OKTYABR DOSPANOV

JANPYK-KALA AND THE HISTORY OF EXCAVATIONS AND SURVEYS OF MEDIEVAL SITES OF KHOREZM ALONG THE RIGHT BANK OF THE AMU DARYA RIVER

This article examines the role of urbanization and urban culture of Khorezm on the right bank (north side) of the Amu Darya River during the 9th-14th centuries as well as the historiography and the latest archaeological research of this region. The issue of possible connections between the towns of the right bank of the Amu Darya and the reasons for their appearance and abandonment is also considered. Special attention is paid to substantiating the identity of the site of Janpyk-kala with the medieval town of Arzakhiva, mentioned by al-Muqaddasi (10th century). This article provides material for the study of medieval settlements when compiling a historical and topographic map of the Amu Darya's right-hand-bank in Khorezm.

Key words: *Right-bank Khorezm, lands of ancient irrigation, oasis, Janpyk-kala, Arzakhiva, site location.* **Citation:** *Oktyabr Dospanov* (2021) Janpyk-kala and the History of Excavations and Surveys of Medieval Sites of Khorezm along the Right Bank of the Amu Darya River, Bulletin of IICAS. Issue 31. 123-130. DOI: 10.34920/1694-5794-2021.123-130

Article link: https://doi.org/10.34920/1694-5794-2021.123-130

THE AREA of the "lands of ancient irrigation" along right-bank Khorezm¹ is estimated at approximately 500,000 hectares, significantly less than in left-bank Khorezm which incorporates 1 million hectares. Written sources attest to ten towns in this right-bank area, including four large ones. Archaeological research confirms four settlements that could be classified as towns (*Terenozhkin* 1940: 165-190).

Usually historians, such as Bartold and Gulyamov among others, sought to determine the location of the towns of Khoresm in relation to the territory of left-bank Khorezm and achieved a certain amount of success. The right bank, as a rule, did not attract their attention. Most likely, this was due to the center of gravity of that period's economy lay on the left bank. Following the transfer of the capital to Urgench, the right bank lost its significance. As we will see below, the "lands of ancient irrigation" during the later Middle Ages (second half of the 11th-14th centuries) were significantly smaller and reduced.

The first information about the medieval sites of right-bank Khorezm in European sources appeared

in the middle of the 18th century, specifically from the Russian explorers, Lieutenant Dmitry Gladyshev and surveyor Ivan Muravin, during a trip to the Khiva Khanate in 1740-1741. They wrote a short description of some of the sites and plotted their location on a map. The report was used by the geographer, historian, and ethnographer Pyotr Ivanovich Rychkov (1712-1777) (Rychkov 1862: 14), and its full text, together with the map, was published by Nikolai Vladimirovich Khanykov (Khanykov 1851: 276). In 1755, the map materials compiled by these explorers in 1755 were used in an atlas of the Orenburg province, published by I. Krasilnikov, and firmly entered circulation (Grekov 1966: 525-527). According to A. N. Bernshtam, Muravin and Gladyshev laid the foundations for the archaeological descriptions of the medieval sites of Central Asia and the Khorezm oasis (Bernshtam 1949: 5).

The most thoroughly examined site was the settlement of Janpyk-kala, located northwest of the Beruni region in today's Republic of Karakalpakstan. It is located 4-5 km southeast of the village of Karatau, on the right bank of the Amu Darya at the extreme western edge of the Sultanuizdag ridge.

Most of these old sites are attested through various legends and tales. One popular legend passed among the region's locals is recorded as follows.

¹ Ed. note: The term "right-bank Khorezm" refers to the land north of the Amu Darya River, predominately in today's Karakalpakstan, an autonomous region in the Republic of Uzbekistan.



Janpyk-kala. Aerospace photography. Source: Google Earth

"Among the inhabitants of the surrounding area, an interesting legend has survived about the fearless king Yampuk who ruled this town. According to the legend, King Yampuk was the brother of King Gyaur (the Gyaur-kala fortress is located nearby, some 5 km northwest of the Janpyk-kala settlement). In order to profit and increase his own possessions, the insidious Gyaur declared war on his brother Yampuk. King Gyaur with a one thousand-strong army besieged the fortress for a long time. But Yampuk, together with the residents, stubbornly defended his hometown. Due to the lack of food and water, disease appeared in the town and people began to die. Naturally, their resistance weakened. Gyaur's strong army managed to capture the fortress. The surviving inhabitants were driven into slavery, the town was plundered, and King Yampuk himself was beheaded" (Dospanov 1984).

The earliest mention of the Janpyk-kala site itself during modern times dates back to 1863, when Arminius Vamberi, a professor of oriental languages and literature at the University of Prague, disguised as a dervish, visited the Khiva Khanate and wrote a short description of some ruins on his way along the Amu Darya:

"On the right bank, opposite the location where we boarded the ship, one can see extensive ruins called Shahbaz-Veli (Holy Mountain). Here in the past possibly contained a strong fortress destroyed by the Kalmyks. [...] Further on, there are other, far-reaching ruins with remains of stone buildings, called Gyaur Kalasi (Stronghold of the Infidels). [...] On the right bank of the river, the Oveis mountains approach closer to the Oxus [Amy Darya], the traveler leaves the Yampuk peak crowned with the ruins of an old fortification. Just opposite Yumalak, the Sheikh-Jalil mountain range appears extending east to west forming a gorge (here it is called *kyznak*)..." (*Vamberi* 2003: 111-112).

Sailing downstream along the Amu Darya, Vamberi provided first a description of Janpyk-kala, then Gyaur-kala (Sultanuizdag), and only then continued to present his subsequent materials. Apparently, his inconsistent description of the archaeological sites are explained by the fact that he wrote his travel notes after departing Khorezm and some of the details of his journey were erased from his memory (*Yusupov* 1984: 3-4).

During a geological survey of the Sultanuizdag Mountains in 1874, geologist N.P. Barbot de Marni collected information about Janpyk-kala and he remarks, "On the ridge of the more southern spur are the remarkable ruins of the Yampuk-Kala [Janpyk-kala] fortress" (*Barbot de Marni* 1875: 115). At the end of the 19th century the journalist A.E. Rossikova briefly mentioned Janpyk-kala and she even tried to interpret the purpose of some of the sites she had seen: "On the right [bank] were the ruins of some rather extensive building. This is the former fortress of Yampuk or Yatnyk, very picturesquely located at the exact base of the ridge among a dense thicket of riparian vegetation. Judging by the ruins, the fortress was once a grandiose structure with watchtowers and undoubtedly existed to guard and defend the Kisnak gorge" (*Rossikova* 1902: 640).

A systematic and purposeful study of the site began only in 1937. In 1940, during the exploration of the Khorezm Archaeological and Ethnographic Expedition of the Academy of Sciences of the USSR (hereinafter referred to as KhAEE), cultural material was collected at the Janpyk-kala fortress and a topography plan along with a perspective rendering of the fortress ruins was drawn and the walls were photographed. The team dated the site to 12th-14th centuries. At the base of the walls, Sergey Pavlovich Tolstov discovered traces of medieval masonry. Archaeological excavations at the site were not conducted at that time (*Tolstov* 1948: 168-168; *Vakturskaya, Vorobyova* 1952: 623).

Tolstov deliberately chose the right bank as the focus for his research. He wrote:

"... The evidence of the written sources made it possible to assume that life on the *takyrs*² and lands of ancient irrigation along the right bank ended much earlier than in most areas of left-bank Khorezm. The transition of the capital of the state to Urgench at the end of the 10th century; al-Biruni's information about the destruction of city of Kyat along the Amu Darya River; Samani's evidence that some of the towns of the right bank in his day lay in ruins; and the case was closed, finally, from Ibn-Batuta's testimony at the beginning of the 14th century about the lack of a single village along the way from Kyat to Bukhara, exactly in the area of the ancient irrigated lands, thus our choice was determined." (Tolstov 1948: 29).

Four pre-war archaeological seasons were devoted to exploration and excavation mainly of ancient and early medieval sites discovered in 1937 by A. I. Terenozhkin. In subsequent years these were undertaken by S. P. Tolstov who headed the previously-mentioned expedition. But as early as 1939, S. P. Tolstov focused the expedition's work on the study of primitive and medieval sites. In 1940 large estates from the 9th-10th centuries were excavated. Buran-kala No. 1 and 2 and Naib-kala, and Janpyk-kala were designated as medieval towns. The medieval Kavat-kala's oasis (12th - early 13th centuries) was subjected to a wide topographical survey with the preparation of a schematic plan. Estate No. 1, near Kavat-kala, was excavated. In the same year, the survey of the irrigation system of the right bank was completed.

Yahya Gulyamov, beginning in 1934, carried out exploration work on the lands of Khorezm, and from 1938 joined KhAEE, playing a significant role in these studies and dealt with the problems of artificial irrigation in the "ancient irrigation network of Khorezm." He utilized not only archaeological data, but also a large volume of archival documents, decrees, eastern manuscripts, and literary works (*Andrianov* 1969: 7-8). Of particular importance for our topic are those parts of Gulyamov's work in which he examines written sources in order to identify the archaeological sites from the Middle Ages with the towns of Khorezm mentioned in the textual sources. In this respect, he went further than his own professor, Barthold, his predecessor in the study of the archaeological and topographic maps of the country on the basis of the written material. Gulyamov, as indicated, had broader and more varied material at his disposal, primarily archaeological, as opposed to Barthold.

In the postwar years, right-bank Khorezm was still the expedition's focus of attention, primarily in connection with the excavations of the Bronze Age sites of Toprak-kala and Koy-Krylgan-kala. Less attention was paid to the medieval sites, however, small-scale work was conducted on them, specifically in reference to the digs of some estates of the Kavat-kala oasis, designated numbers 16, 41, 43, and 60 conducted with the cooperation of the State Museum of Arts of the Karakalpak ASSR.

Working to refine the archaeological and topographic map of Khorezm, a special detachment under the leadership of Boris Andrianov explored the environs of Narynjan, Guldursun, and the territory of the Kavat-kala oasis (*Andrianov* 1969: 12-13). Starting in 1970, the State Museum of Arts of the Karakalpak ASSR began examination of the "lands of ancient irrigation" along right-bank Khorezm. Andrianova organized and conducted digs of several estates in the Kavat-kala oasis (1970-1972). Even prior to this, in 1968 excavations began at Janpyk-kala which for many years became the main concentration of the museum's work.

Yet, as early as 1965, an expeditionary detachment of the Karakalpak branch of the Academy of Sciences of the USSR (hereinafter referred to as the KKB AS RU) examined Janpyk-kala. A trench was dug at the settlement, cultural material was collected, and measurements taken of the palace. This archaeological study of the site made it possible to obtain new information on fortifications, construction techniques, and architecture. Analysis of pottery, construction techniques, and numismatic data made it possible to date the site between the 9th-11th centuries, and secondary and partial habitation during the 13th-14th centuries. (*Manylov, Kdyrniyazov* 1977).

Between 1968-1971, The State Museum (eventually named the Igor Savitsky State Museum of Arts of the Republic of Karakalpakstan) examined the site of Janpyk-kala, conducting detailed measurements with designations of dig sites 1 and 2. Behind the northern fortress wall a large burial ground was discovered in-

² Ed. note: a takyr was a clay plain devoid of vegetation.



Janpyk-kala. General view of the settlement. Source: http://dostoyanieplaneti.ru/images/ym5jp8vm2cwv.jpg

cluding the ruins of two mausoleums, one of which has been excavated (*Manylov* 1973: 78; 1981: 50-51). A signal tower was examined located at the Kuyanchik heights, west of Janpyk-kala. This location dated to the 10th-11th centuries. (*Manylov* 1969: 67-70).

In 1973, work on the site continued following a year's hiatus. Old digs were expanded and new digs initiated (Manylov 1974). Between 1978 through 1981, excavations were conducted in the southern part of the settlement. The cultural layer was only partially preserved. In the spring seasons of 1983-84, the work continued in the western half of the settlement along the fortress wall which then connected with excavation unit No. 4. Two quarters were exposed, residential and industrial, with terraced rooms (Aliakberova 1985; Khozhaniyazov et al. 1990: 132-145). Regular archaeological excavations at the Janpyk-kala settlement were continued by the author between 1987-1992 revealing two residential quarters dating between the 12th-14th centuries (Dospanov 1987: 1989: 1992).

The abovementioned signal tower (4.6 x 4.8 m) was located two to three km northwest of the settlement and stands on the Kuyanchik plateau, it is built of adobe bricks ($32-33 \times 32-33 \times 5-6 \text{ cm}$). The tower is clearly visible from the fortress. The raised plat-

form contained pottery from the 11th-14th centuries (*Manylov* 1969: 69). The life of the signal tower's proposed chronology stands in agreement with the data of the written sources as reasonably cited by Yu. P. Manylov.

The most interesting historical source is found in the work of the Arab geographer al-Istakhri, *Kitab Mesalik al-Memalik* (*The Book of the Ways of the Countries*), written between 930-933. He reported that "all the borders of Maverannahr are a place of hostilities, from Khorezm to the outskirts of Isfidjab, with the Guzz-Turks [Oguz Turks]" (MITT 1939: 178). Further, he points out that "from the north and west, it [Khorezm] lies on the boundaries of the Guzz," and also, "they [the inhabitants of Khorezm] are bravely fighting the Guzzes and are inaccessible to them" (MITT 1939: 180).

The author of the geographical work *Khudud al-Alem* (*Borders of the World*), written in 982-983, reported that "around it [the Aral Sea] all the places belong to the Guzz. These people are armed, brave, and determined in battle. They constantly come to fight in the field of Islam. Whatever terrain they attack, they trample and plunder it, and quickly return" (MITT 1939: 211).

It is reasonable to assume that the above reference

primarily refers to Khorezm which was an outpost in the struggle against the Oguz Turks. Thus, we have good reason to date the period of the signal tower's operations from the 10th to the beginning of the 11th century. Probably later, with the increase of the Khorezm state's power, its borders moved farther to the north, and a number of other border fortresses appeared along the Syr Darya. Apparently, around the beginning of the 12th century, the need for garrisons along the Sultanuizdag ridge diminished and the signal tower and Janpyk-kala lost their full purpose. Three small scale excavations were also conducted on Greater Guldursun (Dospanov 1993). A large exploratory trench was dug and expanded and converted into an excavation. One of the fortress towers was dug and its fortifications were examined. As a result, the available information about Guldursun's existence, the nature of its development in the Middle Ages, the features of the fortification, and its research played quiet an important role in the preparation for S. P. Tolstov's periodization of the history of Khorezm (Tolstov 1948: 170).

Finally, mention should be made of the work of the archeology sector of the KKB AS RU devoted to the study of the Amu Darya delta. This region is identified with the location of the so-called Kerder culture which should be differentiated from the greater Khorezm culture. The sites of the Kerder culture were studied by a detachment of the expedition led by A. V. Gudkova and V. N. Yagodin in 1958. In this case, we are interested in the late Kerder stage of this culture's development (9th-11th centuries) which are recorded in the textual sources of Khaivan-kala (i.e. the Kerder written sources) and Tok-kala (known as Darsan among early medieval Arabic-speaking authors) (Gudkova 1964: 42-84: Yagodin 1981: 78-103). The comprehensive study of the delta regions (Yagodin 1986: 73-108) sheds light on some of the problems associated with the historical and archaeological map of Khorezm proper. In recent years, the sector has been conducting excavations in the Golden Horde area of the large Khorezm town of Mizdahkan, which have provided us with extremely interesting results. (Yagodin, Khojayov 1970; Turebekov 1991: 14-16: Khozhaniyazov, Yusupov 1992: 16-18).

The irrigation system of the right bank—continuously maintained for several hundred years during the so-called "Kangu-Kushan periods" of the region's history from the first century AD— consisted of three powerful irrigation canals that originated from the Amu Darya somewhere in the Shurakhan region and then fanned out toward the east. The eastern sections were limited to the Sultanuizdag mountain range. This was ancient Kelteminar with its large Kyrk Kyz canal and the powerful irrigation system known as Gaukhore. In the 9th-10th centuries this system of irrigation networks spanned across the entire region from the Greater Guldursun to the Greater Kyrk Kyz Canal, which still functioned as late as the 5th to 8th centuries during the early Middle Ages by which time Kelteminar ceased to exist.

In fact, by the 9th-11th centuries the Gaukhora was the only remaining canal system which from as late the 11th to the beginning of the 13th centuries provided a vast, rich oasis with Kavat-kala flourishing at its center. In fact, in that location a palace and probably a mosque and a number of public buildings has been revealed (Dospanov 2013: 12-133). This oasis was completely overshadowed by the earlier one which was also quite extensive judging by the large amount of pottery dishware from the 9th-11th centuries found on the surface of the agricultural land from the Khorezmshah era. As a result of the survey of castles and estates of the 5th-8th centuries archaeologists discovered that some of these structures were adapted for habitation during the 9th-11th centuries. Apparently, this region was a border line of outposts stretching from south to north reaching the spurs of Sultanuizdag and serving as protection against nomadic tribal incursions at the approaches for the capital of Kyat from the side of abandoned and turned into a desert lands.

Apparently, these outposts were established on wells as sources for water. Some of them continued to exist or were re-established later during in the 12th to early 13th centuries. However, the largest archaeological site in this zone is the ancient site of Greater Guldursun, abandoned in the first centuries AD, it revived later during the 9th-11th centuries (*Dospanov* 1993). It is possible that life continued in Narynjan and Shurakhan which stood at the source of large canals on the right bank (*Gulyamov* 1957: 137-139).

As the focus of research and excavations for many years, Janpyk-kala demonstrates that its construction was most likely undertaken during the pre-Mongol period. With Kyat as the capital and major trading center during that period as well, the region was a key trading hub and a significant location for defense since Janpyk-kala was located at a strategically advantageous place.

It is important to note the presence of the nearby Kerder canal some four *farsakh*³ from Kyat as reported by the Arab geographers al-Istakhri and al-Muqaddasi (MITT 1939: 26-28). According to al-Istakhri, "... Kardar has a canal that takes water below the main town [Kyat] a distance of four farsakh from four sources close to each other. They merge into a canal such as the Bukh and Vadek when they join. They say that the channel of Jeyhun was in this place, and

³ Ed. note: A *farsakh* was a Persian unit of measurement the equivalent of approximately 10 km.

when the water in Jeyhun decreases, it decreases in this channel as well" (*Yagodin* 1986: 77). And in another reference: "In the desert, a farsakh opposite Kit, on the north side is a town called Mazminia, it is four farsakh from Jeyhun, but it [belongs] to Djurdjania; it became so because the river moved away from Kardar [Kerder] and cut off Git from Mazminia" (MITT, 1939: 179). Al-Muqaddasi also reported on the existence of Kerder (MITT 1939: 187).

Yagodin points out the interesting and significant features that are noted in al-Istakhri's text concerning "the multi-sourced origins of the Kerder canal, which takes water from four places and is associated with the specifics of overflow canals to prevent flooding" (*Yagodin* 1986: 78). The Kerder canal was necessary to carry the waters of the Amu Darya into the delta which was drying up due to the shifting of the Amu Darya to the western region of Kerder at the end of the 10th century. For some time, Khaivan-kala (where Kerder is located as the main town of the region) and, perhaps, Tok-kala were located along these waters.

Thus, in the 9th-11th centuries on the right bank of the Amu Darya one cannot attest to a significant upsurge in urban and cultural life as on the left. On the left-bank Khorezm textual sources name at least twenty-one towns, including the village of Barategin; while on the right only ten are listed. V. N. Yagodin identified the village of Barategin as being the location for the settlement Greater Aybugir-kala (Yagodin 1986: 102). Most of the aforementioned towns have not been identified archaeologically with known settlements. These include Nukfag, Arzakhiva, Zardukh, Sadvar, Jashira. As for Gardman, Bartold claimed it was near modern Gurlen, while Vaikhan was at today's Mangyt. (Barthold 1963: 205). Yakubovsky identified Mizdahkan as located just before the westward turn of the Amu Darya on the right bank of the river. Presumably, Janpyk-kala, too, should have been known to al-Istakhri and al-Muqaddasi's contemporaries. It was a fairly large town with an area of 12 hectares and comparable to Hazarasp with its 10 hectares.

On the right bank, with less urbanization in general and with Gardman and Vaikhan probably seen primarily as crossings points for the Amu Darya; Janpyk-kala would have been quite noticeable with its advantageous strategic position as a river port and defending, as A.E. Rossikov mentions, "the Kisnak gorge" on the northern approaches to Khorezm (Rossikova 1902: 640). Based on the Janpyk-kala site's geographical position, Arzakhiva is the closest match to al-Muqaddasi's list based on his description: "...she is on the edge of the desert, around a wall with one gate, she stands under a mountain." (MITT: 187). In al-Muqaddasi's town list, Arzahiva follows Gardman and Vaikhan (Aydah), therefore, the listing was indicated by a south-to-north progression. In this case, Arzakhiva turns out to be north of the other two towns which also coincides with the location of the Janpyk-kala site on the map relative to modern Gurlen and Mangyt. Yet, Bartold, unaware of Janpyk-kala, considered Arzakhiva as located near the Khojakul station (*Bartold* 1963: 205).

In the 12th to the middle of the 13th centuries, Greater Guldursun came to life again. Archaeological investigations reveal that Janpyk-kala was quite densely populated. Other settlements such as Narinjan, Shurakhan, and Kyat also existed although they lost their former enormous economic potential. However, Guldursun-kala itself was not densely populated with buildings, apparently only constructed along the inner perimeter of the previous settlement. (*Dospanov* 1993).

Despite this occupational renewal in certain settlements, the ancient oases, which declined to extinction between the 3rd-8th centuries AD, remained deserted in contrast to left-bank Khorezm where agricultural settlements flourished during the 12th to early 13th centuries and greatly exceeded the boundaries of the previous "lands of ancient irrigation." Apparently, this was due to the situation in the region as well as the change in the country's political orientation.

By this time, the right-bank Kerder region was completely desolate, but large urban settlements with mosques, fortress walls, and buildings made of fired bricks flourished on the left bank. The culture of these towns, judging by the pottery and its decor, etc., no longer differed from the Khorezm culture. At the height of its flourishing, trade with the neighboring Oguz-Kipchak tribes probably played a large role in addition to the other domestic and international connections.

The evidence of a trade revival between rightbank Khorezm and the southern regions is seen in the construction of a large caravanserai on the road from Khorezm to Bukhara. These ruins are now called Dash-kala. Two smaller caravanserais were located in this area, Sartarash and Ishan-Rabat, however, they were abandoned sometime during the 12th or 13th centuries (*Lokhovitz* 1979). Apparently at this point, the entire volume of trade contacts could now be conducted by only one, very large caravanserai.

Following the ruinous campaigns of Genghis Khan, this group of caravanserais ceased to function. Obviously, this reflects some type of change in the direction of trade relations. Nevertheless, by the middle of the 14th century Janpyk-Kala experienced a new flourishing apparently becoming a significant river port associated with international trade. The town of Narinjan expanded while Kyat and Mizdahqan continued to exist. The cultural material from this region and period reflect broad and distant trade connection with the of Chagatay ulus. Yet, in contrast to blooming expansion during the 12th – early 13th centuries stands the Kavat-kala oasis on the Gavkhor. How little the country managed to recover from the Mongol invasion is evidenced, according to Bartold, by the testimony of Ibn Batutta. As he passed from Urgench

REFERENCES

- Aliakberova, A. A. (1985) Research on the Settlement of Janpyk-kala, Arheologicheskie otkrytiya 1984 goda [Archaeological Discoveries in 1984]. Moscow: Nauka Publ., pp. 4-6 (in Russain).
- Andrianov, V. V. (1969) Drevnie orositel'nye sistemy Priaral'ya [Ancient Irrigation Systems of the Aral Sea Region]. Moscow: Nauka Publ. (In Russian).
- Barbot de Marni, N. O (1875) O geologicheskih issledovaniyah v Amu-Dar'inskom krae [On Geological Research in the Amu Darya Region], *IRGO*. Vol. IX, issue 1. St.Petersburg, pp. 115-117 (in Russian).
- Bartold, V. V. (1963) *Sochineniya* [*Compositions*]. Vol. I. Moscow: Nauka Publ. (In Russian).
- Bernshtam, A. N. (1949) Sovetskaya arheologia Sredney Azii [Soviet Archeology of Central Asia] // KSIIMK, vol. 28. Moscow – Leningrad, pp. 4-17. (In Russian).
- Dospanov, O. T. (1993a) Nekotorye svedeniya o gorodische Bol'soy Gul'dursun [Some Information about the Settlement of Greater Guldursun], Vestnik KKO AN RUz [Bulletin of the Karakalpak branch of the Academy of Sciences of Uzbekistan]. No. 2, pp. 109-114. (In Russian).
- Dospanov, O. T. (1993b) Drevnii gorod Guldursun [The Ancient Town of Guldursun]. Nukus: Karakalpakstan Publ. (In Russian).
- Dospanov, O. T. (2013) Kavat-kala: unikal'nyi pamyatnik srednevekov'ya [Kavat-kala: A Unique Monument of the Middle Ages], *Istoriya i arheologiya Turana* [*History and Archeology of Turan*]. No 1. Samarkand, pp. 125-133 (in Russian).
- Grekov, V.I. (1966) Ocherki iz istorii russkih geograficheskih issledovanii 1725-1765 [Essays from the History of Russian Geographical Research 1725-1765]. Moscow: Nauka Publ. (In Russian).
- Gulyamov, Ya. G. (1957) *Istoriya orosheniya Horezma* [*Irrigation History of Khorezm*]. Tashkent: Publishing House of the Academy of Sciences of the Uzbek SSR (in Russian).
- Gudkova, A.V. (1964) *Tok-kala*. Tashkent: Nauka Publ. (In Russian).
- Ibragimov, N. (1988) Ibn Battuta i ego puteshestvie po Sredney Azii [*Ibn Battuta and His Travels in Central Asia*]. Moscow: Nauka Publ. (In Russian).
- Khanykov, N. V. (1851) Poyasnitel'naya zapiska k karte Aral'skogo morya i Hivinsko hanstva s yeio okrestnostyami [An Explanatory Note to the Map of the Aral Sea and the Khiva Khanate with its Environs], Zapiski Russkogo Geografichwskogo obschestva [Notes of the Russian Geographical Society,], Vol. V. SPb, pp. 276-282 (in Russian).
- Khozhaniyazov G., Kdyrniyazov M. Sh., and O. T.

to Bukhara in 1333, he did not meet a single settlement along his way, except for Kyat (*Ibragimov* 1988: 78-80). By the end of the 14th century not a single functioning settlement remained in the "lands of ancient irrigation." Janpyk-kala was also abandoned, and Kyat continued to exist only a dim remnant of its former self.

Dospanov (1990) Raskopki zhilogo kvartala XIII-XIV vekov zapadnoy chasti Janpyk-kala [Excavations of a Residential Area of the 13th-14th Centuries. Western Part of Janpyk-Kala], *Arheologiya Priaral'ya* [Archaeology of the Aral Sea Region]. Issue 4. Tashkent, pp. 132-146 (in Russian).

- Khozhaniyazov, G., and N. Yu. Yusupov (1992) Raskopki vostochnogo kompleksa na Mizdahkane v 1987-1911 godah [Excavations of the Eastern Complex at Mizdahkan in 1987-1991], Tezisy nauchno-tehnicheskoy konferentsii [Abstracts of Scientific and Technical Conference]. Nukus, pp. 16-19 (in Russian).
- Lokhovits, V. A. (1979) Karavan-sarai Verhnego Horezma [Caravanserais of Upper Khorezm], *Etnografiya i arheologiya Sredney Azii* [*Ethnography and Archeology of Central Asia*]. Moscow: Nauka Publ., pp. 112-117 (in Russian).
- Manylov, Yu. P. (1964) Signal'naya basjnya Sultauizdaga [Signal Tower of Sultanuizdag], Vestnik KKO AN RUz [Bulletin of the Karakalpak branch of the Academy of Sciences of Uzbekistan]. No. 4, pp. 65-71 (in Russian).
- Manylov, Yu.P., and M.Sh. Kdyrniyazov (1984) Poselenie Janpyk-kala [The Settlement of Janpyk-kala], *Arheologiya Priaral'ya* [*Archeology of the Aral Sea Region*]. Issue 2. Tashkent, pp. 67-79 (in Russian).
- MITT (1939) Materialy po istorii Turkmen I Turkmenii [Materials on the History of the Turkmen and Turkmenia], Volume I. Moscow – Leningrad: Academy of [Sciences of USSR Publ. (In Russian).
- Rossikova, A. E. (1902) Po Amu-Darye ot Petro-Aleksandrovska do Nukusa [Along the Amu Darya from Petro-Aleksandrovsk to Nukus], *Russkii vestnik* [*Russian Bulletin*]. Vol. 281. St.Petresburg (In Russian).
- Rychkov, P. I. (1762) Topografiya Orenburgskoy gubernii [Topography of the Orenburg Province. Part 1. Orenburg. (In Russian).
- Tolstov, S. P. (1948) *Drevnii Horezm* [*Ancient Khorezm*]. M., Moscow State University Publ. (In Russian).
- Turebekov, M. T. (1992) Remeslenno-torgovye kvartaly XIII-XIV vekov gorogischa Mizdahqan (raskopki 1985-1990 godov) [Handicraft and Trading Quarters of the 13th-14th Centuries: Fortified Settlements of Mizdahkan (Excavations 1985-1990)], Tezisy nauchno-tehnicheskoy konferentsii [Abstracts of Scientific and Technical Conference]. Nukus, pp. 14-16 (in Russian).
- Vambery A. (2003) Puteshestvie po Sredney Azii [Travel in Central Asia]. Moscow: Vostochnaya literatura Publ. (In Russian).
- Vakturskaya N. N., and M. G. Vorobieva (1952) Hronika rabot Horezmskoy ekspeditsii Akademii nauk SSSR [A Chronicle of the Work of the Khorezm Expedition of the Academy of Sciences of the USSR], Trudy Horezmskoy ekspeditsii [Proceedings of the Khorezm Ekspedi-

tion]. Vol. II. Moscow: Akademiya nauk SSSR Publ., pp. 623-637 (in Russian).

- Yusupov G. Yu. (1984) Iz istorii arheologicheskogo izuchenya nizov'ev Amudar'i [On the History of Archaeological Study of the Lower Reaches of the Amu Darya], *Arheologiya Priaral'ya* [Archeology of the Aral Sea Region], Issue 2, Tashkent: Fan Publ., pp. 3-8 (in Russian).
- Yagodin V. N., and T. K. Khojayov (1970) *Nekropol' drevnego Mizdahqana [The Necropolis of Ancient Mizdahqan.* Tashkent: Fan Publ. (In Russian).

Yagodin V. N. (1981) Gorodische Haivan-kala - rasn-

nesrednevekovyi Kerder [Khaivan Kala Settlement of Early Medieval Kerder], *Arheologicheskie issledovaniya v Karakalpakstane* [*Archaeological Research in Karakalpakstan.* Tashkent: Fan Publ., pp. 78-102 (in Russian).

Yagodin V. N. (1986) Nekotorye voprosy istoricheskoy geografii Priaral'skoy del'ty Amudar'I v VII-XIV vv. [Some Questions of the Historical Geography of the Aral Delta of the Amu Darya in the 7th-14th Centuries], Arheologiya Priaralya [Archeology of the Aral Sea Region]. Issue 3. Tashkent: Fan Publ., pp. 73-109 (In Russian).