

Mashaveras Gora: New investigation of Neolithic Shulaveri-Shomutepe Culture Settlement

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INTRODUCTION AND BACKGROUND

Southern Caucasus with its profitable diversity of natural sources and geographical environment was attractive for late prehistoric populations. Intensive appearance of early farming societies in the area started from VI millennium BC, that first of all was due to useful environment which was strongly connected to the neolithic lifestyle. Developed river basins and plains, deep forests, suitable climate, and natural resources helped Neolithic societies spread across the Southern Caucasus.

A dramatic warming occurred in the Southern Caucasus from around 10 000 – 8 000 B.C. (Messager *et al.* 2013:135; Baudouin E. 2019:116) that served as a turning point in the transition from hunter-gatherers to early farming societies. In the territory between Black and Caspian seas geomorphological research demonstrates fluctuations of the Caspian Sea level and its impact on the formation of the alluvial terraces of the Kura River and its tributaries, this process had a crucial impact on landscape change and alluvial terrace organization and influenced the choice of human settlement locations, [Baudouin E. 2019:116] based on the locations of the majority of Neolithic settlements. Dynamic development of early farming societies in the Near East and accordingly to the South Caucasus became like a trigger for further demographic expansion, settling in a vast territory, exploitation of long-distance natural sources and we can say appearance of first trade too.

Technology and innovations from the Neolithic period arrived late in the South Caucasus, when compared with its southern regions, Near Eastern cultural impulses contributed to Neolithisation in the area and lasted one millennium or possibly longer (Sagona 2018 :84). The define groups have brought full package of neolithic way of life. Starting from tradition of settled life, land and fields use, idea of agriculture,

mud brick architecture, pottery technology and assemblage of specific stone or bone tools. This process was mainly expressed in Southern Caucasus by the domination of so called “Shulaveri-Shomutepe” neolithic culture.

The Shulaveri-Shomutepe Neolithic culture is highlighted by the Tell-like mound settlements that is characterized by a clear dominance of agro-pastoral economy (Dzhaparidze & Dzhavakhishvili 1971 :81; Kiguradze 1970,1986; Chubinishvili 1973; Hansen *et al.* 2007; Chikovani *et al.* 2015; Hamon *et al.* 2016: 155; Sagona 2017) In the last few decades, we have made significant progress in understanding the neolithic farming economy life in the Southern Caucasus mainly through studies of sites discovered and described in the second half of the 20th century (Dzhaparidze & Dzhavakhishvili 1973; Kiguradze 1986, 1970; Batiuk *et al.* 2017; Badalyan *et al.* 2007; Helwing *et al.* 2018; Hamon 2008; Baudouin E. 2019). (Fig. 1)

The Shulaveri-Shomutepe (or Shulaveri-Shomu¹) culture was identified in the 1960s in South Georgia and Azerbaijan (Narimanov 1966 :121-125; Ritchie *et al.* 2021; Poulmarc’h & Le Mont 2016:184). Name of the culture came after excavation of two key sites in the late 1950s and early 1960s – Shulaveris Gora, on the Marneuli plane in Georgia and Shomutepe – in the Kazakh region of Azerbaijan [Sagona 2017: 93-94]. Later, Aknashen and Aratashen neolithic mounds have been excavated in Armenia (Badalyan 2007). Since then, plenty of international archaeological teams conducted surveys and excavations on neolithic settlements in the Southern Caucasus. As a result, archaeological record contains valuable information of socio-economic life of late prehistoric populations.

¹ In scientific literature there are different names used for describing this culture.

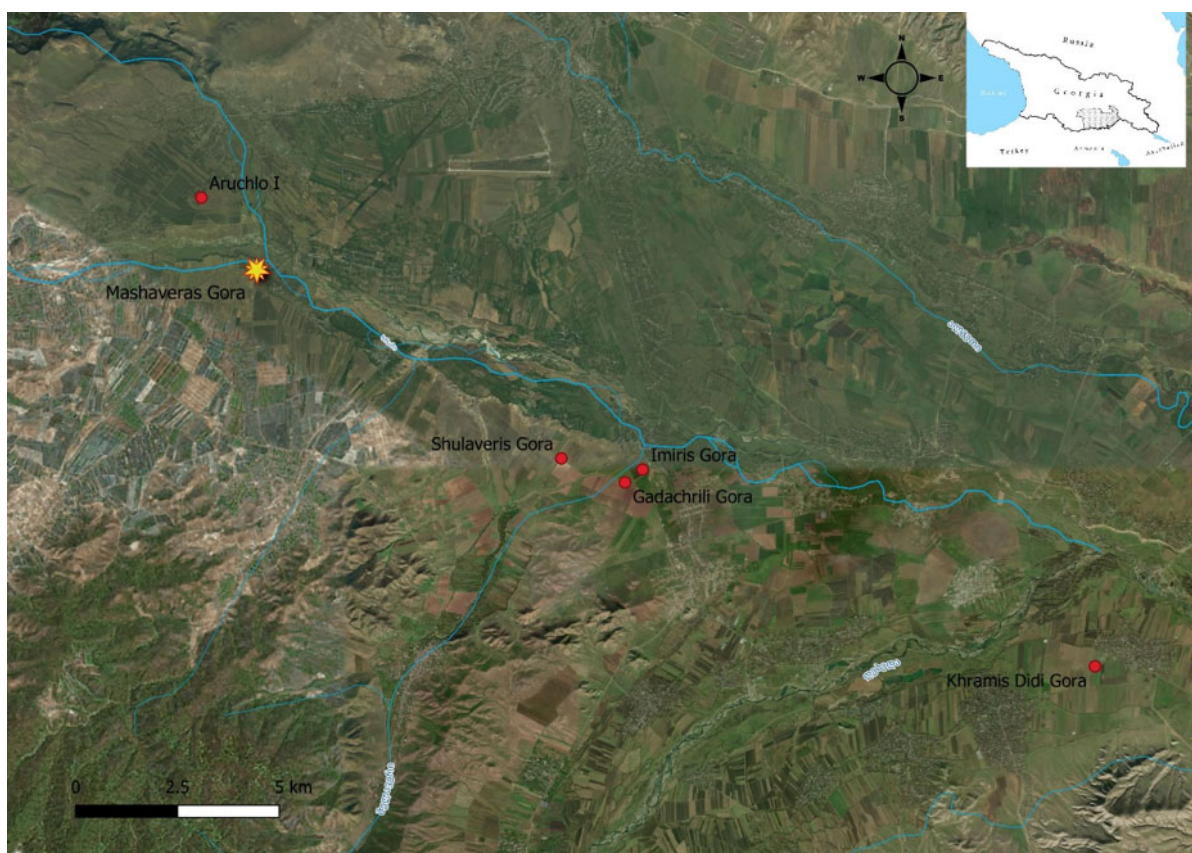


Fig. 1 Investigated Neolithic “Shulaveri-Shomutepe” settlements in South-Georgia

According to recent analyses, the emergence of the Shulaveri-Shomutepe culture dates to the end of the VII millennium or the very beginning of VI millennium (Hamon 2008:85). Neolithic Shulaveri-Shomutepe culture mounds represent artificial hills with the result of long-term dwelling place made by several building horizons. Villages were mostly circular in plan. Mud-brick circular architecture was the building concept for South Caucasus neolithic people. All the structures were clustered together, overlapping walls with the sign of multiple reparations and renovations. As the walls were not weather-stable, they had to be repaired constantly. As a result, the settlement was rising from the landscape. (Japaridze & Javakhishvili 1971: 38)

Group of the Neolithic settlements had been discovered and excavated in central part of the Transcaucasia. Middle part of Mtkvari river, and continuing west part of Azerbaijan steppes, Eastwards until Armenian Ararat valleys in Nakhichevani region. In the Georgian territory the settlements are mainly concentrated in Bolnisi and Marneuli valleys along the rivers: Khrami, Mashavera and Kura. During the decades research from 1960s “Shulaveri” and “Aruchlo” groups of neolithic settlements have been revealed. (Japaridze & Javakhishvili 1971; Chubinishvili & Kushnareva 1967, Kiguradze 1976, 1986; Chelidze and Gogelia 2004; Hansen

et.al 2006; Hansen et.al 2007) Also in these years there was excavated one of the significant neolithic settlement - Khramis Didi Gora that played a crucial role for the future researches of this culture. (Javakhishvili et.al 1975)

Despite the remarkable work, done by Georgian and other international archeological excavations during the last 60 years for researching the first farmers of the South Caucasus, there still remain a number of questions concerning socio-economic life, the architecture, exchange of different materials, relationships between settlements of the culture, among many others, which require more archaeological data and future investigations

This article focuses on the recently excavated Mashaveras Gora neolithic settlement, which belongs to the above mentioned Shulaveri-Shomutepe culture. The article introduces preliminary result of 2020-2021 field seasons. Our aim was to gain a deeper understanding of architecture in the neolithic of Southern Caucasus.

FIRST EXCAVATIONS OF MASHAVERAS GORA

Discovery of Mashaveras Gora is related to the construction of Soviet animal farm in 1988. During the soil cutting with heavy machines, it was damaged north

part of the mound. Settlement is located in Bolnisi Municipality Lower Kartli (Aruchlo) 2 km North-West from village Khataveti. First excavations were carried out by Davit Gogelia. The mound is located in the confluence of the two main river Khrami and Mashavera. (Fig. 1) With the reason of the close location of the mound with the river it was called - Mashaveras Gora.

As it appeared during the construction it was damaged settlement/mound of Shulaver-Shomutepe neolithic culture. There was made the first plan of the mound. (Fig.) The expedition conducted small-scale excavations and according to the field reports they have cleaned and fixed mudbrick circular houses and several small storage buildings. (Fig. 2) Archaeological data overall were interesting, but because of the political situations in early 1990s in Georgia excavations were stopped. After that, Mashaveras Gora first was noted in scientific publication (Chikovani et.al 2015). Thanks to the authors they have collected basic information about the site from Lower Kartli expedition (1988) field reports, which was kept in archive of

Ot. Lordkipanidze Archaeological Centre, but never been published and the site was not known for scientific society during decades.

NEW INVESTIGATION OF MASHAVERAS GORA

In 2020-2021 Georgian National Museum (including Author of this Article) conducted archaeological excavations at Mashaveras Gora. In the absence of GPS coordinates, we started searching for the location of the site. Using old photographs and descriptions of the excavated area, we found the mound.

Research Methods

At the very beginning of the excavation new aerial photos were taken and a new topographic plan was created. (Fig. 3-4) It's possible to detect the shape of the mound, old trench, and can even distinguish excavated circular houses from 1988.

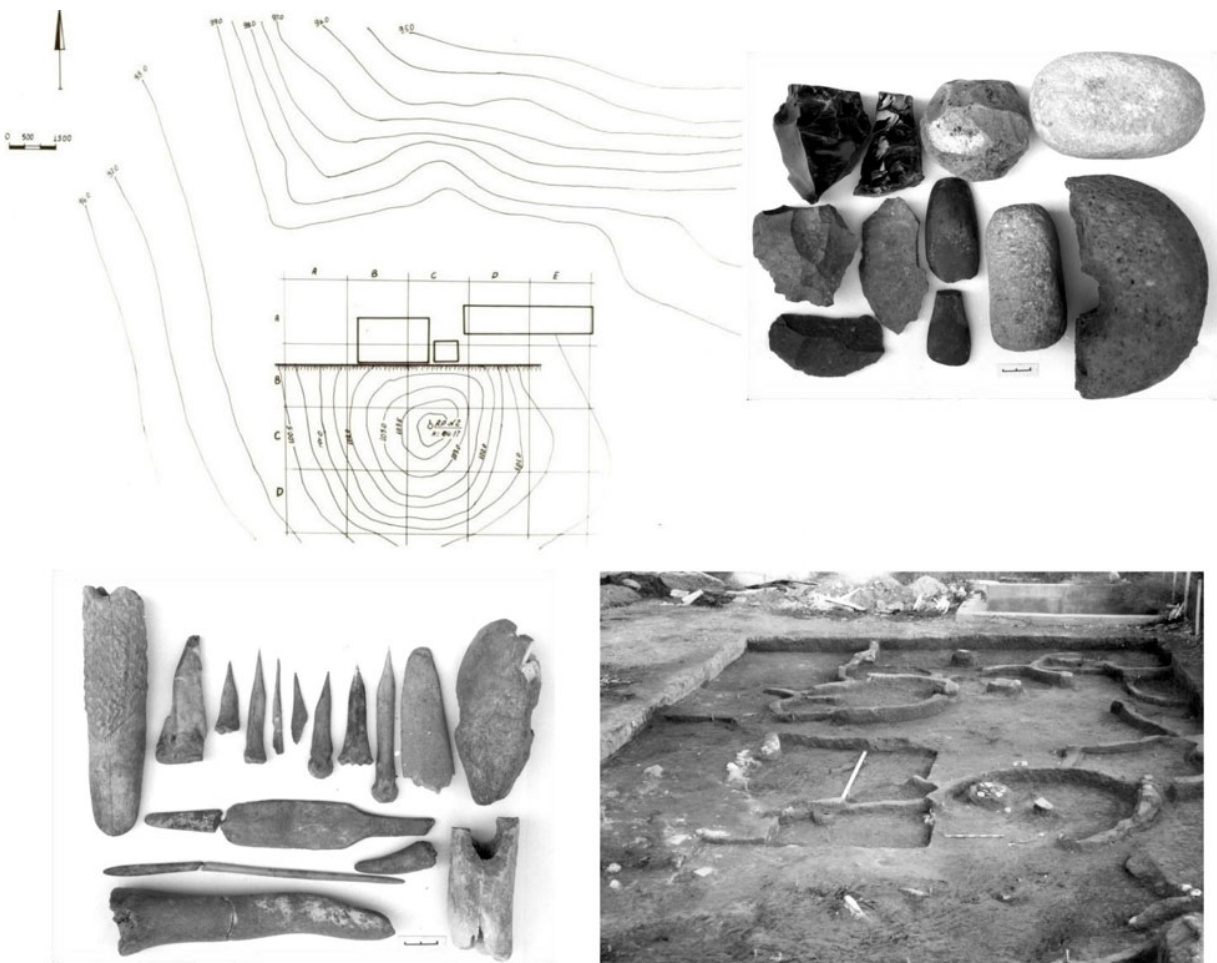


Fig. 2. First topographic plan of Mashaveras Gora, excavation and artifacts. (Photos from Archive of Ot. Lordkipanidze Archaeological Institute)

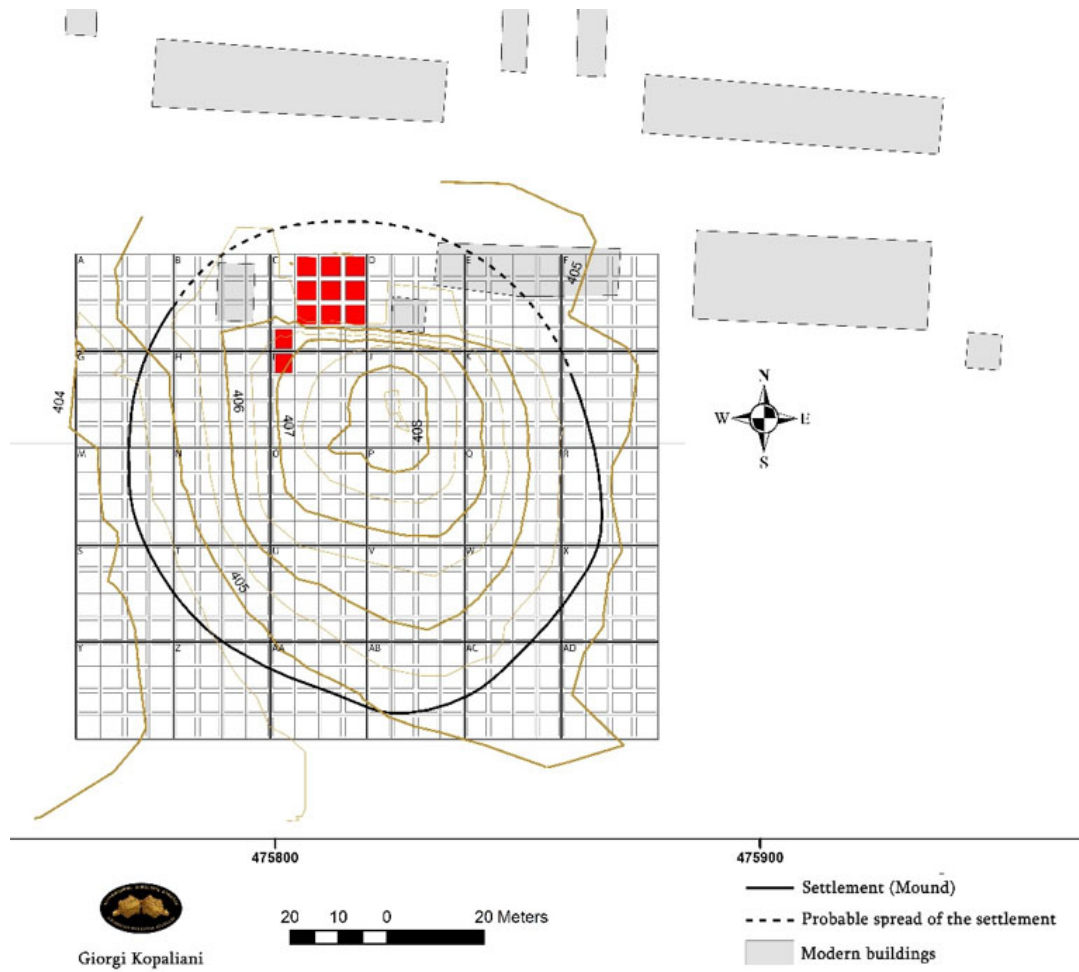


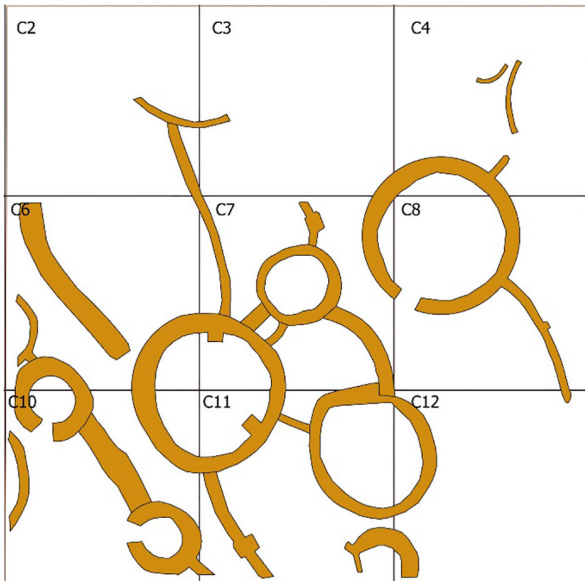
Fig. 3. New topographic map of Mashaveras Gora

(After Abuladze 2020:16; Made by G. Kopaliani ; Modified, Red Squares indicates 2020-21 excavated areas)



Fig. 4. New aerial photo of Mashaveras Gora 2020.

Mashaveras Gora 2020-2021



— Ground grid of 2020-21 excavations
 ■ Mudbrick walls excavated in 2020-2021

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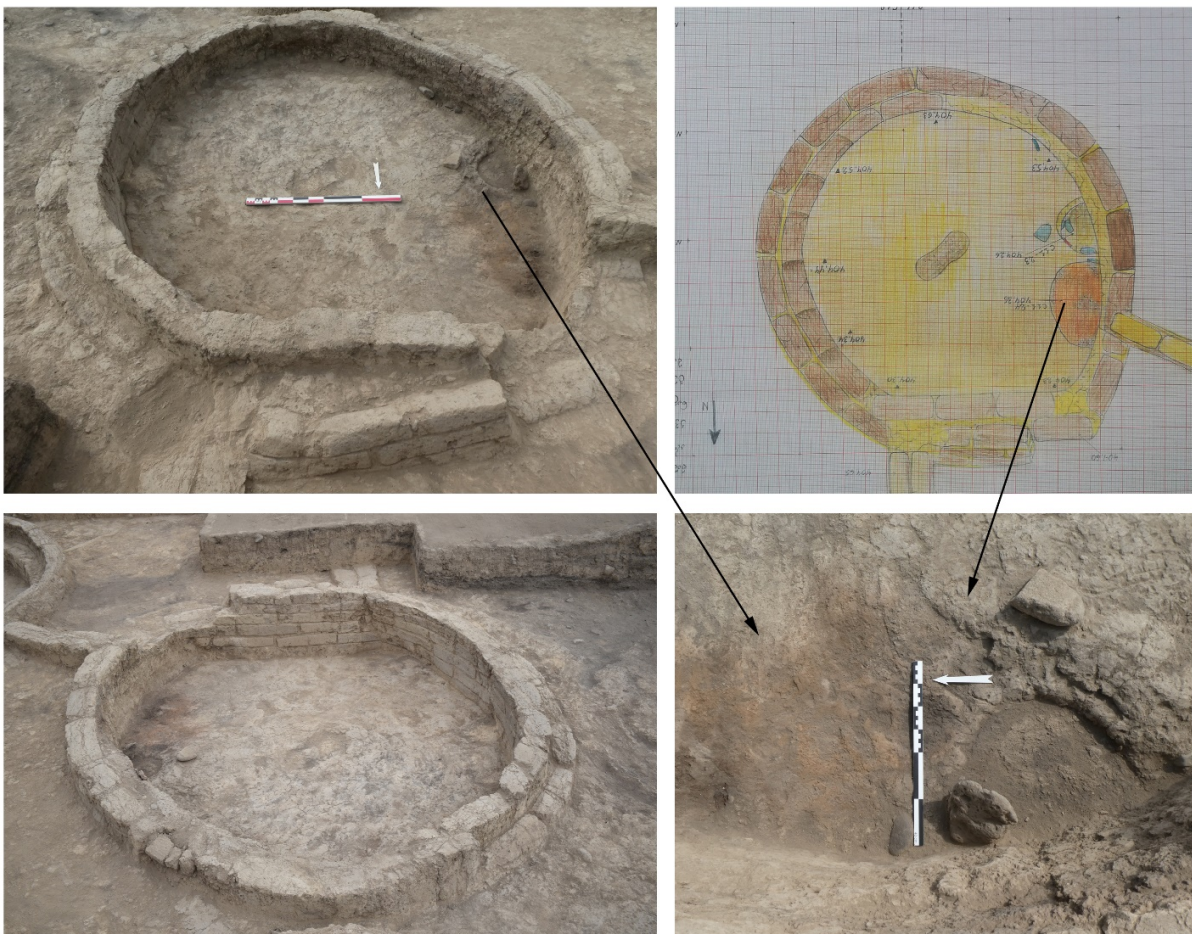
Our excavation area included old trench of the settlement and two new trenches in west part of the mound for understanding stratigraphy. (Fig. 4) It has been used 5X5 m trenches with half meter yoke for each side of the trench. After methodological documentation of all side profiles, we took 1 m yoke between trenches. During the excavation we gave unique number for every context on the excavated surface. The numeration of contexts started from 001 for each trench. After the depth of 15-20 cm layer excavated areas were scraped and drawn by hand, also we used orthophotos for documentation.

During the 2020-2021 field seasons there have been excavated nine squares (5X5m) in the area of old trench and we opened two new squares in the west part of the mound. In total there were exposed 3 big circular mudbrick houses, 4 small storage buildings, several binding walls and different fragments of the walls.

House 1

House 1 is located in C11 square south-east part of the old trench. On the top of the circular building, it was 30cm disturbed layer of the mixed soil probably from old excavations. After cleaning the wall, we found thick walls made of two lines of mudbrick architecture.

Fig. 5. House 1



House 1 is around 3m in diameter. External row of the mudbricks are plano-convex in shape with around 48X22X24cm sizes. The floor is slightly bend (around 20-25cm) in the north part of the building. This can be caused by another building horizon underneath. Due to the collapse of the north wall, House 1 has an arch-shaped plan. It appears that the damaged north part of the building has been restored with straight wall. The highest remained wall from the floor is around 56cm. In the center part of the house 1, there were excavated two small postholes with concave shape. Postholes were probably used for the roof before and after the collapse of the north wall. In the west part of the building at 404.26 MASL, reddish burnt clay has been detected with an adjacent small hole that was full of ash. House 1 is connected to House 2 with two massive mudbricks as binding wall. (Fig. 5)

House 2

House 2 became special not for only Mashaveras Gora but also for building tradition of Shulaveri-Shomutepe culture. It is located in C12 square. The upper part of the building was detected during old excavation. The surface of the building had clearly already been exposed to sunlight and was slightly damaged. During the cleaning, we found very massive walls which are

not typical for Shulaveri-Shomutepe culture. (Fig. 6) As it appeared House 2 was made up with double row and in west and south-west parts even three row of mudbrick architecture. Thickness of the walls ranges between 65-50cm in different parts. Structure is 4.30 m in diameter and the highest remained wall in north parts is around 85 cm. Bricks are typical plano-convex shape with length of around 42-45cm, width 18-20cm, thickness 10cm. Building is plastered inside and outside with around 2-3cm thick yellowish, grayish clay render. In the South wall which is the best-preserved part of the House 2 use of the yellow and grey bricks are random. The outside brick row is mostly dark brownish and the clay render is a light yellowish color.

House 2 in the North and South-East parts are stabilized with two counterforts. Two dark brown mudbricks are installed perpendicularly to the wall. Small parts of the counterforts are incorporated into the building structure, while the majority are located in the interior. (Abuladze 2020:26)

House 3

In the central part of the C8 square we have excavated remains of House 3. On the level of 404.95 MASL identified another circular building with two row mudbrick architecture. The most upper level of bricks



Fig. 6. House 2



Fig. 7. *New excavations on Mashaveras Gora (2020-21. View from North*

(Photo by S. Jokhadze)

was again in bad condition with the same reason that building were ones already revealed during old excavations. Thickness of the walls are 45-50cm, there is 10cm space between internal and external rows of the bricks which is full of clay fragments. House 3 has 3.5 m diameter build with yellowish mudbricks. Sizes of the bricks are standard for this building horizon. Dark brownish clay render is used. There was excavated clay installation with 52 cm diameter in the central part of the building. Thickness of the clay is 2-4 cm and it's getting narrow to the bottom. (Fig. 7)

Small Storage buildings

During 2020-2021 field seasons four small storage buildings have been excavated. They are located in C7, C10, C11 squares. Diameter of the structures changes between 1-1.20 meters. As the larger houses storage buildings are also built with double row of mudbrick walls. Wall thickness varies between 40-45 cm. (Fig. 8) Remained height of the storage circular buildings is around 30cm. For the basement of upper buildings, the building horizon was likely cut at the same time on the same level. Only a few pottery sherds, charcoal, and bone fragments are found in storage buildings.



Fig. 8. *Small Storage Buildings №1 MA20.C11-06, №2 (C10-07)*

FINDINGS FROM MASHAVERAS GORA

During 2020-2021 field seasons there have been revealed around 1000-unit diagnostic artefacts. 330 – pottery sherds that include also medieval ceramics from upper levels. 90- bone tools, 10- red deer antler tools. 140 – massive stone tools, mostly querns and grinders, hammers and etc. 260 – obsidian tools that were diagnostic for typology (Abuladze 2020,2021).

(Fig. 9) Despite architectural differences in building methods material culture from Mashaveras Gora are totally characteristic for Shulaveri-Shomutepe culture.

Fig. 9. Neolithic artefacts from Mashaveras gora : 1-7, Pottery sherds; 8-11, Red Deer antler tools; 12-16, Bone tools ; 17-21, Massive stones; 22, Obsidian tools; 23, Cornelian beads.

(After Abuladze 2021: 48)



C14 dating

After complete archaeological excavations on Mashaveras Gora 6 bone samples have been sent for dating. Samples were taken from House 1, House 2 and small storage buildings². All six samples were fit for analyses. The result shows that the building horizon which was excavated in 2020-2021 archaeological seasons dates back to between 5600-5480 BC. (Fig. 10)

After palynological analyses from fireplace of House 1 there were revealed three types of wheat (*Triticum aestivum*, *Tritivum dicocum*, *Triticum monococum*) (Abuladze et.al 2021: 13). These species represent high level of domestication of wheats on the settlement.

Building horizon which was excavated in 2020-2021 by the C14 dating it has to be slightly earlier to Aruchlo I and co-exists with third phase of Gadachrili Gora

Lab Nr MAMS	Sample Name	¹⁴ C Age [yr BP]	±	δ13C AMS [‰]	Kalibrierte Alter		C:N	C [%]	Collagen [%]	Material
					Wahrscheinlichkeit 68%	Wahrscheinlichkeit 95%				
49229	MA1	6589	24	-17.7	cal BC 5604-5482	cal BC 5613-5480	3.2	16.0	1.7	bone
49230	MA2	6547	25	-21.6	cal BC 5527-5477	cal BC 5607-5475	3.2	33.4	7.0	bone
49231	MA3	6645	27	-22.0	cal BC 5621-5557	cal BC 5627-5485	3.2	40.1	11.6	bone
49232	MA4	6648	26	-21.0	cal BC 5622-5558	cal BC 5627-5486	3.2	39.6	9.0	bone
49233	MA5	6588	25	-19.5	cal BC 5603-5482	cal BC 5613-5480	3.2	29.5	8.2	bone
49234	MA6	6600	26	-20.2	cal BC 5610-5484	cal BC 5616-5481	3.2	33.2	9.6	bone

Fig. 10. C14 dates from Mashaveras Gora.

CONCLUSIONS

Excavations at Mashaveras Gora revealed quite new concept of understanding Southern Caucasus neolithic architecture. Every structure is made by double or in some cases three row of mudbricks that is unusual for Shulaveri-Shomutepe building tradition. The bricks are similar to the bricks used in the Kve-mo-Kartli region settlements of the same period (so-called plano-convex bricks and plain rectangular bricks [Hamon et.al 2016: 157] The circular structures at this building horizon cluster around two different sizes with frequently overlapping walls: larger houses that are from 3 to 4.5 meters in diameter and small storage buildings with diameter 1-1.2 meters. On this level we can distinguish somehow standardization of structures and spatial organization at the settlement. Another crucial point we can consider is that mudbrick sizes fit in standards but compare to other closed excavated settlements such as Aruchlo I, Gadachrili Gora in generally bricks are larger and with much more inclusions inside. (Baudouin E. 2019; Hamon et.al 2016) Possibly, this was one of the reasons of such thick walls on Mashaveras Gora. We don't know yet if this unique building traditions extends all around the tell or in upper occupation levels. Clay installation in House 3 shows use of interior of the structure, such small clay installations were excavated also in different mound of Shulaveri-Shomutepe culture (Hamon et.al 2016: 162); Dzhavakhishvili et.al 1975) and are generally interpreted as storage installations. Palynological analyses from the installation are still processing.

(Batiuk et.al 2017: 180 Fig.4). Besides, characteristics of structures for example floor collapse in House 1 give us assumption that under these buildings there are at least one building horizon before the virgin soil.

Recently investigated Mashaveras Gora describes neolithic village life in VI millennium. Building horizons which we have dated ranges between 5600-5500 BC, it's considered to be peak for early farming societies entering the South Caucasus. If we consider that Shulaveri-Shomutepe neolithic archaeological culture is identified mostly through it's characteristics in mudbrick architecture Mashaveras Gora represents one more vivid example of innovations in Southern Caucasus and future investigation of the site will give us opportunity to better understand socio-economic life which took place in Southern Caucasus.

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² Samples were sent to German Archaeological Institute, Eurasian-Department

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