

## RESEARCH ON LANDSCAPE ARCHAEOLOGY IN THE CONTEXT OF NOMAD TOWNS:

### Results of the Third Field Season of the KHI-LAND Project, 2018

LKHAGVASUREN ERDENEBOLO – KATALIN TOLNAI – ANDRÁS HARMATH –  
CSILLA SIKLÓDI – ZSOLT SZILÁGYI – JÓZSEF LASZLOVSKY

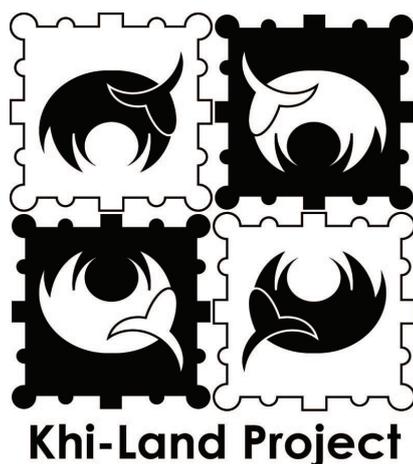


Fig. 1. Logo of the KHI-LAND,  
Khitan Landscapes in Mongolia  
project

*The Khitan Landscapes in Mongolia 2017-2023 project is aimed to conduct research on landscape archaeology at 10th-12th century Khitan period sites in Mongolia, with special interest on the ruins of Khar Bukh Balgas. The main goal of the project is the understanding of the inner structure of the urban settlements of the Khitan Empire and the relationships between the nomadic lifestyle and the towns of the Liao Empire, which once occupied the area of China and a large part of present day Mongolia. A short history of the Liao Empire and the first results of the project were presented in the Summer 2017 issue of Hungarian Archaeology.<sup>1</sup> The KHI-LAND team members planned two field seasons for 2018 the first of which took place in May 2018. Here we summarize the first results of this field season, presenting a short introduction to the archaeological sites investigated during the field work and the archaeological heritage issues we faced in connection with these sites (Fig. 1).*

Three of our project members – Zsolt Szilágyi, András Harmath and Katalin Tolnai – took part in the first field work of 2018. József Laszlovszky and Csilla Siklódi joined our team as landscape archaeology experts, and furthermore they analysed the area from cultural heritage perspective. Our Mongolian partners (Department of History and Archaeology of the Mongolian Academy of Sciences, Science and Technology University) were represented by L. Erdenebold, and he invited J. Laszlovszky to give presentations at various institutions on various aspects of landscape archaeology.<sup>2</sup> During the field survey we visited and studied a number of Khitan period sites which are located in the vicinity of Khar Bukh Balgas but we also had the opportunity to investigate sites from other periods<sup>3</sup> (Fig. 2).



Fig. 2. View of a Khitan Age site

<sup>1</sup> Csiky, Gergely, Erdenebold, L., Harmath, András, Jambajantsan, D. Amina, Szilágyi, Zsolt, Tolnai, Katalin: KHI-LAND PROJECT. An Archaeological Programme and Research in the Area of Khar Bukh Balgas, Mongolia. Hungarian Archaeology, Summer 2017. <http://files.archaeolingua.hu/2017NY/Csiky-Tolnai%20E17NY.pdf>

<sup>2</sup> Another lecture was presented by József Laszlovszky on the 1st of May 2018 at the International Association for Mongol Studies with the title *The Archaeology of the Mongol Invasion (1241-1242) in Hungary*. <http://iams.org.mn/news.php?nid=38>

<sup>3</sup> The field work of the research project has been supported by the mobility scheme of the Hungarian Academy of Sciences (*Central-Asia in the Pre-Mongol Period. Landscape and Settlement System on the Periphery of the Khitan Liao Empire in Present-Day Mongolia.*), the Arnold-Stein Fund of the British Academy (SA/170010 *Khi-Land project. Archaeological and Historical Research on the Northern Region of the Liao State*), and by the CEU Travel Grant.

## 1. METHODOLOGY

We have followed a landscape archaeological approach in our research, in which we studied the sites in relation to their surroundings and to their natural environment. We placed special emphasis on the water management system of the areas as well as on those features of landscape archaeology which can be detected through the systematic study of the micro-topography (such as settlement remains, visible burial mounds and stone carvings from various periods). Besides field survey work we collected aerial photographs by UAVs (Unmanned aerial vehicles). During this field season we used a DJI Mavic Pro Platinum UAV which was donated to Katalin Tolnai by the László Kádár Mongolian Research Fund<sup>4</sup> (Fig. 3). We prepared flight plans before our field



Fig. 3. The UAV Dji Mavic Pro Platinum in the air

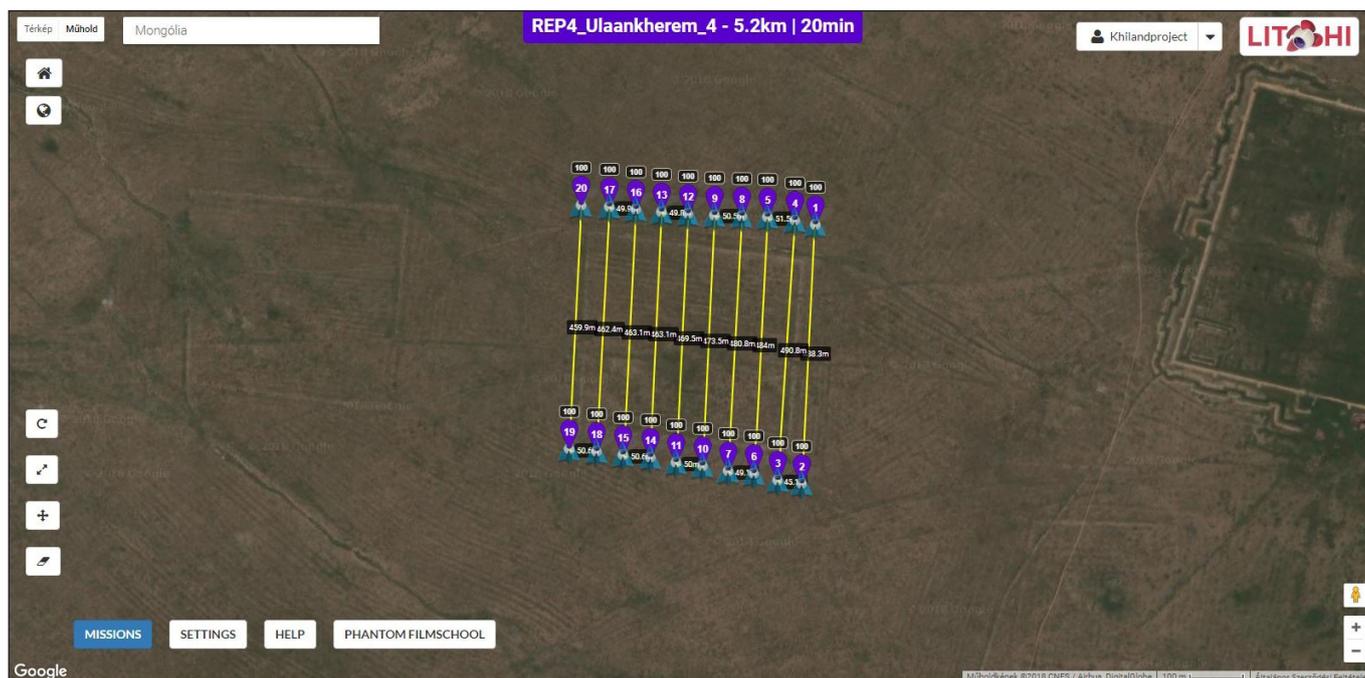


Fig. 4. Flight plan

season by using the Litchi application. In the field we placed GCP-s (ground control points) on the ground, which we measured with total station after measuring the initial coordinates with GPS5 (Fig. 4). This method helped us to determine all the coordinates and provide correct transformation to the aerials<sup>6</sup> (Fig. 5).

<sup>4</sup> Project title: Settlement System and Archaeological Heritage of the 10th-12th Century Khitan Liao Empire in the Territory of Present-Day Mongolia.

<sup>5</sup> We are grateful to Konsztantinosz Hadzijanisz for assisting us in the preparation of flight plans and in the analysis of the data.

<sup>6</sup> The infrastructural background of the research was provided by Tahiméter Ltd.

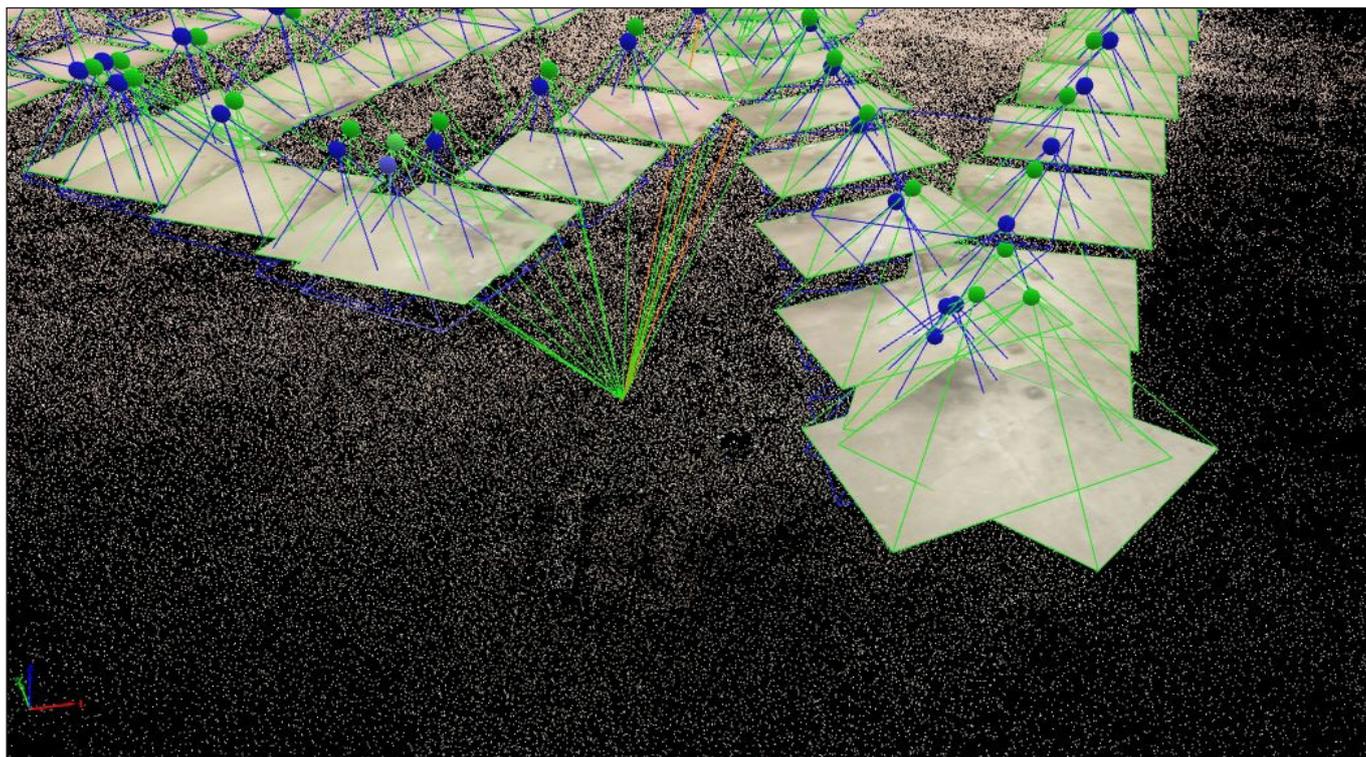


Fig. 5. Image evaluation and point cloud generation

During our fieldwork, we also paid particular attention to local traditions that determine the everyday life of nomads. It is essential to know the traditions and taboos of everyday life and to follow these rules in our communication with the locals, for example how to move within a yurt, the seating rules in them and the importance of white foods. There are also several taboos concerning other forms of every day activity, such as the prohibition of stepping on a door-step, throwing garbage onto a fire or stabbing a knife into the ground.<sup>7</sup> These traditions even influence the work of researchers, as they should also be followed during the research. For example, it was more problematic for us to indicate the ground control points without pounding a spike into the ground<sup>8</sup> (Fig. 6).

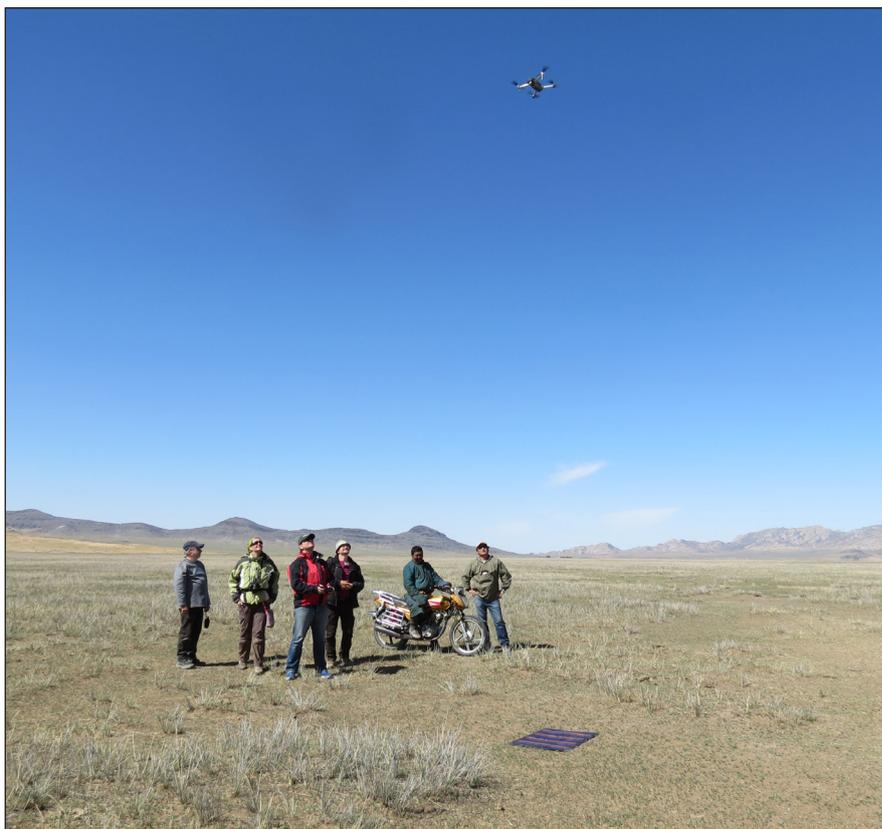


Fig. 6. Fieldwork participants (left to right): J. Laszlovszky, K. Tolnai, A. Harmath, Zs. Szilágyi, the local shepherd, L. Erdenebold (photo: Csilla Siklódi)

<sup>7</sup> There is extensive secondary literature on these issues in Hungarian publications that are cited in the Hungarian version of this article.

<sup>8</sup> Bartha, Zsolt: *A mongol tűzkultusz* (The Mongol Cult of Fire). Napkút Kiadó, Budapest 2016.



Fig. 7. Viewing of surface finds

Besides collecting aerial photographs we also conducted archaeological field surveys (Fig. 7). We concentrated both on the structures inside fortified settlements and the features outside their protective walls. We analysed the types of the interior features based on their building materials, shape, size and location. Furthermore we identified concentrations of ceramics and documented them with Garmin GPS along with the surveyed routes. The collected data will be further processed within a GIS (Fig. 8).

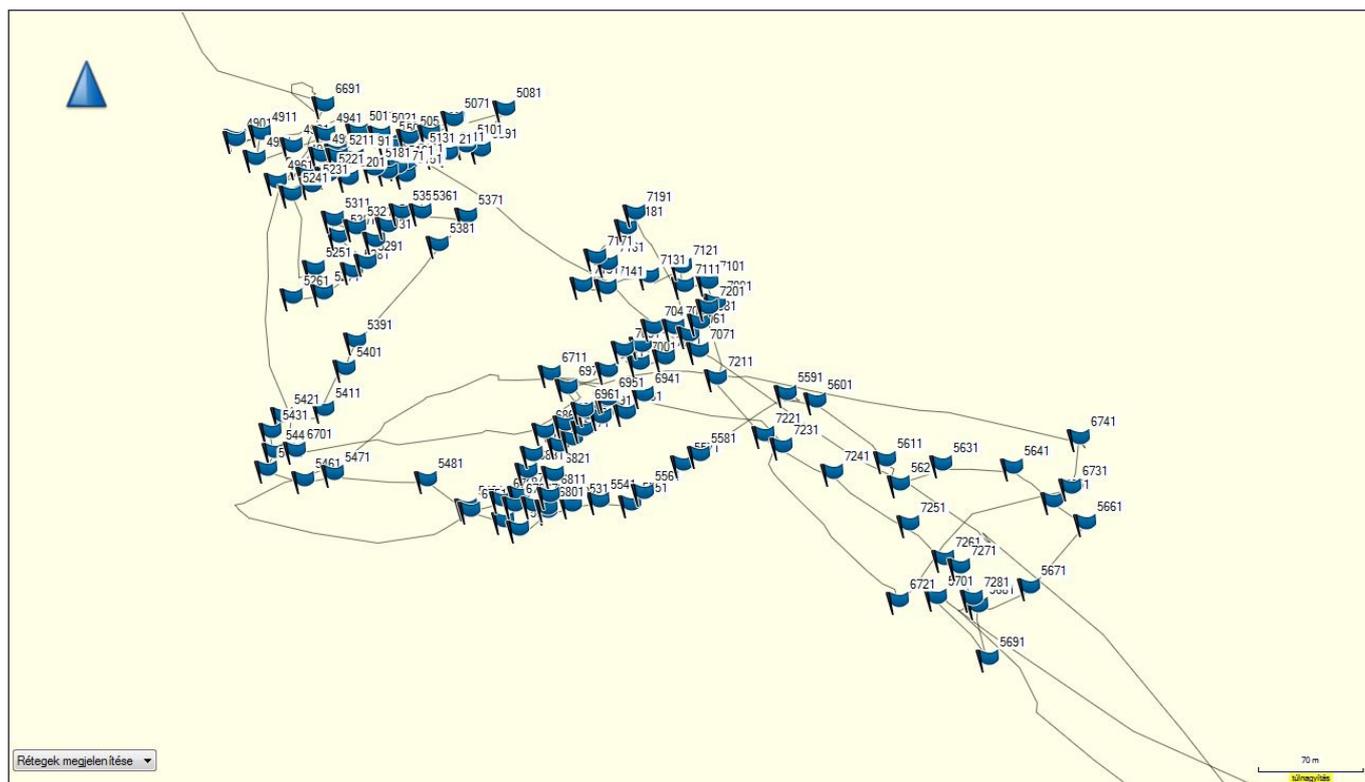


Fig. 8. Record of GPS track

## 2. ARCHAEOLOGICAL SITES VISITED

Ocir et al. 2015 published several Khitan period sites in the vicinity of Khar Bukh Balgas. Based on this study we observed the sites on Google Earth satellite images, but we also identified similar contemporaneous sites on which we planned field surveys and aerial photography.<sup>9</sup> We visited and investigated the following sites during the field survey:

<sup>9</sup> А. Очир, Л. Эрдэнэболд, А. Энхтур: Исследования Киданьских городов, городищ и других сооружений в Монголии (Research of Kitan's towns, fortresses and other constructions in Mongolia). In: *Multidisciplinary Studies in Archaeology Vol. 2. Fortified towns and settlement sites*. Vladivostok: Institute of History, Archaeology and Ethnography of the Peoples of the Far East. FEBRAS, 2015, 84–95.

## 2.1. Khitan period sites

### 2.1.1. Tsagaan uzuriin kherem

Two square structures were located 30 km south of Khar Bukh Balgas. The two kherems (enclosures) are 1 km from each other, and the northern one was already known from previous research. It is 201 x 220 m in size, and the walls of the enclosure are less substantial. We could not identify any towers on its sides or corners (Tsagaan uzuriin kherem 1).

There was another previously unknown kherem to the south of the first one. Its enclosing walls were not high, but had a rhomboid form. Its area is 114 x 116 m. We could not detect any protective towers on the corners or on the sides, nor were any interior features detected in the enclosed area of the kherem. Between the two kherems we were able to detect areas with concentrations of ceramics found on the surface. Based on our observations it would be worthwhile to conduct a more detailed research in this area. Besides the kherems we also studied a third area in the vicinity of the previously mentioned sites, where we recognized an elongated rampart-like earthwork feature on the satellite images. However, during our visit it turned out that these were instead the remains of ditches. We also found some pieces of ceramics here, which were also identified as from the Khitan period by L. Erdenebold (Tsagaan uzuriin kherem 2).

### 2.1.2. Settlement site near Chin tolgoi

The Khitan period settlement of Chin tolgoi is located 26 km south of Khar Bukh Balgas. Based on previous research, this settlement was the former capital of the area.<sup>10</sup> There were excavations in the inner area of the settlement, but its surroundings had remained untouched. During our field work we made a short field visit to the west of the settlement where previously L. Erdenebold had identified a site with numerous Khitan period ceramics. This site is also highly important for the history of Chin tolgoi, as no other contemporaneous sites had been known previously in its immediate surroundings. This site also confirms the idea that there were smaller sites in the vicinities of the large enclosed settlements.

### 2.1.3. Ulaan kherem 1-2.

We had already collected aerial photographs in 2017 from Ulaan Kherem, which is located 50 km east of Khar Bukh Balgas. This year we made a more systematic field survey of its inner areas and also took photographs of the features. This 470 x 530 m fortified settlement has remained in good condition, with the ruins of the buildings rising approximately 1-1.5 m high above the level of the streets. There were 3 gates along the protective walls and 2 roads divided the inner area. At the corners there were protective towers, while between the gates three side towers were erected. There were not any gates on the northern side wall of the settlement, but it was protected with 5 side towers. The lack of a northern gate is also reflected in the inner structure of the settlement, as there were no inner partition structures in its northern section (Fig. 9).

According to the Google Earth satellite images there are more enclosures along the river south of this fortified settlement (see Fig. 3). We collected

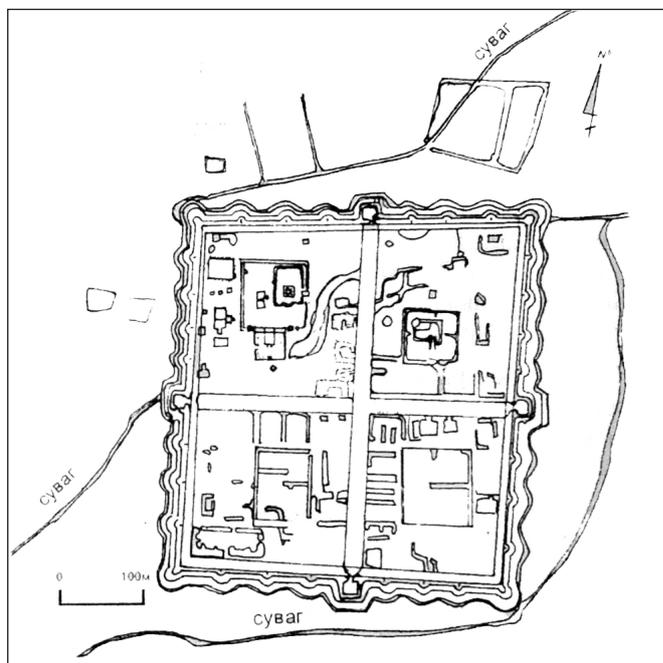


Fig. 9. The fortified town of Khar Bukh Balgas with its early modern buildings in an earlier survey (After A. Ocir, A. Enhtor, Lh. Erdenebold: *Xar bux balgas ba tuul goliin sab daxi xjatanii ueiin xot, suureuud* (Khar bux balgas and the Khitan-period settlements at the Tuul River), Ulaanbaatar, 2015)

<sup>10</sup> Kradin, N. N. (ed.): *Kidan'skij gorod Chintolgoj-balgas*. Rossijskaya Akademiya Nauk, Moskva 2011.

aerial photographs of one of these, which is a 350 x 400 m kherem, with only one mound-like feature at its centre. Between Ulaan Kherem and this enclosure we also indentified a small, mound-like feature that was most probably man made. We found Khitan period roof-tiles here, therefore we think it is contemporaneous with the kherem.

#### 2.1.4. *Khermen denj and Tsagaan denj*

One of the most complex sites of the period is Khermen denj, with Tsagaan denj lying in front of it on the opposite side of the river. During our field survey we realized that this latter site is in many ways different from the other fortified settlements. It is 200 x 165 m, oriented to the northeast-southwest, and only had one entrance, on the southern side. There are 3 seemingly high features in its inner area, while there are no protective towers on its ramparts. Even though we also planned to take aerial photographs here, we could not fly because of strong winds and an approaching sandstorm.

The results of our fieldwork show that there are many different types of Khitan sites which most probably had different functions. The most spectacular among these are the fortified urban settlements, and the inner areas of these can be studied very well using aerial photography (Khar Bukh Balgas, Chin tolgoi, Khermen denj, Ulaan Kherem). In addition to these sites there are smaller, rectangular-shaped sites, which probably functioned as burial sites, however there was no research performed in their inner areas. In parallel to these, there are also enclosures that are roughly rectangular shaped but do not have any mound-like features in their inner area. These may have functioned as enclosures for livestock or as some kind of protective closure for non-permanent habitation (Tsagaan denj).

During our field survey we also found concentrations of ceramics on the surface in between enclosed areas, which implies that there were habitation zones between the presently known sites as well. This is a phenomenon which also should be studied in the near future, as written sources inform us, that the ruling social group of the Khitan people did not live within the settlements but followed a nomadic lifestyle around them. However, these non-permanent habitation sites have not yet been identified through archaeological research.

## 2.2. Sites from other periods

Even though we aimed to research Khitan remains in our project, we also visited sites from other periods during our field work in the vicinity of the Khar Bukh Balgas.

### 2.2.1. *Khereksuur cemetery - Bronze Age*

On the northern bank of the Khar Bukh River lies a large, most probably Bronze Age cemetery of the khereksuur type. The burials in the cemetery are large (up to 20 m in diameter) with packing of stone in a circular or oblong shape. The term *khirgis-üür* referred originally to a 9th-century tribe of Khirgis people. However, excavations have proved that these burials are from the 2nd-1st millennium BC.<sup>11</sup> Cemeteries of the same type are known from the area of Altai Mountains. We could not determine the exact size of the cemetery discovered by our team, but we took aerial photographs to identify the different burial types within the site.

Interestingly, there are further khereksuur burials on the northwest side of the Khar Bukh River, the location of which we documented with Garmin GPS. However, more detailed investigations are needed in the future to determine the overall size of the two cemeteries and their relationships (whether they are contemporaneous or belong to one another) (*Fig. 10*).

### 2.2.2. *Xiongnu site – Zurkhiin uzuurt*

L. Erdenebold identified a Xiongnu period cemetery 26 km south of Khar Bukh Balgas. He also conducted excavations on two graves here. In order to create a cemetery map, we took aerial photographs

<sup>11</sup> Turbat Ts., Khirgisüür. In: Eregzen G. (ed.) *Ancient Funeral Monuments in Mongolia*. Vol. III. Ulaanbaatar, 2017, 88–111.

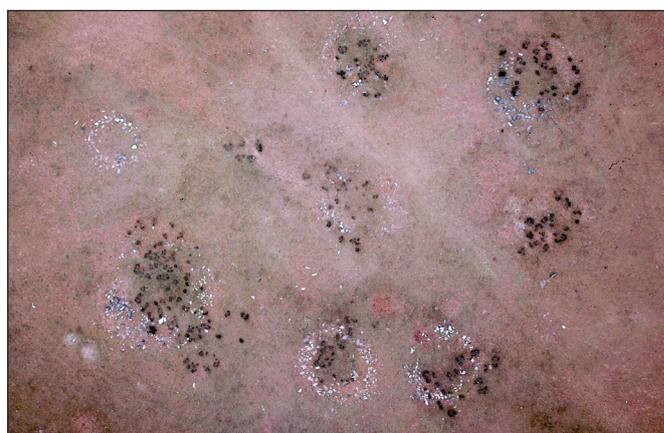
and also measured points for a large group of burials with Garmin GPS (*Fig. 11*). One third of the burials were also photographically documented (*Fig. 12*). The results of our investigation will include a detailed cemetery map that will show not only the size and extent of the cemetery and the number of burials, but also their types and locations. More than 300 Xiongnu cemeteries are known from the area of present-day Mongolia. These burials are mostly 3-5 m - 20 m in diameter, and the graves are 2-3 m deep. The deceased were mostly buried in wooden coffins or laid on the ground. In certain cases there was also stone padding covering the wooden graves. Potsherds, bows and knives were frequently placed in the graves as grave goods.<sup>12</sup>

### 2.2.3. *The fortified palace of Tsogt taij (Tsogt taijin Tsagaan Baishin) and Khar Bukh Balgas*

In our research we also studied the 17th-century Buddhist monastery that was erected on the ruins of Khar Bukh Balgas. We have observed the building materials and building techniques of the monastery as well as the architectural characteristics of the *stupa*. This monastery is contemporaneous with the fortified castle of Tsogt taiji, 27 km north of Khar Bukh Balgas. A research project studying 17th-century cities deals with these ruins. The so-called White Palace is 120 x 208 m, was built of stone and brick, and was covered with Chinese-style roof tiles. Previously D. D. Bukinich has conducted excavations within the walls.<sup>13</sup> There was a stone stele erected near the Palace, which tells us that between 1601 and 1617 there were 6 monastery buildings also erected in the vicinity. Our field survey on the area of the palace has instead concentrated on understanding the landscape archaeology of the site, including its location, water management structure and various features of the landscape itself. We have also collected aerial photographs of the site in order to gain more information on the structure of the building. Our plan is to publish a short introduction to the palace in the Hungarian periodical *Várak, kastélyok, templomok (Castles, Palaces and Churches)*. Detailed research on the building is being conducted by our Mongolian colleagues, including Sampildondov Chuluun, the Head of the Department of History and Archae-



*Fig. 10. Bronze Age Kherek-suur cemetery from the air*



*Fig. 11. Hun period stone packing grave (aerial photograph)*



*Fig. 12. Graves of a Hun period cemetery observed on the surface, documented by field walking and GPS survey*

<sup>12</sup> Eregzen G.: Small tombs of the Xiongnu period. In: Eregzen G. (ed.) *Ancient Funeral Monuments in Mongolia*. Vol. III. Ulaanbaatar, 2017, 166–181.

<sup>13</sup> Bukinich D. D.: *Obshij otchet po arheologicheskim rabotam za 1933–1934. gg.* (archival material) s

ology at the Mongolian Academy of Sciences, who leads the research program on the urban development of the Early Modern Period (*Fig. 13*).



*Fig. 13. The castle of Tsogt taj*

### 2.3. Present-day structure of Dashinchilen

Along with the archaeological field work, we also began the mapping of the present-day Dashinchilen settlement for research purposes. This project part is aimed at studying the current process of emerging towns within a formerly nomadic society. We have collected aerial photographs and made a field survey within the settlement in order to study the settlement history and the morphology of the local centre. The area of Dashinchilen belonged to the head of Mongolian Buddhism, to the 8th bogdo gegen until 1924. In the 1930's the former administrative organization of the country was transformed, changing the *baga* and *otog* structure. The present day *sum* was founded in 1934.

Today the *sum* of Dashinchilen consists of 4 districts, is 231,896 ha in total, and has 3,037 inhabitants. The majority of the area belongs to the plateaus of the Orkhon and the Tola rivers, and is surrounded by mountains. It lies at 948-1061 m above sea level. There are more than 220,000 livestock animals at this area, with the five traditional herd animals (*tawan khosuu mal*: horse, goat, sheep, camel and cattle) all being found here. Furthermore, agricultural work also takes place in the area, covering 1,250 ha. The most important crops are grains, potatoes and vegetables. According to the historical and archaeological sources several Buddhist monasteries were erected in the area, however only one monastery is operating now.

In the following years we plan to study the present-day structure of the settlement as an example of urban development. It seems that the parcels are similar in size, but the building materials are diverse (*Fig. 14*). Furthermore one or more yurts are always erected beside the houses. The placement of the parcels does not seem particularly organized. In the central part of the settlement there are brick buildings which provide sites for the administrative and cultural buildings as well as for banks and shops. The existence of the centre is a result of centrally organized development, but how the other parts of the settlement have emerged it is still a matter for further study.



*Fig. 14. View of Dashinchilen*

### 3. ETHNOLOGICAL STUDIES – CULTURAL HERITAGE PRESERVATION

Besides the planned archaeological work of our project, we also had the opportunity to collect data for ethnological research. This work is in close connection with the issues of the preservation of cultural heritage and the archaeological sites. In the area of one site, for example, the head of a family also has heritage preservation responsibilities. In the last couple of years the Mongolian government has paid more attention to heritage preservation and protection.<sup>14</sup> Formerly the costs of historic property restorations were covered by international financial support. In the last couple of years, however, local families have become responsible for some of the sites. This is coordinated by the National Heritage Protection Centre of Mongolia (*Soyoliin Öviin Töv*). As Bulgan County, where our project is taking place, is one of the richest areas in heritage remains, the protection of the area is of great importance. For example, it is the Chin tolgoi ovoo,



*Fig. 15. The ovoo near Chin tolgoi*



*Fig. 16. Rock formation with engraved figures and inscriptions from different periods and adjacent modern winter camp*

<sup>14</sup> On the issues of archaeological heritage, see: <http://montsame.mn/en/read/14657> (last accessed: 02 August 2018). For an international project for the protection of archaeological heritage, see: [https://www.academia.edu/3006617/The\\_Oyu\\_Tolgoi\\_Cultural\\_Heritage\\_Program](https://www.academia.edu/3006617/The_Oyu_Tolgoi_Cultural_Heritage_Program) (last accessed: 06 August 2018).

an offering place<sup>15</sup> (Fig. 15) that is still in common use by the people,<sup>16</sup> and there is also a patrol protecting the area. We also experienced this attitude during our project, as the families contacted each other because of our fieldwork in the area, and also reported our presence to the local police. Nonetheless, there is a differing attitude also present in the life of local families, who sometimes raise their yurts within archaeological heritage sites (Fig. 16).

## FURTHER READING:

CHIDO, ELISABETTA

*The Mongolian manuscripts on birch bark from Xarboxyn Balgas in the collection of the Mongolian Academy of Sciences.* Asiatische Forshungen, Part 1: 2000, Part 2: 2009.

CSIKY, GERGELY – ERDENEBOLO, L. – HARMATH, ANDRÁS – JAMBAJANTSAN, AMINA D. – SZILÁGYI, ZSOLT – TOLNAI, KATALIN

THE KHI-LAND PROJECT: An Archaeological Programme and Research in the Area of Khar Bukh Balgas, Mongolia. *Hungarian Archaeology Online Summer 2017.*

<http://files.archaeolingua.hu/2017NY/Csiky-Tolnai%20E17NY.pdf>

WITTFOGEL, KARL A. – FENG CHIA-SHENG

*History of Chinese Society: Liao (907–1125).* The American Philosophical Society, 1949.

<sup>15</sup> Sükhbaatar, O.: A mongóliai áldozóhelyek gazdaszellemeiről (On the Protective Spirits of Sacrificial Sites in Mongolia). In: Birtalan, Ágnes (ed.): *Őseink nyomán Belső-Ázsiában III: Helyszellemek kultusza Mongóliában* (The Traces of Our Ancestors III. The Cult of Genii Loci in Mongolia). Új Mandátum Kiadó, Budapest 2004, 255–260.; Birtalan, Ágnes: *Obó hagyományok a mai Mongóliában* (Traditions of Obo Worship in Contemporary Mongolia). In: Birtalan, Ágnes (ed.): *Őseink nyomán Belső-Ázsiában. I. Tanulmányok a mongol népi hiedelemvilágról* (The Traces of Our Ancestors I. Studies on Mongolian Beliefs). Nemzeti Tankönyvkiadó, Budapest 1996, 4–19.

<sup>16</sup> Chuluun, S. (ed.): *Mongolchuud XVII-XX zuunii ekhen üye.* Monsudar, Ulaanbaatar 2014, 163–166.