sad that the walls are damaged not only from nature but also from man-made negative impacts. Currently, there is no objective information about all the architectural monuments of Deshan Kala and the some we own have not been systematized.

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<sup>1</sup> Дурдиева Г.С.Қадимий Хоразм пахсадевор меъморий ёдгорликлари. Урганч. “Тезкор Матба”, 2017.



**Figure 4. Planning to reconstruct the walls of “Deshan Kala” (layout)**

Environmental and man-made negative impacts on historical architectural monuments in the Deshan Kala area of Khiva have been identified and marked. A classification of architectural monuments has been developed and a lot of information related to the devices and their history has been provided.

For the first time, an electronically displayed “data base” has been formed based on an innovative approach. That contains accurate measurements, drawings and research results about 5 special features. As we consider that the conditions of the monuments will change over the time, the database is filled in the specified manner and at the agreed time. Today, ICT programs are applied to architectural monuments as well as to various fields of science, there is a program that has been created with innovative computer technology, it is called: Database about historical and architectural monuments and “Deshan Kala”

Functional opportunities of electronic calculating device: there are 30 monuments inside the Kala and 17 outside the Kala, the conditions of the monuments, devices and their history have been provided with pictures.

Most of the researches carried out up to this time provided information on the architectural monuments located in the territory of Khiva “Ichan-Kal’a” museum-reserve, unlike them, as can be seen from the information presented above in this article, a lot of new information on the historical architectural monuments of “Deshan-Kal’a” of Khiva city and outside it. The results of scientific research have been provided

Using modern technologies and the possibilities of advanced programs, a number of scientific and practical researches are being carried out to study the current state of the historical architectural monuments of Deshan Kala, which amaze tourists coming from seven climates of the world. As a result of the conducted research, the database

created for the first time in the form of a catalog will be useful for construction specialists and young researchers in the future.

In conclusion, this wall of Deshan Kala, restored in 36 days, will amaze many foreign and local tourists in the future and prove that the construction and architecture of ancient Khorezm is incredibly developed.

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