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КОЛОДЦЫ В КАЗАХСКОЙ СТЕПИ: ЭТНОЛОГИЧЕСКИЙ ПОДХОД

Аннотация: колодцы сыграли решающую роль в обеспечении традиционной жизни Казахского народа, которая зависела от благополучия многочисленных стад домашних животных в условиях засушливого климата, особенно во время миграций. В Устюрте и в Мангистау, воду можно было найти только под землей, в колодцах. До нескольких десятков колодцев было вырыто в местах, где качественные грунтовые воды были близки к поверхности. Строительство колодца было очень трудоемкой работой. В пустынных и каменистых районах крайне важно было правильно определить место для прокладки ствола скважины. В ремесле были заняты только высококвалифицированные мастера - *Кудыкши*.

Ключевые слова: колодец, колодезные ремесленники, прудные каменные колодцы, укрепление стен, колодезные мастера.

Abstract: wells played a crucial role in providing the conventional life of Kazakh people which depended on wellbeing of multiple herds of domestic animals in the arid climate, especially during migrations. In Ustyurt and Mangystau, water could only be found underground, in wells. Up to several dozens of wells were dug in places where good-quality ground waters were close to surface. Building a well was very laborious job. In desert and rocky areas, it was critical to define correctly the

place for laying the well trunk. Only highly skilled craftsmen, *kudykshi*, were occupied in the trade.

Key words: well, well craftsmen, ponds stone wells, wall reinforcement, well masters.

Introduction

Wells played a great role in providing the life of Kazakh people. Wells are deep complex underground hydrotechnical structures. The fact that digging wells was a professional trade since prehistoric times is proven by discovery of well elements during archaeological excavations, supported by airborne images. In south Kazakh lands, medieval towns located along the Syrdaria middle course provide facts on wells connected into a network, called *karez*. These complex systems of wells, spread over Kazakh lands, and their features occupied minds of foreign travellers, researchers, and military officials; when compiling toponymic maps, they indicated communities and names of watering places, wells, and their distance from town centres. These records are valuable sources for historical geography and historical toponymics. We can name the following authors: B.Zalesskii, A.P.Zalesskii, Mag-Gahan, S.P.Shvetsov, O.S.Vyalov and others.

Types of wells and sources of life concerns

Well building and servicing craftsmen, like water-men, were held in high esteem by Kazakhs of arid regions. Wells were dug in places of winter, summer, spring and autumn camps and on migration and caravan routes. Every year, migrating to seasonal pastures, kazakhs followed paths, established by ancestors and before arriving to well-known wells, stayed at rivers. Serving as water stations on migration and caravan routes, wells provided their continuity for nomads and caravaneers; they connected peoples with each other and were landmarks of special significance. Such were wells of the Kyzylkum desert: Kempir-kudyk, Zhalyndy-kudyk, Köl-kudyk, Baishuak, Shirik-rabat, and Onadym [1].

Nomadic and semi-nomadic livestock breeding is very hard work. Energy and force consuming are jobs of shepherding livestock at pastures, their propagation, nursing

youngsters, maintaining herds, curing its diseases, building wells in arid and semi-arid areas and their proper maintenance. The kazakh animal husbandry depended on natural precarious conditions. On the way to pastures, Kazakhs had to cross desert areas: from the Shu region to the Zhetikonyr pasture via the Betpakdala desert, from the Syr to Torgai's Kostanai pastures via the Arys sands and Darialuk takyrs (cracky solonchak). Kazakhs were passing by the wells of Kempir-kudyk, Kyzyl-demar, Kiakty, Zhalyndy, Alty-kudyk, Karazhuz, Taskudyk on the way to pastures of Yrgyz and Aktobe, along the low course of Syr. It was necessary to dig wells in sands of Kishi-Borsyk and Ulken Borsyk, the deserts of Moyinkum, Kyzylkum and Karakum to maintain them in order, to provide water needs both of humans and animals. Well and water craftsmen were held in the highest esteem among Kazakhs of arid areas [2; 3].

Natural and manmade water sources alike were called *suat*; the distance between watering points was 5-10 km. In old days, after searching and finding places for pastures and seasonal camps, nomads marked the appropriated land with own sign; the *suat* was marked by a bundle of grass at the well mouth - the custom was called *top budym* ("bundling a heap"). Seen such grass bundle, other nomad group, would make a short stay and go by, continuing their search for own water source [4, p.141].

In arid Kazakh lands, various well-digging techniques were developed, serving the need in specific water depth and volume. Researchers noted that wells were made different, depending on purpose and term of use: wells destined for years of service were considered permanent; temporary wells, if not needed anymore, could be closed with earth. Permanent wells had different depth: shallow of 4-5 m, medium of 4-10 m, and deep wells went below 10m. The Kazakh people's ancient hydrotechnical knowledge of well-building craftsmanship is termed locally *kudykshilik*.

Deep wells were *shynyrau* wells. In the Mangystau and Ustyurt area, due to deepness of the water bearing horizons, only *shynyrau* wells were in practice; *shynyrau* shafts were reinforced with stones, hence their names: *tas kudyk*, *tas shynyrau*, and *kurdym* wells for their deepness (*kurdum* - abyss). *Shynyrau* wells were in focus of a research expedition organized in 1926 to the Adai district by the order of the USSR Academy of Science, member of which was the Alash-Orda party leader Alikhan

Bokeikhanov. In his work “Kazaks of the Adai district” (“Kazakhi Adaevskogo uezda”), Bokeikhanov wrote the following about shynyrau wells: “*Shynyrau. These are wells 30-40 sazhen deep, reinforced with stones, their mouth rimmed against animals with stones and sands*”. Curious here is the use by Bokeikhanov of the sazhen measure. One sazhen is equal to 3 arshyn, and one arshyn is 71 cm, so that one sazhen is about 213 cm, making 30 sazhen shynyrau well of 63.9 meter deep, 40 sazhen of 85.2 meter deep. His original text was written in Russian. In old times, depth of wells was counted in *kulash* (steps), hence he could mean the depth of 30-40 kulash/steps [4, p.140].

A military traveller Mag-Gahan in his monography “The water-deprived Steppe” (“Bezvodnaya step”), part XI, writes on wells in the Oxuz valley of the Kazakh steppe, 8-10 feet in diameter, over 60 m deep. Mag-Gahan learned from local residents that these wells dates to times of Lame Timur [5, p. 63].

In the Mangystau and Ustyurt areas, under 1,5-2 m of the surface layer is the “soft stone” layer 30-40 m thick and more; so, in order to reach groundwater, it is necessary to deepen the stone layer. Firstly, a wide upper layer is dug out, then right in its centre a pit of 1,5 m in diameter is made with a breaker (a tool with sharp metal head, used by fishermen to break ice), and then a layer of 30-40 cm is grabbed out; this operation is called “slaughtering the stone”. The broken layer is removed from edges. Upon deepening of the shynyrau, removal of mud and stones accumulated on its bottom becomes harder and harder. Therefore, *dolyk* or *konsherek*, a basket made of bull skin, tied to a long rope, was used to remove the waste material from the hole, using camel’s draught power [6, p. 49; 7, p. 88, table 13].

Normally, a shynyrau few kulash deep was built by 4-5 men during 1-2 months. Reinforcing its walls was a job for selected men with outstanding physical power. Shynyrau shafts were narrow, and the underground well space was deadly cold, so kudykshi were working in a sitting position, dressed in sheepskin [8, p. 340-341].

Digging a shynyrau well was hard work under desert conditions, rapidly causing thirst. At the beginning, a pole was pegged in the chosen place, and above it a felt tent was erected; sheep was sacrificed and a prayer read. Then, kudykshi started to dig, keeping the tent until appearance of natural shade from the gradually developing shaft

wall. The first water fountain was plugged with rags, and a cone basin (*ugi*) was dug out; then, the plug was removed for water to fill in the cone.

Soil, removed from the well hole, was laid around the well mouth. After finishing the shaft internal jobs, the edge of well was rimmed with stones and built up to prevent its collapse; this fence was called *korgan*, protection from any rubbish, dirt and physical breakdown. The fence was 0,5 arshyn above the well edge. The well mouth was closed with a stone cover called *aikel* (Fig. 1), in the centre of which a hole was made big enough to let in a skin sac bucket, hence another naming of *aikel well*. One *aikel* well registered by archaeologists had on its fence a carved out Adai tribe symbol [8, p. 340-341] . In order to protect wells from sand and dust, the outer side of their wooden covers was coated with felt. *Aikel* is an arab word meaning a round hole. In the language of the Mangystau and Turkmen kazakhs, this word is used in the sense of a circular stone with a central round hole. In the Uzbek language, a round surface is called *oikulcha* [9, p.99]. Well mouths, the edge lifting stones and stone trays were implemented by professional stone cutters. Building a shynyrau well was costing to their rich owners one hundred sheep. This payment was called *kudyk aky* or *kudyk aky mal*.

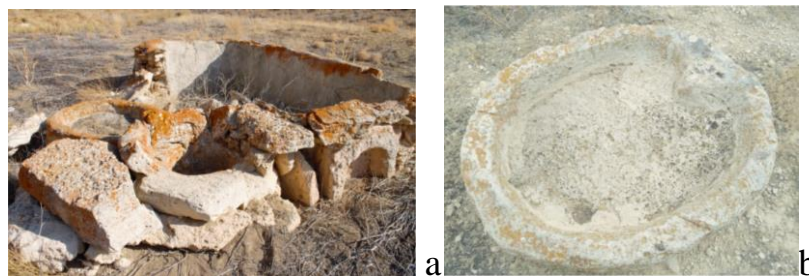


Fig. 1 – a) Shynyrau (*aikel* type) and stone tray. Aktube-Ustyurt, Tushi airyk. region; b) Stone tray shaped as horse hoof. Ustyurt, Besbai region (FAEM).

The Polish researcher and painter Bronislav Zalesskii in 1848 travelled in Ustyurt and wrote on shynyrau wells the following lines connecting the life around the well head with nature: “...In these lands, shynyraus are rare: the distance between them is few dozens of kilometres. It is indisputable that their building was someone's heroic labour and vigour. ...Despite their sporadic location, kazakhs find the wells easily. Although water from these wells is terrible, its service in desert activities is special. However few

but mold grows around wells, licorice spreads its round leaves, reed mace stretches up rustling with breeze, and marram grass waves” [10, 95 p.]. Shynyrau water is clean, cold, and salty. In 1873, Mangystau military topographers registered 1133 shynyrau wells. In 1930, the famous geographer O.S.Vyalov counted 63 stone shynyrau wells during his Ustyurt hydrogeological expedition, noting on 23 of them 1-7 stone trays (*astau*) [11]. These trays could contain 10 skin buckets of water feeding 40-50 horses at a time. There is one *astau* stone in the Mangystau and Ustyurt region in the shape of horse hoof (Fig. 1b). A.Bokeikhanov collected information from Mangystau and Ustyurt kazakhs, saying that shynyrau and tray stones were made by one and the same artisan. A well’s owner enjoyed the privilege to try taste of shynyrau water the first. This is evidence of the respect paid to shynyrau owner’s [4, p. 140] Near the city of Ankara in Turkey, there is a Gordion open sky archaeological museum, where a Turkic era stone tray of about 5 skin buckets is kept. Their smaller size is explained by sedentary animal husbandry and the abundance of natural water sources in the region (FAEM).

Water from shynyrau wells was carried out with leather sacs equal to 5-10 buckets. Its round mouth 6-7 inches long was attached to round or square cast iron rim called *shanykbak*. The leather sac 1,5 metr long was attached to wooden handle, the other end of which was connected via the 30-40 cm long raw-hide stripe to rope, pulled by camel [4, p.140]. This device installed on well mouth was called *shygyr*. If water sources were located close to each other, two near shynyraus were named *kos kudyk* (double well). In Mangystau, a Malish *koskudyk* well survived to our days. Because of their mutual proximity, a *kol shygyr* swipe was installed on the double well heads which allowed using only one animal instead of two (camek, mare, bull). Ends of leather ropes, attached to two containers within each of two wells, were tied up to the waist of the working animal; it moved to and fro between two wells, alternately collecting water from both wells: arriving to well A, animal pulls out a full container from well B, the empty container at well A falls to its bottom. Men at wells empty full water containers to *astau* trays. Usual shynyrau wells need to be served by an individual animal, while *koskudyk* double wells were served by one, therefore the latter was more economic, however, rare (FAEM). In sand deserts of Small and Big Badgers (Kishi and Ulken Borsyk), the 10-

40 sazhen deep wells were frequent. In the Betpakdala desert, shynyrau wells were not as deep as shynyraus of Ustyurt and Mangystau. In Kyzylkums, animals were fed from wells of 45 steps deep. Kyzylkum wells watered 200-300 camels at a time. Kyzylkum wells located at a distance of 15-20 km from each other [12, p. 12-15].

In northeast Kazakh lands, in the Yelek river valley, water sources on summer pastures appeared from shallow scant layers, so that wells, called *tanky*, were dug frequently. The Mangystau and Ustyurt Adai people, arriving to summer pastures, first of all, had to clean the tanky wells. This practice became a ritual. Bokeikhanov wrote: “ Any Adai man kept an iron spade attached to his belt, and this spade was called *beldeme*. Like in old days, when a Kazakh had at all times with himself maches, knife and long rains, in the same way, every Adai man obligatory kept this iron spade on his belt; beldeme was mandatory: it helped Adai men keep in order a well within and around” [4, p. 141].

The tanky well ring varied in width from 0,5 to 1,25 arshyn, its depth from 2,5 to 5 arshyn, depending on water abundance. The tanky wells were provided with astau trays of 3-4 buckets made of stone or carved from whole wood. The shallow wells were called *orpa*, *yespe*, and the earth spots for digging such wells were called *orpalyk*. The toponyms like: Ush-orpa (3), Konyr-orpa (brown), Zhana-orpa (new), Ashchi-orpa (bitter), Teren-orpa (deep), Kyzyl-yespe (red), Ashchi-yespe (bitter) are clearly connected to wells. The shallow well name *ilme* meant that water was easily obtained with buckets. Such ilme wells were 2-3,5 m deep. Shallow wells were built by craftsmen with knowledge of determining water sources.

According to Mag-Gahan, such shallow wells were encountered in the Tamdy valley, on foothills of the Bukan mountain, at a distance of 25-30 km from each other [5, p.67]. The Karakum wells are frequently encountered; their association with the nomadic life of Kazakhs is evident. The Syr Kazakhs made their spring and autumn pastures in Karakums. Sandy tops were called *tau*, their bottoms *kumzhaga* (sand collar). In these locations, a well was dug on lowlands, between two sand collars. Upon completing the digging job and receiving the stable flow of clean water, the well wall was lined up with a whole branch of *duzgen*, with its root turned inwards, thus

reinforcing the well and protecting its water from sand. This is called *shegen well* (Fig. 2). Duzgen is a type of saksaul 1-1,20 m tall. It became generally recognized that wells were reinforced with available saksaul elsewhere, not only in the Aral and Karakum areas. But, according to local old men, it was not so because saksaul has bitter taste and even poisonous property, so that drinking such water would cause illness of men and animals. Because of fine quicksands of Karakums, there shegen wells were build very wide, 4 m in diameter (2-5 m deep). In Karakums, two brothers, Duiispai and Tamen, were famous well-builders. People say: “Man’s name is grown with his deeds”. Upon death of the two brothers, people built an adobe shrine in their honour [FAFM]. Today, the Duiispai and Tamen shrine is an architectural monument listed in the local historical-cultural heritage.



Fig. 2 – *Shegen well, Sazdy. Aral region (FAEM)*

Wells built in piedmonts of mountains and hills were abundant with water and called *sutti* (milki wells). Other names for rich wells were *akpa wells*, *akshelek wells* (white bucket well). 500 sheep at a time could drink their water, from several astau trays spread around the well. Kazakhs called obsolete old wells *obashyk kudyks*; shallow wells with narrow mouth were *oima kudyk*, very shallow wells *shukanak kudyk*, very shallow wells with unsecured surrounding was *beke*, dried wells *kurkudyk*, and the drying-up process was called *kurlanu*. Several closely located wells were *ordaly kudyks*.

In old times, men, who knew where to look for salty water, were named *közdi*, *közi karakty*, i.e., competent. There was such intelligent man Baibolat in Syr, who on the way to mountain range pasture (Arka) saw vapour appearing out from a hole in the ground. He ordered there to dig a well, which turned to be the water-abundant Baibolat well and watering station, attracting passersby travellers. Another man, Bukarbai-batyr from a

famous clan, in want to glorify his name, ordered to dig his well around the Baibolat well, but his multiple attempts failed. The master of a well called Shakhshak was a proficient man too (FAEM).

Under the initial counting of village enterprises, statistics counted over 400 wells in the Kazaly district, and over 100 wells in the Perovsk district [2; 3, “The tables of settlements”]. One method of finding a water source was to let horse-riders pass, put the hat on, and lay down embracing the earth, attach an ear to the ground and listen to: breathed sounds were an attribute of underground water. This method was typical in deep water regions of Ustyurt and Mangystau. Other method was to throw away a bar, and on the spot, where it pierced, the digging would start. Shallow wells were dug in places overgrown with tarrify (*Erusimum*), reed, fat-hen (*Atriplex*), pointing to water, close to surface, and that it was salty.

In Syr, the Karaozek, Zhanadaria, Inkardaria river valleys, soil is clayous, and the well diameters are made narrow, 2-5 m, never wide like in Karakums, reinforced by water-resistant oak wood, which, cut in pieces, without branches and polished, was imported from north, Arka, on camel’s back. The well was lined up with oak from within, leaving an opening for little water fountain. Also burnt bricks were used for reinforcing wells, hence the word *kysh-kudyk* (*kysh* – brick). Men, who dug wells, were proficient in its reinforcement (FAEM).

A special bucket to collect water from shallow wells was called *kolkauga*. It was made of an entire skin of large animals. The skin cleaned with razor and sown together on edges, with a round hole made at the nose point, was filled with sand to get sack-shaped and dried up; after weathering it hardens so much that it never soaks in water. While the edge skin is still soft, it is framed with wood sticks. The ready *kolkauga* is attached to a 2-4 meter long wooden pole. Manual swipes, *kol shygyr*, were in application to ease the obtaining of water from 6-10 m deep wells. For this, a prop stay was put, over which a concave pole was tied up at its mid-length, then a heavy metal bar was attached to one head of the curve pole, while a rope was tied to the other head, with a bucket on top (FAEM). Wells were named after men who ordered and paid their building: Kosym, Kara molda, Kozhabai, Altybai, Adambai, Baibike, and Adyrbai. In

Karakums, there was a well *Shortanbai shegeni*, i.e., the Shortanbai's well cobwork. Shortanbai Bi was one of the latest Kazakh judges in Karakums. When migrating to the Akshi summer camp, he ordered the building of a cobwork well. Sometimes, wells were called after their building craftsman: *Sarbai kazgan* or *Baubak kazgan*, meaning "dug by Sarbai or Baubek" (FAEM). Wells were temporary or constant, depending on the period of their use. Constant wells were deep and located on migration and caravan routes and permanent camping places. Temporary wells were dug shallow, so when out of use they were filled with earth.

Meaning of well names

It is worth looking from the toponymic and onomastic position to historical development of well names. Basically, it was influenced by well depth, volume of water, location and their owners. In this respect, wells with the names Akshiganak, Akshynyrau, Akkudyk, Akigen, Akshilik, Karakudyk, Karasu, Karashegen meant to be full of water, which had some degree of saltiness. The word *sary* meant in Turkic-Mongol language (*sary*) "clear, open, evident", in ancient Iranian (*sar*) "primary, basic", in Turkic (*sar*) "spacious, uninhabited", the present day Kazakh language retained in toponyms the meaning of "spacious, big, great, capacious". The name of a Sarapan well located in Karakum originates from the phrase *sary apan* meaning spacious volume and abundant water. The west region names of Sarykudyk and Saryshynyrau were applied to deep wells dug in yellow-coloured stone and clay soil. In Kazakh culture, "ush" (3), "zhety" (7), "togyz" (9), and "kyryk" (40) are venerated numbers. In this sense, there are wells called Ushkudyk (3), Tortkudyk (4), Altykudyk (6), Zhetykudyk (7), Togyzkudyk (9), Kyrykkudyk (40), Zhuzkudyk (100), Mynkudyk (1000), as well as the names Zhalgyzkudyk (single well), Koskudyk (double well). Concern for water taste and its availability in a well led to the following namings: Kölkudyk (lake), Sorkudyk (salt marsh), Tuzbai (rich in salt), Ashchikudyk (bitter), Akshabulak (whitish spring), Sorbai (rich in alkali), Tuzbulak (salty spring), Zhamankudyk (bad, poor), Kainarkudyk (spring), Tushchikarasu (fresh water of estuary); depending on soil: Takyrkudyk (claypan), Saikudyk, Barshakum (shallow sands), Zhusan (Artemisia), Bortas (limestone), Kökdombak, Zholkudyk

(road), Shengel (thorn reed), Altynkudyk (golden), Kyzylkudyk (red), Maitobe kudyk (rich soil top), Kakkudyk (dry or straight well), Shilikudyk (reed), Talkudyk (willow). Although rare but existent are wells with female names: Kyzkudyk in the Kyzulkum desert and in Saryarka (occupying the central and part of north Kazakhstan); there were wells called Shölbarsha (FAEM). Shallow in Kazakh language is *tayaz*, synonym to *sayaz*, used in the east regions of Tarbagatai and Zhetisu, to Chuwash *saiaaam* and Uzbeki *sayez* [9, p.591; FAEM].

Conclusion

Discovered in various areas of the Kazakh land are elements of local wells, which made use of groundwater. The wells represent hydrotechnical works by local tribes and witness their system of knowledge. Every type of wells is a particular sample of our nation's cultural heritage. Wells played their crucial role in the Kazakh life, securing people and their animal herds with potable water. Wells of different depths and with water of various degree of saltiness provided water, which is *pure* and *transparent*. Many Kazakh philosophical proverbs and sayings rely on the well-building lexis: *“water of a deep well is tasty”*, *“a well dug by one man satisfy thirst of thousand people”*, *“who drink water from a well thanks the one who dug it”*, *“thank the one who planted a tree for its shadow”*, *“who put all treasures in a well is like dry steppes”*, *“like water from a well”*, *“like a bucket plunged into a well”*. By saying *“do not spit into a well from which you drink”*, Kazakhs try to save themselves from wrong turns in cases that left significant imprints on their lives.

The phrases *“to be responsible for water”*, *“to dig a well with needle”* point to hard job of retrieving water from depths of earth. The Kazakh system of beliefs contain an advice to get rid of callosity by spreading hands under a new moon and saying *“New moon, take my corn away”* to plead and venerate moon, drop a coin into a well containing the moon light. Actually, these sort of measures were effective. When going for water to a well, firstly, a stone is thrown into the well in order to chase away well-residing spirits. The well was always kept closed, to avoid gangs of devils sneaking in, and to keep well water in mandatory purity. In old times, wells functioned also as refrigerators. In south regions, a dish of sour liquid meal would be kept in cold well

water (FAEM). Until 1968-1970, wells were dug manually in Kazakh lands. Because of wide introduction of water retrieving machine techniques, the importance of well water diminished. Nevertheless, in Mangystau villages, including the Syr-Aral region, deep well water is retrieved with application of modern machinery. People preserve wells in purity and good function, calling them “my granddad’s eyes”.

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