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WIDE DISTRIBUTED ARTIFICIAL WATER BASIN IN KHURASON AND MOVAUNNAHR COUNTRIES

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ABSTRACT
Natural solar heat, water supply.

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In the history of the population and architecture of Khurasan, engineering and irrigation facilities are of great importance. Ancient water structures occupy an important place among architectural monuments left by our ancestors and form one of their typological foundations. Special ponds, cisterns, reservoirs, canals, bridges, etc., prove that they were built on the basis of pre-prepared projects as examples of complex engineering culture.

Figure 1. A photo from the memorial-landscape solution of Jahanaro Park

A common artificial water body in Khorasan and Movaunnahr is a pond, a deep place dug to collect and store water, which also stored drinking water. There are square, rectangular, circular, six-sided and eight-sided types of ponds. Pools are mainly built in neighborhoods near

mosques and madrassas, in areas such as city squares, parks, gardens, and palace courtyards. The surroundings were reinforced with stones, trees were planted and turned into a cool place, sometimes decorated with fountains. Since ancient times, pools have been of great importance in architecture, especially in the organization of ensembles. Large ponds that have survived to us in Central Asia: Sitorai Mohi Khosa, Labi-hovuz, Bolohovuz, etc. in Bukhara not only provided water to the population, they were unrepeatable beautiful and attractive addresses of the cities, the ponds are also depicted in manuscript miniatures. expressed .

Figure 2. A miniature of Navoi's work Hayratul Abror

One of the most common types of ponds in Khorasan is "locked" ponds, which differed from ordinary ponds in terms of their construction style. These ponds are not dug in the ground, but built on a slope or on the bank of a stream.

There were more than 300 ponds in the city of Bukhara, according to documents of the 19th century. In the 20th century, under the pretext of sanitary requirements, most ponds were drained and buildings were built instead. Currently, taking into account the natural climatic conditions, ponds (reservoirs) are being built in the territory of Uzbekistan. It is 60 m long and 40 m wide. choosing a convenient place to come. stone and turf on three sides, height 2 m. A wall was built.

There are two ears on the upper and lower opposite sides of the pond, the upper one is designed to connect the water of the upstream stream to the pond, and the lower one is designed to drain the water collected in the pond. This "mechanism " designed to release water from the pool into the ditch is called "lock". They served as a lock when collecting and releasing water to the pool. The pipe made for draining water from the pool is also noteworthy, its cross-section is made of stone slabs in the shape of four corners. The outer mouth of the pipe, where water flows out, is made twice as wide as the inner mouth, where water enters. For example, the size of its inner mouth is 40 cm, and the outer one is 80 cm. The reason is that when the water pressure in the pool passes through the hole and flows into the pipe, when the lock is opened, the engineers know that the strong shock and pressure of the water will blow the outer mouth of the pipe, so the engineers made the pipe conical in order to reduce the water pressure and weaken the shock of the flow. Such simple, but well-constructed constructions on all sides are common in the "locked" Movaunnahr, foothill districts.

Figure 3. A picture of a garden landscape in the style of a square and an alley

Cisterns. Special water facilities to provide water for trade caravans and livestock traveling to foreign countries through Kyzylkum, Karakum, Mirzachol, Karshi and other deserts of Central Asia in deserts and steppes completely devoid of running water. "cisterns" were built . "Sardoba" means cold water room, a specially built domed pool. Cisterns quite a bit complicated built _ They are different different in volume will be _ C cylinder in the form of to the ground carved processed cistern of pool i depth 10 - 15 m, diameter 12 - 16 m and of the wall 1 - 1.5 meters thick organize does , pool surface water level with one flat was _ The cistern dome ripe bricks _ and from ganch The top of the cistern is treated , the pool wall is plastered with a special mixture "dirt" that does not absorb moisture hollow , around to the pool water falling holes just work _ There is also a door to enter the cistern, which is surrounded by a wall to keep the water clean. Next to the cistern, a manger for watering cattle was made, and water was poured into it through a special tap from the water tank. Some cisterns also had rooms for their control and cleaning.

There were several types of cisterns, depending on the geographical location, nature of the place, topography: cisterns were filled from snow and rain water, water from streams and underground water (with the help of cisterns). When building cisterns filled with snow and rain water, choosing a place for them was of great importance. Because such cisterns are filled with snow and rainwater flowing from the surrounding slopes in the spring .

On the top of the dome of the cistern, ventilation holes were poured, outside of which there was a chimney. Ventilation chimneys and holes constantly cleaned the air inside the structure and gave it coolness. There is a special water channel that pours water into the cistern pool and a covered entrance that takes water out of it.

There were 44 cisterns in Movaraunnahr. 29 of them were in the Karshi Desert, 3 in Mirzachol, 3 on the ancient trade route between Tashkent and Fergana, and 1 was in Choli Malik (Raboti Malik) near Karmana. Sardobalaf is still partially used in some steppes of Central Asia.

Bridges are special devices designed to cross rivers, canals, ditches, etc. According to the used building material, there are types such as brick bridge, stone bridge, wooden bridge. Bridges. Count from the ancient engineering structures of Movaunnahr and Khurasan.

It is known that it was not easy to cross the flowing water on the roads due to the many mountainous areas of Khurasan. For this reason, building bridges over mountains and rivers

was considered auspicious. Strong and sound bridges required a lot of money. Alisher Navoi built 16 bridges and eased the people's problems.

In Khorasan Province, Navoi opened several springs, dug canals, dug ditches, watered the arid lands, dug ponds and wells. Ponds are built near the neighborhood and guzars, mosques and graves, on caravan roads.

According to Khondamir, some pools and bridges built by Navoi were made of marble. The ponds built in the Navoi era architecture are square and octagonal in shape, and the shores are decorated with stone slabs. Willows and willows (sada) were planted along the ponds. In their shadow, the people rested sitting on stone slabs with steps.

Navoi also built monuments, saghanas, and houses on the graves of patriots and exemplary people. Navoi dug canals, wells, ponds, built cisterns and jetties in order to provide the population with spring and underground water. Their engineering solutions are based on deep and well-thought-out calculations and plans. Pools are made of brick and stone in the main neighborhoods and settlements, shrines, caravan routes. In order to improve the system of caravan roads, to create amenities, bridges, bridges, and cisterns are built in a variety of designs and engineering solutions.

Some h bad and k kisses _ marble with q is closed . Navoi period irrigation and mutual respect _ of shocks _ Although most of them died early , in the city of Qarshi _ _ _ _ _ _ _ Primitive (XVI century) solutions _ _ _ and the appearance of k ' they are the same _ _ so much _ imagination the house is empty . Navoi bridges _ floods or head q a natural disasters because of indestructibility for them _ one how many on similar grounds _ _ of stone sweaty _ A. Navoi by About 15 of the broken bridges _ _ _ in sources counting passed . _ They are between Stone bridge with a bridge (in Kushka city) and Puli Khotun bridges in Tajan _ _ _ _ _ _ _ past _ in the century h am available b ' died .

USED BOOKS LIST

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6. Torayeva N. _ Green world and fauna in gardens .
7. . Uralov AS , Kholdorov XN, Torayeva NNXurosan engineering and irrigation facilities built during the Navoi period // Memorchilik va kiriles muamollari ilm.tech.journali, №2, 2022.-19-21 pages.
8. Beknazarova M. - Flowers and their compositional elements . Central Asian Journal Of Arts And Design . http://cajad.centralasianstudies.org/index.php/CAJAD 2022.