

Recommendation of Improving Quality of Mirzachul Sardobas

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Abstract— In this article analyzed sardobas architectural historical monuments which are located between Sirdaryo-Tashkent and Jizzakh – Chinoz regions, build by Abdullakhon II in XVI century in Mirzachul area and their present condition is researched.

Keywords— Great Silk road, dome, coudation, Agachly sardoba, Mirzaabad sardoba, “Havuzy Said” construction, kulfak, obambar, Renaissance, Jizzakh city, Ravak windows, avdon.

I. INTRODUCTION

In the history discoveries of the science which belong to Renaissance century in Europe contributes to the knowledge of sea and shipbuilding. Therefore, shipbuilding developed highly and cheap and comfortable sea trade was opened. That caused to lost strength of Temurids and the Great Silk road which was being suffered from battles inside the Central Asia, lost the position of International commercial trade between east and west. The king Abdullakhon II (1557-1598) who was the generation of Shaybaniykan, conquered large land from Turkistan to Marv, Balkh, succeeded to join separated parts of Movaraunnahr. The period of ruling by Abdullakhon II was powerful and central after Amir Timur. He was also known as the person who was well educated and supporting development, contributed not only constructing, but also improved the state of Movaraunnahr in international trade. Sardobas which were along the caravan roads were the result of such kind of activities. At the moment the architectural planning and the history of sardobas are not well researched.

II. SIGNIFICANCE OF THE SYSTEM

In ancient times sardobas are built in order to reserve water and place to rest for caravans. Sardobas were built in places where water was rare and they were dome shaped wells, were filled with groundwater, underwater. The word sardoba derived from Persian words, “sard” means cold, “ob” means water. In other parts of Middle Asia, sardoba is called “dome”, “Mulla”. In Iran and Khurasan sardobas are being used now and named “Obambar”. In Ozarbaydjan they call it “avdon” [2].

We can say also a close structured well for a sardoba. Because it is built by bricks, it is round shaped dome, inside is deep, and it is also temporary place for caravan in desert.

In order to keep sardoba for a long time from mudding, an open well was dug in front part. Firstly, groundwater passed through an open well, some part of mud inside the water stayed down and pure water flowed to sardoba. Boundary walls were built by soil in order to protect from cows (Figure 1).

In Middle Asia forty four sardobas are kept up to now [13]. From that 29 ones are in Karshi, 3 ones are in Mirzachul, other 3 ones are along the ancient trade road between Tashkent and

Ferghana, another one is in Chuli Malik near Karmana. At that time where these sardobas were located, rabads and places for caravan were built. Thus these were stations in desert for caravan, without no doubt.



Figure 1. General view of the Ogachli sardoba.

In 1996 Jizzakh archeologic expedition researched in order to know building history of kept sardobas and their age. At that time Agachly sardoba which belonged to XVI century that was located in North 35 km far from Jizzakh city which is now Pakhtaobod (Akmal Ikromov) village that belong to district Sharof Rashidov (Figure 2).



Figure 2. Southern view of the Ogachli sardoba.

Agachly sardoba is located in desert, if you look at from outside, it looks like a dome, half sphere shaped (Figure 3). The walls and square shaped dome are made from cooked bricks. Kulfak holes are done downside to fill with water; holes are done upside of dome.

The walls of sardoba have a cylindrical section, downside walls' width is 1.25m, upside one is 0.55 m wide, general height of walls is 11.20 m, inside diameter of dome is 15.35 m, depth of well is 5.50 m and aivan which is built before entering, has area 5x3 sq.[11]. From history we can know that there were 2 wells in the sardoba, and water kept colt, after one of wells disappeared [11].



Figure 3. The plan and section of the Ogachli sardoba.

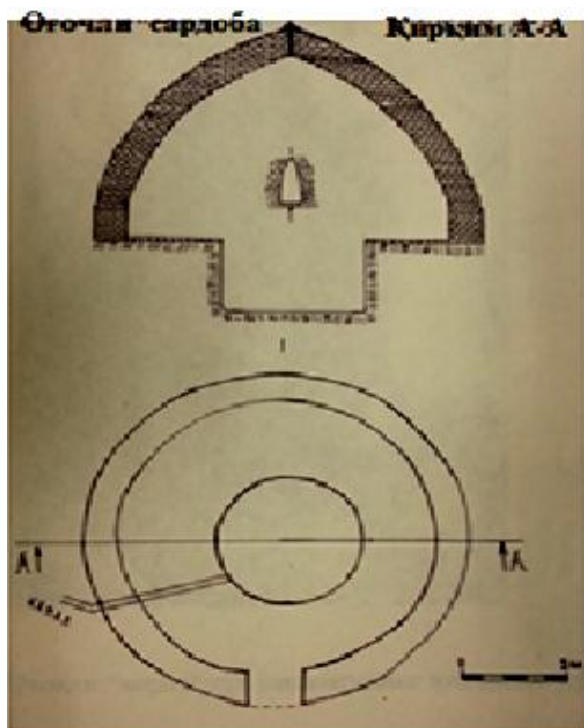


Figure 4. Window of the Ogachli sardoba.

In order to take water from well there were more than ten stepped stairs. The square shaped dome of sardoba were built from cooked bricks which had very high quality. Inside diameter of dome is 15 m, height is 12 m. Inside the tuynuks (holes) 2 m high from the floor. In the last centuries the

European built ponds. The walls of ponds were covered by trunks. The thickness of Agachly sardoba downwards is 1.5 m, and became thick upwards. The upwards thickness like one brick. People can enter sardoba from only one side- from north, in other 3 parts of dome there are ravaklyderazas (windows). The entering part is arch shaped, from it one can go up with brick made stairs. There is a different hall inside entering part. Historians wrote there was a special room for security and workers above the hall. There were circle shaped stairs outside to enter the room. It is known that rovoqli window's height is 2.6 m, width is 0.8 m (Figure 4). In order to keep water pure there are 3 ventilation tuynuks (holes). Therefore water in sardoba is always cold and fresh.

Sardobas were cleaned once a year. Now these sardobas are out of attention. In general location for sardoba has a great importance. For instance, Agachly sardoba must be located in such kind of place that can be filled with groundwater easily from the area. In order to be filled with water, there sloped grooves and they are colossal connected together. In the Middle East it was called Khudaysara, Agachly sardoba which was significant sign of Mirzachul history, was reconstructed by the governor of district.

Now Agachly sardoba area is bounded with quadrate shaped, 75 m long, 3 m high concrete. Front part has chuyan patterned boundary. Area is 562.5 sq.m. (Figure 5).

Mirzarabat sardoba which is 35 km far in South-West, is located in sardoba village of Akaltin district. Now upside of Mirzarabat sardoba is broken down.



Figure 5. Agachly sardoba area is bounded with quadrate shaped.

Sardobas are a part of public history wealth. When sardobas between Syrdarya-Tashkent and Jizzakh-Chinozregions were analyzed, water, soil,sand were brought from particular place, dome from Karavulbazar, Nurota. When mud was analyzed powder of yantoq,kamish,yulgun were mixed with water. Bricks used for building must be adoptive to hot and cold temperature. Mud was well heat treated, wool of camel was mixed. Raw bricks must be under the sun in 1-2 years. They are called obi-gisht (brick). The milk of ship also mixed with mud in order to join bricks together. In coffin trunks of apricot, tut were fired. As the result, water couldn't pass from the building and kept its properties up to 2-2.5 years. Downward of sardoba is round shaped, to keep water

from passing 3 times camel cover was used after dome, upward sloped bricks were used.

Average depth of sardoba 11m, after skin roofed. Because of humidity not to reach upwards and to keep water fresh. There are only some stuffs which gives information about the history of Mirzachul are kept. Others are lost due to human activities.

III. LITERATURE SURVEY

Firstly M.Manson gave information about this sardoba. After M.Bilolov interpreted Agachly sardoba as Khudaysar robodi which was mentioned in the books of middle centuries. [3]. If it is like this, Jizzakh city should be also located in this desert.

Historian Y.Yakovlev mentioned that in 1842 surveyor N.Khanikov mapped the Mirzarabat sardoba [4]. He also wrote that there was the picture of Mirzarabat sardoba in the 1871-1872 albums of Turkistan. [5]. Y.Skayler wrote about the stairs from which were entering tosardoba, was described [6]. In 1870 russian tourist U.Tatarinov mentioned about the sardoba was near the caravan place, and also dimensions. Inside diameter of sardoba 6 sajen (1 sajen is 2.13 m) 12.78 m long, downside of wall 1.30 m wide, general height of wall from the floor 6.35 m [7].

K.Karabayeva gave information about that in Agachly sardoba there was 3 windows, in Mirzarabat sardoba there were 7 windows [8].

Another building Yakka sardoba is located in Southern east, 13 km far from Mirzarabat sardoba. Now the area of this building is used for other purposes. Before Russian tourist L.F. Kostenko gave information about this sardoba. Nowadays we can use only written information about it because of disappearing. He wrote that sardoba looks like half sphered and walls and dome were made from quadrat shaped cooked bricks. Walls are started from soil, 1.5m wide, general height 7 m, inside diameter 15.80 m. It is written that there were 7 rovoq shaped windows. Around well quadrat cooked bricks were used, was 4.30 deep. Upside of sardoba's dome there were tuynuks, downside kulfak holes were done. Well was filled with water from Syrdarya [9].

The findings show that the height of the sardoba dome can range from 6.20 to 12 meters, the diameter of the pools varies from 11.20 to 16 m, and the depth varies from 4 to 10 meters [10].

The first information about the cisterns is mentioned in the book of Khofizy Tanish ibn Mirmuhammad Bukhari, "Abdullanoma." When the Bukharian khan Abdullakhon II went on his way to Tashkent, stopped to relax in the area and commanded the thirsty soldiers to build a sardoba and a caravan. The bricks were square, and the inside diameter of the dome was 15 meters and the height was 12 meters. In the inside of the cistern, there are covered, hollowed holes in the ground at a height of 2 meters. If the thickness of the wall is 1.5 meters in the lower part, it will be thinner and the top of it will become a brick. It was just north of it. On the other three sides, there were arched holes. The entrance is in the shape of arch and passes through the brick stairs to the sardoba.

In the process of literature analysis, medieval geographers wrote that there were three caravans that crossed Mirzachul

from ancient times. The two of them traveled from Zaamin to Khovos through Syrdarya through Shosh, and the third caravan route traveled from Jizzakh to Shosh on the present-day Tashkent-Termiz highway. Third, though it was the shortest route to Shosh, it was difficult for him to cross the desert. Historians have written in their works that three sardoba were built on this road.

A number of details about medieval Ustrushona are found in Arabic sources. They say that the territory ranged from Khujand to Samarkand, from the Syr Darya River, and from Mirzachul to the Khisor Mountains. So far, many scientists have learned.

In the second half of the 16th century, Abdulla II II, uniting the Movarounnahr and Khurasan, built the Bukharan Khanate, was not only known for his military success, but also for his enlightenment. This information was written in "Abdullanoma": the Karavulbozor sardaba (cistern) on Karshi - Bukhara trade route, built by Kukeldash Kulbabo and also about the nearby caravanserais. Karshi - Bukhara, Karshi - Movarounnahr in the development of trade culture is in the main role [12]. The cisterns are one of the main architectural constructions that mark the direction of the old caravan routes.

IV. METHODOLOGY

It is desirable to study the old hydroelectric power plant in Syrdarya region as geographically two main directions. The first one illustrates its practical aspects, and the second is its practical aspects. For this reason, we will see them separately through the Agachli, Mirzarabad and Yakka sardaba cisterns.

In fact, every hydroelectric building can serve as a kind of ethnographic object. Together with its structure, appearance, and some features, it can be seen as an important object representing the way of nationality or of some nations. The cisterns can be seen from Asian countries such as Iran, Afghanistan, Arabia, Yemen, Turkmenistan and elsewhere, with some features, like its construction, use and water capacity.

The cisterns can be warmed mainly from groundwater and rainwater.

In Central Asia, in particular, in the mountainous and desert areas of Uzbekistan there are 300-350 mm precipitation, whereas the cisterns are able to collect 200 m of water from the cisterns on an average basis.

V. EXPERIMENTAL RESULTS

Thus, we can conclude that the Agachly and Mirzaabad cisterns located in Mirzachul were filled with snow and rain water in autumn and spring, and Yakka sardoba was compiled by the Russian tourist L.Kostenko's conclusion and by the results of the subsequent research at the expense of the Artificial Irrigation Point.

In the 16th century, in the Mirzachul region, we can see the Sardoba, Mirzarabat sardoba and the "Yakka" cisterns (Figure. 6).

When carrying out the work on measuring the slaughter of the Agachli Syrdarya in the Mirzachul area, the cistern is actually accessed from the north by one side, and on the other side of the dome there are three roof windows. The entrance is in shape of arch and it enters the sardoba through brick stairs.

The entrance has its own corridor. Historians of the past centuries wrote that there was a special room for servants and guards at the top of the corridor.



Figure 6. "Yakka" cisterns.

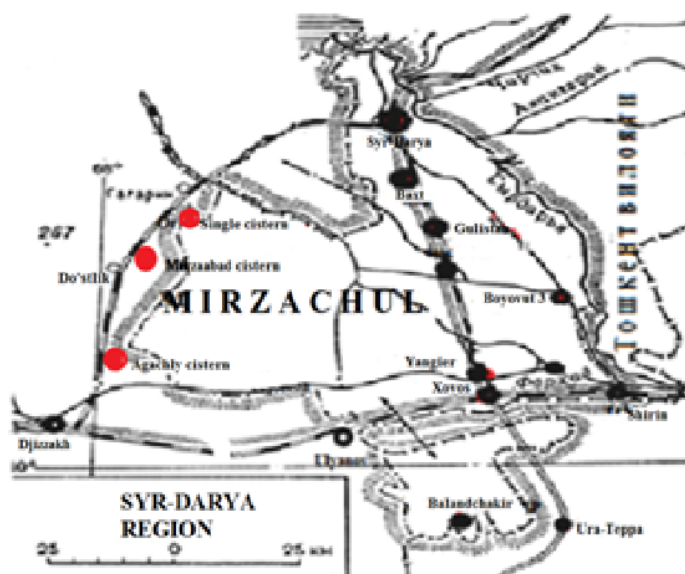


Figure 7. The order of the sardobas in Mirzachol.

Outside the sardoba it has risen through the steep steps. The height of the window frame was 2.60 m and the width was 0.8 m. (Figure. 7).

Three separate ventilation holes were installed in the cistern to prevent water from sardoba.

There are holes in the top of the dome, and the "hole" holes in the pool are drifted down to the sack of the coffin. The walls of the sardoba are cylindrical, with the width of the lower walls being 1.25 meters, the top is 0.55 meters, the total wall height is 11.20 meters, the diameter of the cupola is 15.35 meters, the depth of the water reservoir is 5.50 meters, a 5x3 meter tent was built.

To get water from the pool there were more than ten stairs steps, but now there are no stairs. The dome of Sardoba has been sought after by special designs of square shaped (25x25x5 cm) high quality bricks. The inner diameter of the tower is 14.40 meters and its elevation is 11.30 meters. The

interior is covered with 2 meter high, loose holes in the floor. The thickness of the sardoba wall is 1.5 meters in the lower part, and it is getting rid of ascending. At the top, its thickness is a brick.

VI. CONCLUSIONS

In fact, when the Miracles of the Age are the Homeland, the People are Historians. Various artifacts, monuments and architectural monuments dating back to ancient times are the result of the life, creativity, culture, art, dreams and dreams of every nation that has created them. There are over 10,000 architectural monuments in our country.

Bukhara Somoni Mausoleum in Bukhara, Minorai Kalon (minaret), Masjidi Kalon (mosque), Labi Hawuz (pool), Ark, Khorezm Buronkala, Noibkala, Ichankala, Shahi Zinda in Samarkand, Bibikhanum Mosque, Old Khawas Complex, Guri Amir Complex, Ulughbek Madrassah, Nurata Hill, and Aksarai in Shahrisabz, Agachli unique and rare monuments from all the regions of the world deserve to be recognized as miraculous world miracles. All this is the product of human intelligence, creativity and labour.

Agachli sardaba (cistern) is located on the bank of the highway connecting Tashkent - Samarkand - Bukhara. It is natural that this unique monument is also interesting for those motorists. Therefore, when the monument enters the tourist attraction, tourists will be able to find out more about Mirzachol's role in the Great Silk Road.

From history, it is desirable to have caravanserais in front of every cistern, and to restore the existing cisterns to enrich the flow of tourists in our country, and enrich the caravanserais with the exhibits of that time.

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