HUNGARIAN ARCHAEOLOGY
E-JOURNAL • 2019 SUMMER
www.hungarianarchaeology.hu

LANDSCAPE ARCHAEOLOGICAL RESEARCH AROUND NOMADIC CITIES IN EAST MONGOLIA

Results of the 2019 fieldwork of the Khi-Land project

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The "Khi-Land, Khitan Landscapes in Mongolia 2017–2023" project coordinates landscape archaeological research on 10th-12th-century Mongolian Khitan sites. As we have already reported in two previous issues of Hungarian Archaeology, the fieldwork, undertaken in various locations in Mongolia, aims to assess the most significant fortifications of the period and to gain a better understanding of connections between the nomadic ways of life and the fortified cities that came into being in the Empire. This study summarizes the most important findings of the fieldwork in 2019 and presents additional pieces of data acquired on other time periods, as well as new research questions that arose in connection with the sites we explored. One of these questions is whether and how Khitan fortifications can be interpreted as landscape-altering elements in later periods.

Just as in the last two years, the 2019 fieldwork of the Khi-Land project was undertaken in early May (Csiky et al. 2017a and 2017b, Erdenebold et al. 2018). This date was preferred for various reasons: this is a period when it is possible to make aerial photos by drones during the day, although the wind, which is typical for the Mongolian spring and is usually stronger in the afternoon, still posed a challenge. A recurrent theme in Khitan research is how climatic changes may have influenced the formation and decline of the Empire (Li et al 2019), and how present-day extreme weather conditions impact the archaeological monuments and the research of this historical period. The authors of this article, who participated in the fieldwork, had to face the extremely changeable and unpredictable Mongolian spring weather. Despite these conditions, new results were achieved in the understanding of the monuments and landscape use in the 10th-12th-century Khitan and Liao Empires (947-1125) that encompassed most of present-day Mongolia. Signs of the impact exerted by modern climate change also called our attention to the importance of water systems associated with fortifications and the traces of agriculture around big nomadic cities.

RESEARCH IN EAST MONGOLIA

Just as in last year, methods of landscape archaeology had a pivotal role in our work, and therefore, we started our field work with a paper given on this subject. The lecture was given by József Laszlovszky to students of history and culture in the University of Ulaanbaatar, and in his talk, he also elaborated upon the fieldworks undertaken within the framework of this project in the previous years. The research team then traveled to the East, because the main destinations for this

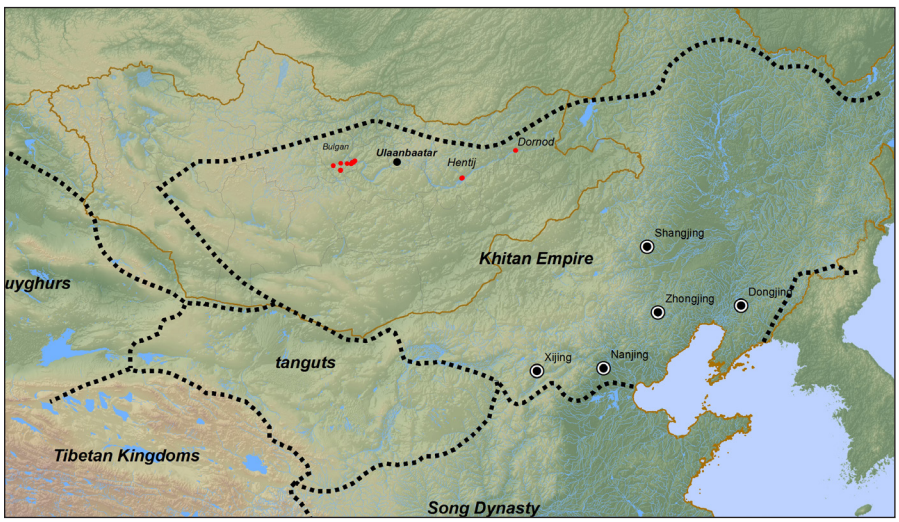

Fig. 1. The Khitan Empire and the sites in the study

year's fieldwork were Khentii and Dornod, located in two eastern *aimag*s (provinces), 350 and 700 km from the capital, respectively (*Fig. 1*). Previous research had recorded Khitan or allegedly Khitan-period sites here, and we aimed to prepare a detailed documentation of them in the form of field walks and aerial photographs. This region of Mongolia differs from the lands we previously examined, and therefore, new aspects of landscape archaeological research came into our focus. The hilly landscape around Ulaanbaatar and in the western counties of Mongolia significantly differ from the plateau east of them. Population density is considerably lower in this seemingly endless steppe area, interspersed with a few *ail*s (family camps) and the associated yurts (*Fig. 2*).

The huge pastures provide lots of living space for wildlife, the diversity of which we had an opportunity to observe during fieldwork. Locals rely on animal husbandry, and a huge number of domesticates, goats, sheep, cattle, as well as thousands of horses, graze in the area in enormous herds. Several old habitation sites could be seen in the loosely populated, desolate steppe zone; the flat terrain and extensive animal husbandry makes this an ideal site for landscape archaeology (*Fig. 3*).

The main attraction of Khentii Province is the tradition according to which Genghis Khan was born here, at the eastern foot of the Khentii mountains, at the source of the Onon and Kherlen Rivers. This is reported in *The Secret History of the Mongols*: "Hö'elün Üjin was with child, at the moment when she was at Deli'ün Hill of the Onan [River], even then Činggis Qahan was born" (The Secret History of the Mongols, 14, §59). This tradition still lives on today; for example, the center of Khentii Province, earlier called Öndörkhaan (Great Khan) was recently renamed to Genghis (Chinggis).

Earthen ramparts and embankments across the landscape are easily identified using satellite images; however, such artificial constructions are not always easy to spot when walking on the ground. It is rather the great ramparts (*Fig. 4*) and the micro-topographical phenomena in the areas surrounded by them, that are perceptible; clusters of artifacts were mainly recorded by previous scholarship as well around these areas. Walking on the site, unambiguous and clear lines of the satellite images are only seen as small elevations in the landscape (*Fig. 5*). The phe-

Fig. 2. Nomadic camp beside the rampart of a Khitan fortification

Fig. 3. Horse herd at the Kherlen River

Fig. 4. Ruins of the rampart of Kherlen Bars 1, as seen on the ground

Fig. 5. Hardly perceptible remnants of Kherlen Bars 3

Fig. 6. Drone used in aerial photography

Fig. 7. Collecting information on archaeological sites from the locals

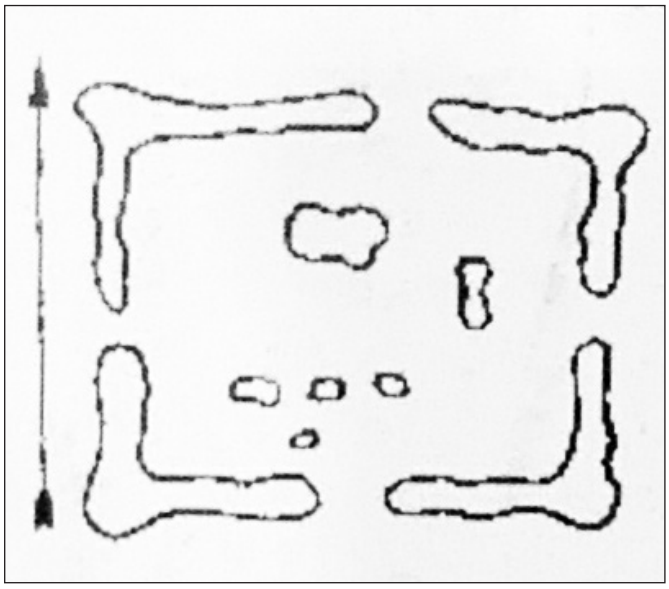

Fig. 8. Perlee's sketchy drawing of the rampart and the internal structures

nomena and their details were mapped with the aid of the so-called "big fly," or *tom yalaa* in Mongolian, that is, the UAV (unmanned aerial vehicle) (*Fig. 6*). In accordance with the methodology presented in our earlier reports, the drone followed a predetermined flight route, thus creating a 3D model from a series of aerial photographs (Csiky et al. 2017, Harmath et al. 2018a). To supplement this dataset we undertook field walks, documented phenomena on the surface, and aimed to identify additional archaeological sites (*Fig. 7*).

In Khentii Province, two Khitan-period fortified settlements were surveyed, known as *Zuun kherem* (eastern rampart) and *Baruun kherem* (western rampart). The two sites are close to each other; they were excavated by Mongolian archaeologist Kh. Perlee in 1952-53 (Perle 1961: 62-66), and he published his results in a few simple reports (*Fig. 8*). Written sources testify that these two walled settlements were founded around 1015; one of them housed farmers, while the other was habited mainly by soldiers.

ZUUN KHEREM (KHENTI IAIMAG, MÖRÖN SUM)

This site had been explored by earlier excavations. The rectangular area surrounded by the walls measures 510 m on the northern side, 502 m on the western, 420 m on the southern, and 507 m on the eastern side (*Fig. 9*). There is one gate on the western side, while on the eastern and northern sides there are two entrances each (*Fig. 10*). The walls protecting the settlement were plastered with soil and the fortification was surrounded by a moat as well (Caeweendorj et at. 2003: 215). Today, a 1.5-2 m high and 4-6 m wide remnant of the walls are preserved. The settlement area was divided by 2 m broad pathways that led to the gates. Traces of watchtowers are still visible today: on the western side six, on the northern side five, on the eastern side ten, and on the southern side seven, altogether 28 watchtowers have been recorded. The sewer that brought the water of the Kherlen River (Kherlen gol) to the town, is also visible on the southern side.

Foundations that once belonged to various buildings were observed inside the walls. On this basis several house types could be identified, e.g. single buildings surrounded by a fence and with a roof covered by ceramic tiles. There were similar edifices that had no fence, and ones that had a different type of roof cover. The buildings were heated by kilns. Most of the archaeological finds recovered from here were pottery fragments and iron objects. Around this eastern city, animal husbandry and land cultivation were dominant; lots

Fig. 9. Aerial photo of one corner of the Zuun kherem rampart

Fig. 10. Aerial photo of an entrance on the eastern side of the Zuun kherem rampart

of animal bones (primarily sheep and cattle), fragments of hand-mills, grain storage vessels, stone mortar, pestle, fragments of iron ploughs, and pieces of grinding stones were brought to light. A bronze coin with a Chinese inscription, probably minted by the Khitans between 1020 and 1031, was also found (Ceweendorj et at. 2003: 217).

BARUUN KHEREM (KHENTII AIMAG, MÖRÖN SUM)

The so-called western rampart is located 2 km west of the eastern one. This rectangular feature measured 826 m on its northern side, 803 m on the western, 825 m on the southern, and 862 on the eastern side. The walls that were originally 7-12 m thick have been preserved as 1.5-3 m high stubs (*Fig. 11*). On the southern side there were two gates, while three entrances were built on the eastern wall. The wall ruins suggest that there were towers in the four corners; these must have been used by the defensive troops. The rampart is surrounded by an external moat on each side, and water was led inside the settlement by a sewer. So far, only the remains of a few buildings have been found within the walls, leading to the conclusion that this must have been an agricultural area used by inhabitants of the other, eastern rampart. The internal topography suggested that there were vegetable gardens in the northwestern and eastern parts of the embanked area. This settlement must have been rather loosely populated; the other city, 2 km from here, had a population of more considerable size.

Fig. 11. The rampart of Baruun kherem as seen on the ground

KHERLEN BARS KHOT 1. (DORNOD AIMAG, TSAGAAN OVOO SUM)

We arrived with great expectations at the main destination of our trip, the site of Kherlen Bars 1 in Dornod Province. The site is located in the *Tsagaan ovoo sum* (tsagaan 'white', ovoo 'sacrificial mound'), on the southeastern shore of the lake Baruun döröö. Surveys were conducted here in 1953 and then the ruins of three fortifications were recorded (Perlee 1961: 62). The largest of these is the site of Kherlen Bars 1, identified as dating from the Khitan period; this is an area surrounded by a rampart that is 1600-1800 m long on each side (*Fig. 12*). In the southeastern part of the area inside the rampart, traces of buildings were observed. Excavations brought to light roof tiles, sacral and cultic objects, figurines of gods, and religious artifacts.

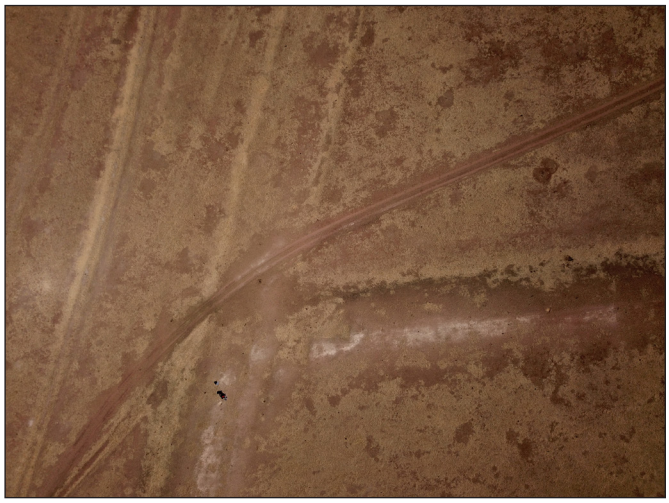

Fig. 12. Corner of the rampart of Kherlen Bars 1, with a modern road running next to it

Fig. 13. Members of the Khi-Land project team at the stupa of Kherlen Bars 1

The most notable element of Kherlen Bars 1 is a stupa erected in the 10th century (*Fig. 13*), which still rises above the landscape (*Fig. 14*). This multi-story brick building was restored in 2015-2016 after its comprehensive exploration, with the financial support of the Chinese National Administration of Cultural Heritage and the contribution of specialists in the Chinese Academy of Cultural Heritage and the Mongolian Center of Cultural Heritage. Materials available in the immediate region were used in the restoration process: the bricks were made and burnt locally, and even a temporary brick kiln was built for this purpose (*Fig. 15*). Preservation was not the only aim of the restoration; the external surface of the original stupa, which had been in a very poor condition, was completely rebuilt, and new supporting walls were installed inside. Thus, the monument is in a safe condition again. This is the only remaining monument of the Khitan Empire in present-day Mongolia (Shatzman Steinhardt 1997). Its analogy, a seven-story Indian-type stupa was built under the rule of the Qing Dynasty; in 1731 a Chinese traveler still saw it standing. This latter building collapsed in the 1940s, its precise location is yet unknown (Dasnyam et al 1999: 194-195).

Several observations were made during the field walks that do not fit into earlier hypotheses about the site. The trapezoid-shaped fortification, which is clearly visible in satellite images, is not the only feature that can be seen on the ground. The northern rampart is separated from those that run in a southern direction both in the northeastern and the northwestern corners of the complex. It gives the impression that there were entrances at these locations. However, these were probably not gates—to have entrances at the corners would have been quite unusual from a military point of view anyway—but reflects a structural difference between the sides of the complex. The northern rampart was originally part of a long causeway (*Fig. 16*). Remains of this long, artificial embankment are seen on both corners of the fortification and continue beyond these in both directions in several hundred meters. On both sides of this old causeway there was a

Fig. 14. The rampart of Kherlen Bars 1, the restored stupa is seen on the right

Fig. 15. Structure of the wall of the restored stupa

parallel trench; this is also clearly visible on the surface. It is possible that this massive northern road was constructed first, and the other ramparts were built abutting on it much later, and the fortification came into being only then. This causeway is similar to the linear fortification known as 'the wall of Genghis Khan,' in Mongolian *Chinggisiin khermen zam*, which leads from Northeast Mongolia to the Transbaikal region and China in a length of 746 km. In its Mongolian name the word *zam*, 'road,' is associated with *kherem*, 'city wall, castle wall,' which in fact describes the character of this structure in the landscape. It is crucial to make further observations on this causeway in Kherlen Bars 1 and to explore if it had any connections with the two other important fortifications of the region. Therefore, in addition to documenting the structure of the rampart, sections of this causeway were examined during fieldwork by means of aerial photography.

Other elements in the rampart system of this fortification also differ from typical Khitan city ruins. Both the northern and southern embankments curve, they do not run straight (*Fig. 17*). Moreover, there is a change in their structure in the middle: the northern half of both ramparts is lower and wider. This may reflect another chronological difference between parts of the complex. It was also observed that the curving rampart on the western side had been washed away by water in its middle section, suggesting that both sides of this segment of the rampart must have been periodically under water.

Fig. 16. The northern part of the large causeway of Kherlen Bars 1

Fig. 17. A curving rampart of Kherlen Bars 1, following the uneven terrain

The internal structure of the fortification also differs from other fortified Khitan settlements, explored and documented earlier (Kradin 2011). There was virtually no trace of buildings inside the ramparts. In the eastern part of the area, however, several features were observed surrounded by fences; some of these were remains of stone buildings. It must be investigated further if this rampart and the area surrounded by it functioned as a fort in the Khitan period.

The question of the Khitan-period stupas is still not resolved either, and the chronology of the causeway and the rampart needs further investigations. The complete lack of artifacts on the surface contradicts the theory of the fort's Khitan origins. Identifying the location of the second, collapsed stupa is also a task for the future, and it needs to be clarified why there was a need for two such buildings in an area where the presence of a 10th-century Khitan fort or habitation zone is uncertain. This latter question is still waiting to be answered, but important steps were made towards the identification of the second stupa's location. In one single spot, 640 m from the still standing stupa building, remains of various brick types and rooftiles were identified, and this may suggest that the second stupa stood here. It would be interesting to know if Peerle, whose fieldwork notes and manuscripts are unavailable for us in the moment, saw the remains of this building that had collapsed ca. 10 years earlier.

Traces of another building were identified on the southern side of the area enclosed by the ramparts. Its ruins rise above the ground. This building, however, certainly does not date from the Khitan period, but can probably be identified as the remains of a monastery that was destroyed here in the early 20th century (*Fig. 18*). It has been noted that communities of monks often settled in such large, abandoned fortifications, and we will

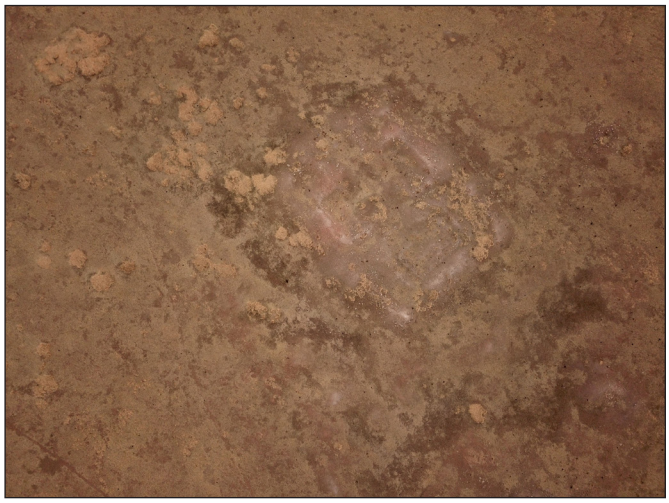

Fig. 18. Remains of a destroyed monastery inside the ramparts of Kherlen Bars 1

Fig. 19. Stone foundation of a timber structure and artifacts found at Kherlen Bars 3

investigate further the possible connections between Khitan and other period forts and Mongolian monasteries, by means of landscape archaeological and historical methods (Laszlovszky–Szilágyi 2019).

Two further sites surrounded by ramparts are known to scholarship in the vicinity of Kherlen Bars 1. We visited these locations for landscape archaeological studies; their position and possible connections with the causeway brings up new questions. Kherlen Bars 2 has been intensively studied by an international research team (Miller et al 2019). A magnetometer survey was conducted, and a small surface was excavated as well; as a result, the rampart was identified as dating from the Hun period. The third archaeological site in the area, Kherlen Bars 3, is also thought to date from to the Hun period. Its rampart is heavily worn; it is visible in the satellite image but hardly perceptible on the ground. Within the ramparts the remains of a building, with a roof covered in tiles, was found. Earlier scholarship dated this building to the Hun period as well, but artifacts collected from the surface (roof tile with green glaze, dark brown and black pottery fragments) suggest that it dates from the Yuan period, that is, the 13th-14th centuries (*Fig. 19*). The buildings in this complex must have been timber structures; some of the wooden posts rested on large, somewhat irregular-shaped rectangular stones placed in accordance with the uneven coeval terrain. The roof tiles recovered from here must have belonged to such buildings. The stupa of Kherlen Bars 1 is clearly visible in an 8.5 km distance in the open, flat landscape; this must have served as a reference point in the Middle Ages. How and on what grounds the locations of these forts were selected, what kind of landscape use was associated with them, and how the elements of the landscape influenced the establishment of the later fortifications—these are interesting questions to be answered in the future.

PHENOMENA DATED TO DIFFERENT PERIODS AND THEIR LANDSCAPE ARCHAEOLOGICAL ANALYSIS

Just as last year, features from periods other than the Khitan era were also investigated and documented. A huge amount of Neolithic chipped stone tools and Khitan-period pottery fragments were found 30 km from Kherlen Bars, in the steep bank of the Kherlen River (*Fig. 20*). The stone tools were brought to light from a dark brown layer that clearly differed from the natural layers of the bank. Not far from this Neolithic place we visited a probably Hun-period site of *kereksur* (mounds), discovered by Lkh.

Fig. 20. Neolithic stone tools and Khitan pottery recovered from the steep bank of the Kherlen River

Erdenebold a few years ago (Erdenebold et al. 2018, Harmath et al 2018b). This cemetery is surrounded by stone circles; aerial photographs were made.

CONCLUSIONS

To sum up our first findings in 2019, recently collected data indicate that the allegedly Khitan-period fortifications represent several types both in terms of their size, structure, and associated buildings. These variances and especially their locations suggest that there must have been functional differences between these features (Miller et al 2019). Our present observations confirmed the previously formulated hypothesis that fortifications identified as dating from the Khitan period may have been built in other periods, and their reuse is also a question that must be addressed. In addition to new pieces of data on the Khitan era, information was gained on other periods as well. The lack of modern settlements in the area, combined with a landscape archaeological perspective, enables us to examine Kherlen Bars 1 in more general terms, taking several time periods into consideration. As part of this scheme spatial and chronological connections between the sites can be analyzed. Another direction for future research is the question of sacral buildings in the surrounding landscape. This aspect was already brought up in connection with the modern monastery and early modern palace building in the Khar Bukh Balgas region, the area in the main focus of our project (Erdenebold et al. 2018, 2018, Harmath et al 2018b, Laszlovszky–Szilágyi 2018). East and Central Mongolian fortified nomadic cities are studied in the context of landscape archaeology not only in themselves but also as elements of later sacred or monastic landscapes (Laszlovszky–Szilágyi 2019).

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