

## **Square and Rectangular Shaped Water Wells Reported from District Buner, Pakistan**

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### **Abstract**

*An archaeological survey was conducted by the first two authors in District Buner, during which they documented numerous sites spanning from the Pre-Buddhist era to the Islamic period. Notably, square and rectangular-shaped water wells were discovered at Landisar (Gār), Kachkol Paṭai, Sorai, and Kuhidara. Circular wells have been a common feature throughout human history due to their ease of excavation, cost-effectiveness, and the circular shape creates even pressure on its inner walls to maintain maximum structural strength. In contrast, the construction of square and rectangular wells is relatively less common. Non-circular wells require more labour, precise construction techniques, and they are more expensive to manufacture. It is likely that these square and rectangular-shaped water wells were commissioned under the patronage of the royal authorities of that era, showcasing the economic and technological power of the ancient society that once inhabited modern-day Buner.*

**Keywords:** Water resource, square well, Buner, Hindu Shāhi, Mauryan, Gandhāra.

### **1. Introduction**

District Buner, situated in the central part of Khyber Pakhtunkhwa province in Pakistan, holds a unique place in the ancient geography of the region. It was an integral part of several historical states, including Gandhāra, Uḍḍiyāna, So-ho-to, and Chamlā (Samad and Khan 2016: 1; see Fig. 1). Like its neighboring districts, Buner has earned a significant role in terms of archaeological heritage. During explorations conducted by the Directorate of Archaeology and Museums, Government of Khyber Pakhtunkhwa in 2014-2015, remarkably 373 archaeological sites were discovered in Buner (Samad and Khan 2016: 6). These sites span various historical periods, including Pre-Buddhist, Buddhist, Hindu Shāhi, and Islamic eras (Samad and Khan 2016: 3-5). Among the notable findings were four square and rectangular water wells. These are named as Landisar (Gār) Well (Samad and Khan 2016: 32, and Khan, Z.H. 2018: 196-197), Kachkol Paṭai Well (Samad and Khan 2016: 11, and Khan, Z.H. 2018: 199-200),

Sorai (Samad and Khan 2016: 20; Khan, Z.H. 2018: 246), and Kuhidara (Samad and Khan 2016: 35; Khan, Z.H. 2018: 214). Each of these wells contributes to the fascinating historical tapestry of Buner.

## **1. Lanḍisar (Gār) Well**

It is an early Buddhist site (Khan, Z.H. 2018: 196-197) located approximately 1.5 kilometers northeast of Shalbāṇḍai village in Tehsil Gāgra. The well is situated at latitude 34.507917 North and longitude 72.534170 East, at an elevation of about 723 meters above sea level. To reach Lanḍisar (Gār), one can take the Chañjil–Lanḍisar route, which lies along the Ḍaggar–Amnawar road. Notably, this site lies directly on the ancient route connecting the Swat District (ancient Uḍḍiyāna) with the Indus River via Kaṛākaṛ and Budāl Passes. The ancient water well at Lanḍisar is square in shape and remarkably well-preserved. Its approximate dimensions are 1.5 meters on each side (Fig. 2). It reaches a depth of about 4 meters to the water surface, although we were unable to measure the exact water depth. It is constructed in diaper masonry where the mason has applied large size slabs instead of thin diapers. Interestingly, the local population still relies on this well for fresh water.

According to elders from Shalbāṇḍai village, Lanḍisar once housed a substantial stūpa. Unfortunately, several decades ago, the stūpa was bulldozed to make way for agricultural land (Samad and Khan 2016: 32). During this process, the ancient well came to light. Moreover, the locals have reported finding punch-mark coins at the site, that may suggest its occupation even before the Indo-Greek era. The surface of the site yields a significant amount of pottery fragments, including rims, potsherds with deeply incised lines, and bases.

## **2. Kachkol Paṭai Well**

This well is also located exactly beside the ancient route that has been discussed earlier. Kachkol Paṭai (Fig. 3) is situated at latitude 34.549218 North and longitude 72.354910 East, at an altitude of 770 meters above sea level. The site lies between the villages of Kāṭkala and Ashezo, near the northeastern end of Nikanai hill in Tehsil Gadaizi. There are two different routes that are leading to the well, one is Kāṭkala – Kachkol Paṭai route and second is Ashezo – Achol Paṭai route.

This well is constructed in diaper masonry but unfortunately it does not contain water. It measures about 1.3 meter on each side and the bed of the well is about 4.2 meters below the present ground level. Other archaeological remains at Kachkol Paṭai consist of small pottery fragments and buried structures. But only the well was accidentally discovered during bulldozing the mound to acquire agricultural land (Samad and Khan 2014: 11). This process may have inadvertently removed the structures from the upper level of the site. Despite our efforts, we have not found conclusive evidence to determine its precise historical period, but the architectural style and construction technique resemble that of the Landisar (Gār) well.

### **3. Sorai Well**

Sorai well is located between Kāṭkala and Ashezo villages, on the boundary of Ḍaggar and Gadaizi Tehsils. This site contains several archaeological remains, in which a rectangular shaped well is also reported. These monuments reside over a steep ridge in the northern end of Nikanai hill. Sorai site can be accessed through Kāṭkala – Sorai sar route. It is laying at latitude 34.549515 North and longitude 72.352696 East on an elevation of 923 meters above the sea level. This well is located on a hill top which may have been used by the dwellers of the site only, as there is no ancient route reported that is leading through this hill.

At this site only a few structures are left behind that are scattered over an area of about 270-280 meters. These structures include part of a fortification wall, foundations of small sized residential quarters, huge embankments at the slopes, foundations of a watchtower, and security posts at both ends.

We observed a rectangular shaped structure at this site which looks like a pool or any other underground structure (Fig. 4). But the local elders described that this structure served as a water well. According to them it contained water throughout the year, and it was not used as a seasonal storage for water. But now there is no water in the well due to the idea that the marble industry may have cut off its waterbed during mining and blasting occurring just below the site at this hill.

This site holds a strategic position on the map. It was established during the Hindu Shāhi rule where they constructed a military watchtower and checkpoint atop Nikanai hill (Khan, Z.H. 2018). They constructed these monuments to identify any movement of the advancing army of the enemies in the plains of Sālārzi, Gadaizi and Ashezi (Khan, Z.H. 2018). This hill is

located over a strategic point which connects Buner with Swat through Kaṛākaṛ and Malakpur passes, with Malakand through Katgala and Bampokha passes, with Mardan through Tañgidara and Jañgdara passes and with Barindu valley through Ashezo and Ḍaggar passes.

#### **4. Kuhidara Well**

It is located in the famous Mughaldara valley, where the Mughal rulers fought against the Yusafzai tribe of Buner (Khan, Z.H. 2018: 183). The well is situated at latitude 34.441525 North and longitude 72.450157 East, at an elevation of 818 meters above sea level. It can be accessed via the Chīna – Yārā – Kuhidara route. This well is also situated on one of the ancient routes that connects the Mardan and Swabi Districts (ancient Gandhāra) with the Swat District (ancient Uḍḍyāna) through Ambela, Kaṛākaṛ and Kalel Passes. Kuhidara refers to a small valley located between Alachai and Ḍandār hills, with the term itself meaning valley (in Pashto, *dara*) of the well (in Pashto, *kuhi* or *kuhai*).

The site is famous for an ancient well, which is now either filled up by modern dwellers or by the torrential floods that flow down the steep valley during the monsoon season. The only remaining evidence is the periphery wall raised over the boundary of the well (Fig. 5) which is square in shape and roughly measures about 3 meters on each side. This boundary wall was constructed as a safety measure to protect the well from floods. According to local elders and the landowner, there was a square shaped well at the eastern end of Kuhidara site which was constructed in diaper masonry (described by the locals as *rakhi*).

During the survey we reported other structural remains at this archaeological site. Unfortunately, these have been devastated by torrential floods, bulldozed to make way for agricultural land, and encroached upon by modern houses. The Kuhidara site covers an approximate area of 450/260 meters, and the remaining traces of structures do not provide clear clues about their periodization. These could be the remains of a monastery and other secular buildings. However, some locals report that this site may have been associated with the Buddhist period due to the discovery of sculptures.

As stated, earlier Kuhidara is situated within Mughaldara. It is worth mentioning that during a historical conflict the forces of Mughal ruler Akbar and the local Yusafzai warriors fought a war for supremacy in this region (Dani 1995: 102; Khan, Z.H. 2018: 183) but Mughals were defeated (Caroe

1958: 54) and the famous personality, i.e., Rājā Birbul, was killed (Rehman 1996: 3). But later, during the reign of Jehāngir, Yusafzai tribe was defeated by Sultān Ovais and Rājā Todar Mall who captured Buner in retaliation for Birbal's killing (Rehman 1996: 3; Khan, Z.H. 2018: 253).

## **5. A Discussion and conclusions**

District Buner is rich in water springs, hill torrents, and rivers that eventually flow into the River Indus (Fig. 1). Interestingly, the discovered wells are strategically located where no surface water is reported. These wells likely served as fresh water sources for travelers along ancient trade routes.<sup>1</sup> According to Stein (1905: 22) ancient wells of smaller size were generally square in shape and according to Falk (2009: 23) the small opening wells were generally draw wells (through pulley). The tradition of providing water sources along ancient routes was known since Mauryan times (e.g., Thapar 2012). From the following discussion it can be concluded that these water wells may have been constructed by the orders of monarchs.

It is evident from historical accounts that Buner, as part of Gandhara, was ceded to Chandragupta Maurya (the grandfather of Ashoka) by Seleucos I through a treaty (Cunningham 1871: 15-16, Imperial Gazetteer of India 1908: 13, 147 and 217; Caroe 1958: 44 and 60; Olivieri 1996: 69; Khan, Z.H. 2018: 180). The antiquarians like Beal (1869: 193), Cunningham (1871: 61, 82), Dean (1896: 656) and Stein (1898: 31-32, 34-38, 60-62) suggested that five major stūpas erected by king Ashoka over the Jātakas of Buddha are located in District Buner (Khan 2018: 5-6). The discovery of punch-mark coins from eight archaeological sites in Buner (Khan, Z.H. 2018: 55-56) may further attest the glory of this district during the royal patronage of Mauryan rule.<sup>2</sup>

We can take this dialogue back to a period preceding the Mauryans, as there has been extensive academic discussion regarding the presence of the Achaemenians in Buner (Khan, Z.H. 2018: 144). Numerous and the most debated towns and cities dating back to the Achaemenid period and Alexander's invasion were located in Buner by earlier writers (Samad and Khan 2016: 3; Court 1839: 309; Cunningham 1848: 102-105; Abbott 1854:

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<sup>1</sup> See Falk 2009: 23-37.

<sup>2</sup> For the Brāhmī inscription of Ashoka from Buner (Mukherjee 1991: 51-54; Behrendt 2004: 39; Khan, Z. H. 2018: 156).

341, 350, 353, 358; Cunningham 1871: 60-61; Eggermont 1975: 11, 141; Tucci 1977: 27, 52-55; Olivieri 1996: 64-70; Khan, Z. H. 2018: 144). That said, most of the evidence for the same typology of well were found in the area of the Swat valley are dated between the 1st-3rd century CE (Olivieri, Vidale et al. 2006).

It becomes evident from the above sources that Buner held a prominent position on the map during the time concerned. Not only the Mauryans but also the Kushān dynasty has ruled Buner as we have reported 64 Kushān period sites during the archaeological campaign of 2014-2015 (Samad and Khan 2016: 6-42). These sites consist of large-sized stūpas, which once again testify to the theory that the rulers of this dynasty gave full attention to Buner.

The Hindu Shāhi sovereigns also ruled over Buner as we have documented 168 sites of this period (Khan, Z.H. 2018: 51, 217). According to Wynbrandt (2009: 52), Hindu Shāhis during the rule of Jaypāl (964-1001 CE) expanded their rule over Swat and Buner (Khan, Z.H. 2018: 216). One more example of manufacturing water well by the orders of the royal patronage of Mughal rulers was to construct Akbari Kuhai (Baoli). It is located in the largest but ruthlessly devastated Buddhist period site which according to Stein (1898: 31-32) was the oldest and largest among all the stūpas erected in Buner. All these water wells, other material evidence and academic references testify the historical importance and architectural glory of Buner, which needs the attention of archaeologists as stratigraphic excavations are needed to correlate the evidence presented above to a chronological sequence and, also, of authorities to preserve such evidence for future generations.

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Fig.1 - A map of District Buner, locating the ancient square and rectangular wells.

*Square and Rectangular Shaped Water Wells...*



Fig. 2 - Ancient well at Lanđisar (Gār) site.



Fig. 3 - Ancient well at Kachkol Paṭai site.



Fig. 4 - The probable well exposed during illegal digging at Sorai site.



Fig. 5 - A few remains at Kuhidara site (periphery wall of the well).