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## Čāhārbāzār. Preliminary Report on the Identification of a Large Archaeological Site in Farāšband, in the Sasanian Province of Ardašīr-Xwarreh, Iran

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**Abstract:** *As a result of field survey and remote sensing of aerial photo and satellite imagery, a large archaeological site, probably belonging to the Sasanian period, was identified in Farāšband. This site covers an area of 14.4 square kilometers, very regular and walled, implanted on virgin land. The initial survey shows that it was probably a large geometric city consists of six large almost rectangular shape sections. Based on the archaeological evidence, this site has never been completed nor filled with population and had some gardens.*

**Key words:** The Čāhārbāzār site, Bačun, city, garden, Sasanian period, Farāšband, Iran

### Introduction

The archaeological site of Čāhārbāzār is located about 11 km east and northeast of Farāšband, 28 km from the ancient city of Gōr (Ardašīr-Xwarrah, commonly known as Firuzābād), in the Bani-Qatār plain of Bačun. The highest level

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of this site is in the northern part and is about 1118m a.s.l. Nārak village is located 2.7 km east of this site and Bačun village is located about 3 km north of it. The area is in the southern Zagros mountain range, which has a semi-arid climate with hot summers and cold rainy winters. The average annual rainfall in this area is 280 mm. The highest peak of the region is located in the north of Bačun with 2600m a.s.l. [Fig. 1]. Because the Farāšband region is located in the heart of Fars, many archeological sites have been identified so far, the most important of which are the structures known as *čahār-tāq* ('four arches')<sup>1</sup>. Thus, the plain is in the heart of the Sasanian Empire, in the region of Ardašīr-Xwarrah province where Ardašīr I (?-242 CE.), the founder of the Sasanian empire, built the city of Gōr along with a palace after he defeated the last Parthian king. It seems that the close proximity of this plain to Gōr city (about 28 km) and its more suitable climate, compared to that of surrounding plains, had been attractive to Sasanians from the beginning of the period.

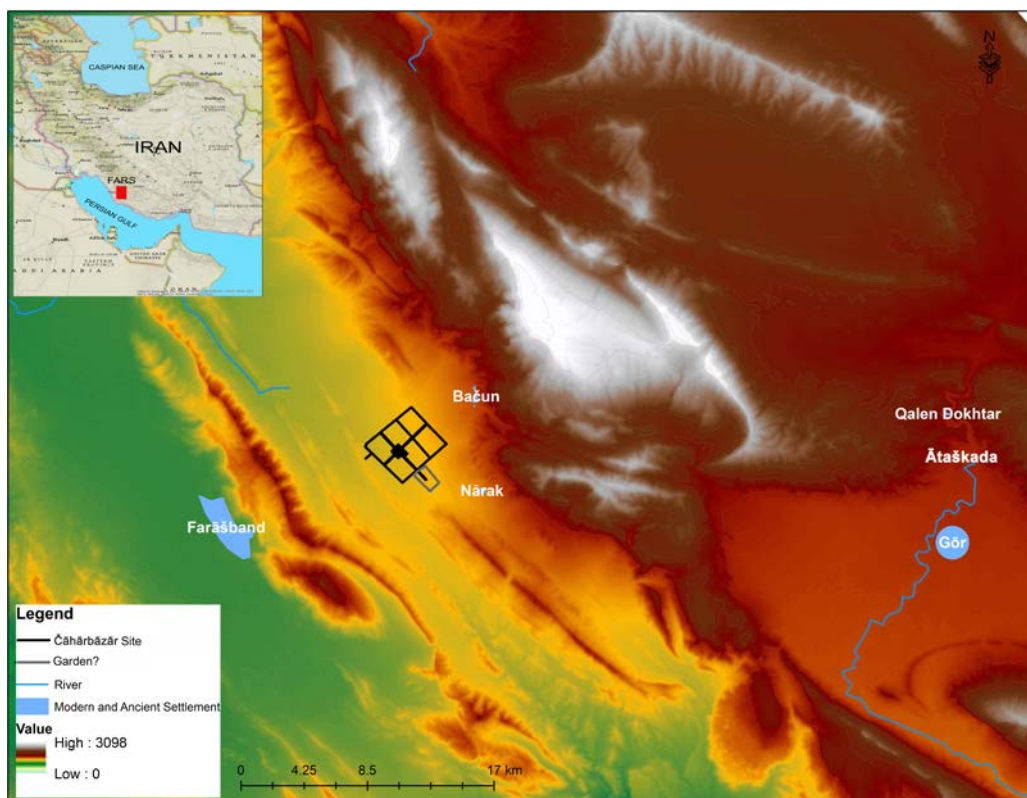


Fig. 1. Location of Čāhārbāzār site, northeast, and east of Farāšband city, southwestern Fars, Iran. For comparison of the site with other ancient as well as new settlements, all are shown according to their actual size. Drawing by Parsa Ghasemi using ArcGIS (SRTM 90m resolution, data available from the U.S. Geological Survey)

<sup>1</sup> VANDEN BERGHE 1961.

The site had already been marked as a castle on the topographical maps of Iran that were generated in 1955 with a scale of 1/100,000. The last decades have seen many visitors to the site, but they have reported only a few visible buildings, such as a quadrangular building which was reported as a caravanserai, and the central building (*kušk*). Surprisingly, they saw only a small part of this site<sup>2</sup>, because they couldn't see the full site, and they thought it was just the area of pavilion, which will be mentioned below. These incomplete reports show that the site was completely underestimated and misunderstood until now.

### **The Remains of the Čāhārbāzār Site on the Bani-Qatār Plain, Bačun**

Our initial ground survey of the site took place in December 2018, and then by remote sensing. Aerial photos and satellite images show that the Čāhārbāzār site is rectangular in plan with an area of 14.4 square kilometers, about 4 km long in the north-south direction, and 3.6 km wide in the east-west direction. The site was constructed on a gentle slope that allows water to reach all of its area [Figs. 2, 3, 4]. It is enclosed by a wall, that has four entrances, one at each of the directions. The inner part of the site is in the shape of a cross-axes, the four main streets of which, 50 meters wide, intersect in the southern one-third of the site. In addition to the main streets, there were probably two other side streets, between the northern sections (E, F; C and D) that are much less wide; evidence of this is now visible in aerial photographs as a southeast-northwest longitudinal line, which could be also interpreted as a wall. These main streets and the secondary limit formed six large rectangular sections within the enclosing wall.

All major architectural structures on the site are situated at the intersection of the four southern sections. This includes an internal fortification with a square courtyard, and the main building larger than a pavilion (*kušk*) cross-shaped in the plan. This main complex of the site is within a square fortification wall with dimensions of about 550 by 550 meters, its general form of fortification looks similar to the wall of the temple complex at Takht-e Soleymān, although it is four times the size of the Takht-e Soleymān temple's wall complex<sup>3</sup>. The fortification wall has four entrances of the same width as the entrance to the main streets; based on Google Earth images, it has many (14 semi-circular and 4 two-third circular) towers on its exterior face but most of them destroyed by modern earthmoving. The outer wall of this fortification is made of cobblestone and gypsum mortar and is 2 meters thick.

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<sup>2</sup> AMIRI 2003: 235; RAJAEI 2009; NIKNAMI and FAZEL 2016: 129.

<sup>3</sup> HUFF 1978.

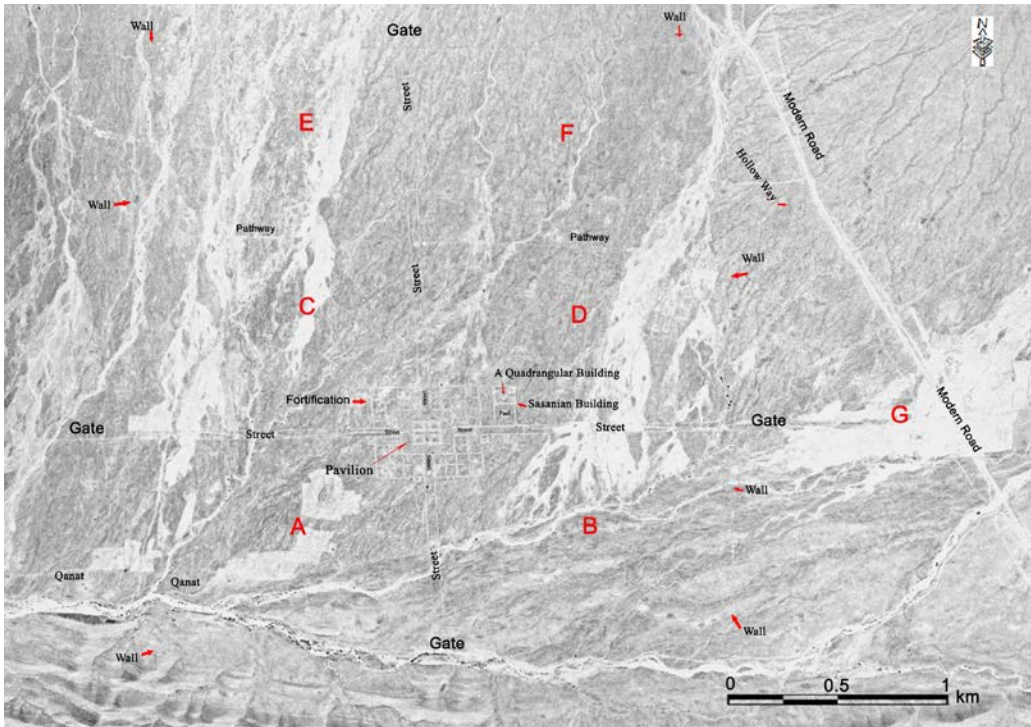


Fig. 2. The oldest satellite image of the site in a Corona declassified archive taken 25 May 1970. Due to modern agriculture and road construction, some of the features seen in this photo no longer exist. This image shows the location of sections and streets and other important structures. Modified by Parsa Ghasemi (data available from the U.S. Geological Survey).

On one side of all entrances to this fortification are the remains of a rectangular room/structure measuring 30 by 15 meters; they were probably the forecourt or a guardroom and seems to have been symmetrical on the one side of the other four entrances of this central fortification. However, the forecourt or guard room at the eastern entrance appears to be larger (44 by 38 meters). In the four L-Shape quarters of the interior yard, the Persian garden model (*čahārbāg* or ‘four gardens’, a rectangular garden divided by paths or waterways into four smaller symmetrical sections) is seen symmetrically; only the southeastern one is well preserved, the rest having been destroyed by modern agricultural activity, but their remains were visible on old aerial images [Figs. 2, 5, 6].

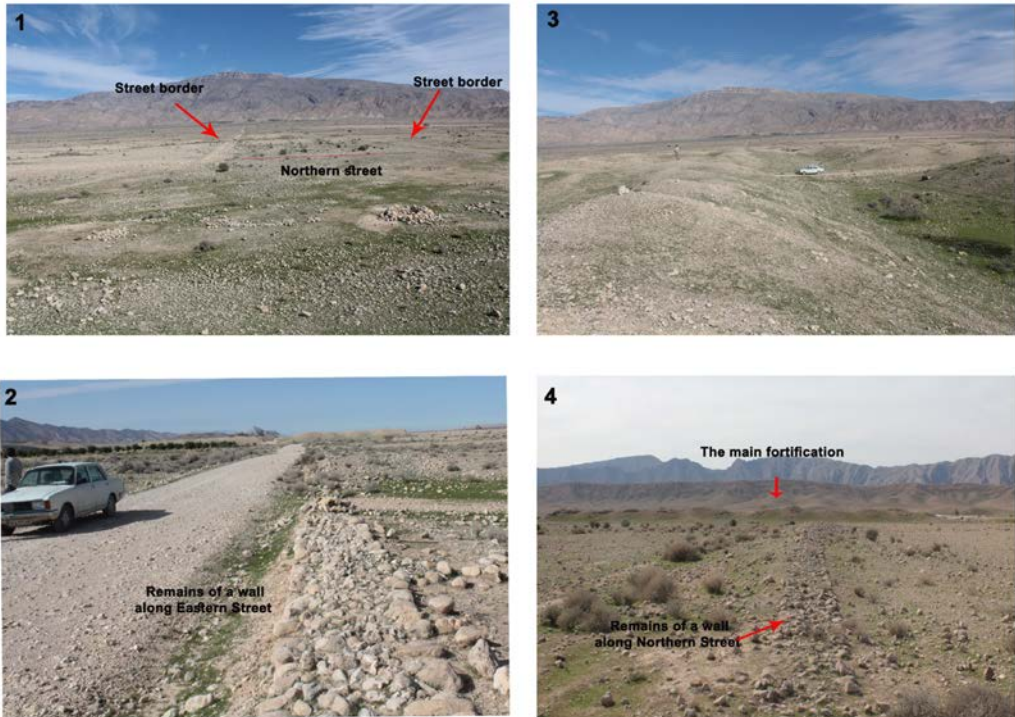


Fig. 3. Photographs of different areas of the site, including the foundation wall around the main streets or sections (1, 2, and 4), and the remains of the central part or the pavilion (3). Figs by Reza Noruzi and Aziz Rezaei

In the center of this fortification, or at the intersection of the main streets, is a square, measuring 300 by 300 meters, in which the four main streets meet. In the center of this square is the main building (pavilion/*kušk*), which has a square plan with the interior cross-shaped, measuring 132 by 132 meters. This *kušk* has four equal arms or side corridors (probably barrel-vaulted corridors or *ayvāns*), each measuring 50 by 30 meters, and are situated symmetrically in the direction of the four main streets. Four square rooms/court (?), each measuring 50 by 50 meters (less likely vaulted), are built around the side corridors.

Apart from the main complex within the central fortification, the remains of residential structures, terraces, regular geometric plots with pools, and regular irrigation canals are visible in the other parts of the six sections along pathways [Fig. 4].



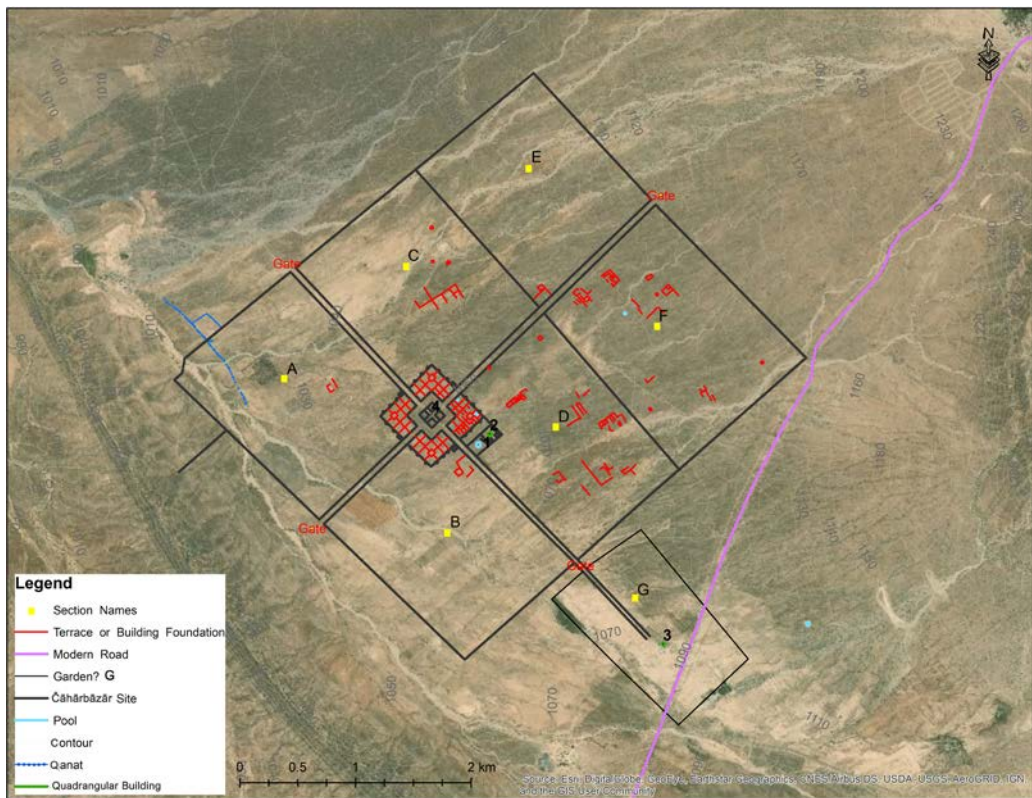


Fig. 4. Location of Čāhārbāzār site, on Bani-Qatār plain, southwest and west of Bačun village. Drawing by Parsa Ghasemi using ArcGIS (background Google Earth 2016)

In addition to the central fortification, about 100 meters east of it, there is a rectangular piece of land enclosed by a wall (?) that measures about 250 by 100 meters, (Figs. 5 and 6, n.1). On the northeastern side of the interior, the remains of a ruined building measuring 127 by 120 meters with a large courtyard can be made out [Fig. 6, n. 3]. The building has a circular pool of approximately 24 meters in diameter. According to the construction material and architectural evidence, the building is one of the first buildings in this site. In the middle of its courtyard is, a quadrangular building very looks like a residence building, measuring 25.50 by 25.50 meters. it was built in the Islamic period with materials from Sasanian-period buildings and gypsum mortar [Figs. 2, 5, 6]. Construction of a building in front of a pool or pond occurs at many Sasanian period sites, the nearest example to Čāhārbāzār being is the palace of Ardašīr in near Firuzābād.

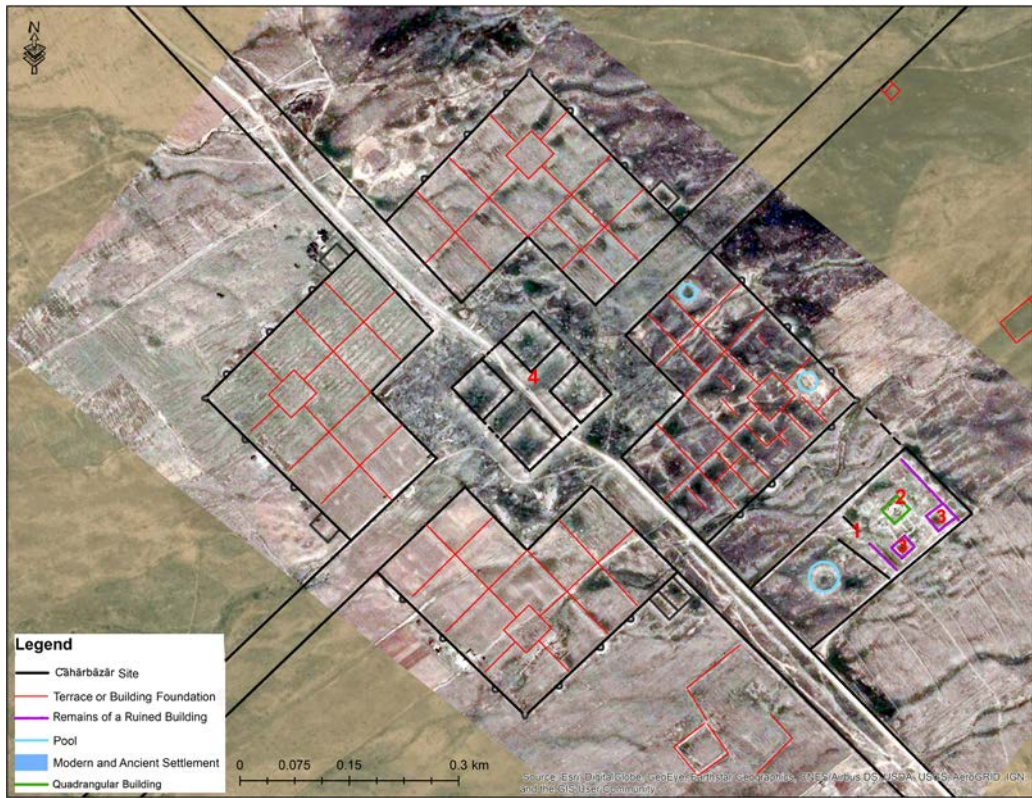


Fig. 5. Plan of the central fortification and the remains of the main streets (on Google Earth 2015 image) which form the main square of the site and are surrounded by the remains of terraces and four gardens. In the center is the pavilion (kušk) (n. 4). The location of the oldest part of the building (no. 3), and the quadrangular building of the Islamic period (no. 2), are shown. Drawing by Parsa Ghasemi using ArcGIS.

Additionally, outside the outer enclosure, another irregular-rectangular enclosed (?) field (section G) is visible on a CORONA satellite imagery (taken 25 May 1970) and Google Earth 2015. Interestingly the eastern street or pathways continues until the middle of this walled (?) field (probably extending to the end of the field but destroyed by modern agricultural activities and road construction). Approximately in the center of this field, where the street disappears or is cut off by the modern road, is the remains of a rectangular building built of stone and gypsum mortar. This building was destroyed by the landowner who has cultivated its center; based on surface finds of potsherds, it dates to the late Sasanian period. If the foundation of the wall (?) around section G belongs to the Sasanian period, then it might be assumed that this building in the middle of this land was constructed at the same time [Fig. 4].

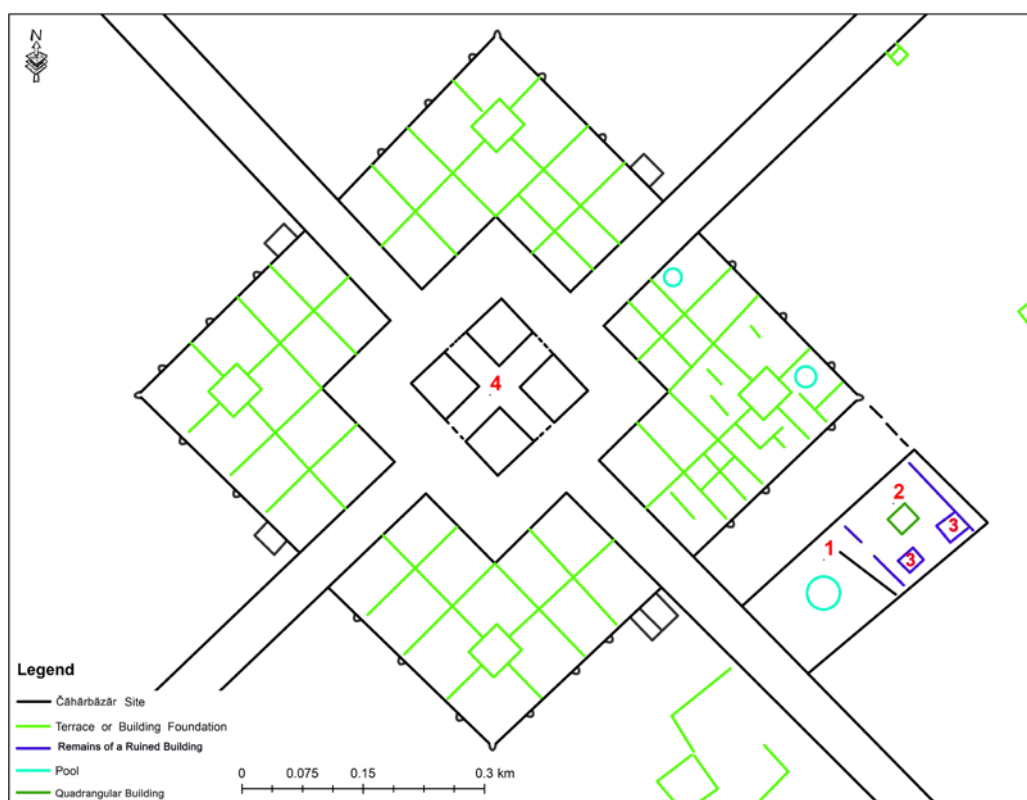


Fig. 6. Plan of the central fortification and the remains of the main streets, which form the main square of the site and are surrounded by the remains of terraces and four gardens. In the center is the pavilion (*kušk*) (no. 4). The location of the oldest part of the building (and the quadrangular building of the Islamic period, are indicated by (no. 2) are shown. Drawing by Parsa Ghasemi using ArcGIS.

## Water Resources

The Bani-Qatār plain has one of the richest aquifers thanks to its alluvial fans in the north of the plain. The Barm-e Farhād, and Bačun springs, seem to have been the most important source for the site's permanent water supply. Many open surface canals brought the water to the site from the northern side of the plain. The site is built on a fertile plain that is rich in surface and aquifer water; this is likely the reason why no qanats were dug at the site, in contrast to the surrounding plains' extensive use of the qanat system to supply the water for residents and agriculture. (The only *qanat* near the site has been dug in its western corner at a lower level; this directs the water to the outer lands west of the site and probably dates to Islamic times). A large number of circular pools, with an average diameter of 20 meters, has been built with cobblestone and *sarooj* mortar (*sarooj* is a local water-resistant mortar used in water-related structures such as pool, cistern, dam, etc.) in different sectors to conserve water.



## The Site Function

Having described this large regularly-planned site in detail, we now must explore its purpose. Was it to accommodate a large population, either one from the region or some forced transfer of people from some captured region? Since it seems to have included several gardens, might the entire site have been a large royal or aristocratic estate with palatial buildings among trees and farmlands? Based on the available data – albeit before future excavation and field surveys – we may consider this hypothesis:

The site was a large-scale walled city, built on an axial geometric plan. In the center of the south of the city, inside a fortification, at the intersection of the main streets, was built a large pavilion surrounded by a Persian garden. The lack of much evidence for structures and building construction material on the surface, as well as scarcity of surface evidence of material culture within the six rectangular sections may be explained if part of the planned construction did not occur, and most parts of the city were never built. After the site was abandoned, in some later periods such as in the middle Islamic period, the courtyard of the abandoned Sasanian building was used to build a quadrangular building.

An alternative hypothesis to the aborted project of construction of a city that would have been several times larger than Bīšāpūr (about 1.5 square kilometer) or the city of Gōr (about 3.14 square kilometers) is to consider that it might have had some large sections for agriculture; or less likely it has been used as a large garden with few palaces probably in the same period or the later, due to the abundance of water and fertile land.

It is worth mentioning that in some Sasanian cities, such as Bīšāpūr, Gōr, and Ayvān-e Karḡa, the interior spaces have not been completely filled with structures, which probably were empty spaces devoted to gardens. In Čāhārbāzār, the six sections are mostly empty of structures, and the dearth of potsherds and other material culture remains. The built area is only inside the central fortification (that is, the *kušk*). A surrounding ditch, which was an important means of protection for most cities of this period is absent: the location of the site on a plain enclosed by mountains and near the alluvial fans might strengthen the hypothesis that it was an unfinished city and had gardens designed for agriculture as well as arboriculture, used for royal entertainment such as hunting and the enjoyment of various indigenous trees.

Therefore, the site of Čāhārbāzār with this unusual size and careful geometric plan might have been intended for other purposes than only resettling a population. Section G, was probably used as a garden area, outside the main wall [Fig. 2].

According to the historian al-Ṭabarī (839-923 CE), Mehr-Narseh (the great vizier of several 5th- century Sasanian kings) established in his birthplace (Abrovān village) in the Dašt-e Bārin and Jereh – the region in which Čāhārbāzār is located – villages, fire temples, and three large gardens (twelve thousand palms, twelve thousand

olive trees, and twelve thousand cedars)<sup>4</sup>. This is the only historical evidence that shows that there were many large-scale agriculture fields and settlements in this region which were built by aristocrats; further information must come from archaeological surveys.

The presence of a central *kušk* and the axial pathways leading to it, as well as the four gardens around it, of course, recalls the only previously known Persian garden (*čahārbāg*), at Pasargadae in the Achaemenid period<sup>5</sup>. The existence of this example indicates the continuation of the *čahārbāg* palatial garden tradition from the Achaemenid period into Islamic times<sup>6</sup>.

## Chronology

In what period was this site established? Sasanian, Post-Sasanian, or early Islamic?

Our initial field survey based on the surface pottery and construction techniques show that a Sasanian building was constructed within a large rectangular space west of the central fortification [Figs. 5 and 6, n. 3]. Although this building is not located inside the main central fortification, its presence beside the central fortification is important. As already noted, potsherds are rare on the surface of this huge site; however, those that have been found belong to the Sasanian period. The rectangular plan with regularly laid-out streets and interior geometric divisions shows that this large-scale site was probably built by the Sasanians. This type of plan was first used in the Sasanian period by Šāpur I (239-270 CE) in Bīšāpūr (around 266 CE)<sup>7</sup>. There is however no textual or other evidence to show that here in Čāhārbāzār it was designed and executed by Šāpur I or one of his successors. Its dating to the Sasanian period at this stage thus remains conjectural.

However, there is also no reliable evidence to indicate that it was designed in the post-Sasanian or early Islamic period. The only evidence for an Islamic date is the quadrangular building, [Figs. 4-6, n. 2], which, due to its resemblance to other the quadrangular building in this region, can be dated between the 11th and 15th centuries.

Thus, there is not enough evidence to prove that the main site was planned during the Sasanian or early Islamic period. But certainly, if implemented in Sasanian times, this geometric plan cannot date earlier than Šāpur I. The city or garden areas, if built during the Sasanian period, must have belonged to a king or a leading noble who wanted to create a masterful rectangular city according to Roman models mixed

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<sup>4</sup> Tabarī 2004: 626 and 280.

<sup>5</sup> STRONACH 1995.

<sup>6</sup> For more information about Islamic Garden, see GOLOMBEK 2012.

<sup>7</sup> GHIRSHMAN 1971.

with Persian elements, such as the Achaemenid four-garden design, near the circular city of Gōr.

## **Conclusion**

Only with further study of this large site will we be able to understand its main function and its date of establishment. Whether it was created to resettle other populations or it was a sizable agriculture/arboriculture estate, it was a large-scale imperial project that at that time would have been an ambitious and costly undertaking. The creation of a large site, with wide streets, the construction of external and internal fortifications, required precise engineering, skilled design, and a large labor force. Thus, it is logical that this site was built by the Sasanians. Their skill in managing and implementing large urban and engineering projects helped their empire flourish.

Future study of the site should yield a detailed picture of its function, date, and site pattern. It is necessary to mention that most of our current knowledge is based on remote sensing of aerial images carried out by the first author (Paras Ghasemi); to expand this knowledge it will be necessary to conduct systematic archaeological ground surveys and excavation.

## **Acknowledgment**

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