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Achaemenid settlements in the Shiraz, Sepidan and Kavar Plains, Iran

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Abstract: *In 2008, for the first time, an archaeological full coverage survey on Shiraz plain and its adjacent plains was conducted under the supervision of the author of this report. As a result of this survey, a different perspective was obtained from the settlements of the ancient period in particular the Achaemenid period from Shiraz plain and its southern plain, Kavar plain, and the northern plain, namely Sepidan plain. In this paper, the archeological sites of the Achaemenid period of these plains are introduced, discussed and evaluated.*

Key words: Iran, Achaemenid Period, Archeological Sites, Shiraz Plain, Kavar Plain, Sepidan Plain

Introduction

In the southwest area of Iran, Fars was considered as the cradle of the Achaemenid civilization. In the central part of Fars, Pasargadae, Parsa, and Anshan, were the most important towns of the Achaemenid period, and recent surveys in the northwestern region of Fars indicate that Fars was widely settled during the Achaemenid period.¹ Extensive information has been published on the ancient settlements belonging to the Achaemenid period from Persepolis plain (Marvdasht), Pasargadae, Bolaghi Valley and Mamaseni region.² One of the most important plains located in the center of Fars is Shiraz plain. Despite the fact that the archaeology information on Achaemenid period from this plain was limited to a few sites including Qasr-e Abu Nasr, Tall-e Hakavan, Kavar and a column base from Guyum, more or less information on the Achaemenid period was interpreted regarding this plain and also its surrounding plains related with the term Tirazziš in the clay tablet sources of Persepolis fortification.³

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¹ Potts *et al.*, 2006.

² Schmidt, 1953; 1957; 1970; Stronach, 1978; Sumner, 1986; Boucharlat, 2003; Petrie, Askari Chaverdi & Seyedin, 2006; Potts *et al.*, 2006; 2009, Askari Chaverdi & Callieri 2006; 2009; 2010; 2012; 2016; 2017; Helwing, Makki & Seyedin, 2010; Atai & Boucharlat, 2009; Helwing & Seyedin, 2018.

³ Excavations at Qasr-e Abu Nasr in the southeast of Shiraz observed that a number of stone column base and doorways were transferred from Persepolis to this place in the Post-Achaemenid period, probably in

In 2008, for the first time, an archaeological full coverage survey on Shiraz plain and its adjacent plains was conducted under the supervision of the author of this report with the permission of the Institute of Archaeology and the financial support of the Cultural Heritage Base of Shiraz. As a result of this survey, a different perspective was obtained from the settlements of the ancient period in particular the Achaemenid period from Shiraz plain and its southern plain, Kavar plain, and the northern plain, namely Sepidan plain. In this paper, the archeological sites of the Achaemenid period of these plains are introduced, discussed and evaluated.

Aims

The purpose of this paper is to identify and analyze the geographical location of the settlements of the Achaemenid period in Shiraz plain and its surrounding plains. Survey method, introduction of sites and also new archaeological information from the 6th-3rd centuries BCE from the Achaemenid as well as Post-Achaemenid periods in relation and comparison with other identified sites, especially Persepolis, Pasargadae, Tang-e Bolaghi and Mamasani is discussed. A part of recent discoveries in archeological sites are architectural elements and ceramics belonging to the Achaemenid period, which are introduced for the first time.

Shiraz and adjacent plains: Sepidan and Kavar

Shiraz plain are located as one of the important communication joint-pin between the plains of Persepolis (Marvdasht), Firuzabad, Kazerun and Sarvestan [Fig. 1]. The Shiraz plain is approximately 65 km long and 15 km wide and is extended in the northwest to southeast direction. The average height of this plain is 1500 meters above sea level. There are fresh water springs in most of the foothills of this plain. The fertile plain and its lands are capable of agriculture. The Shiraz Plain is connected to the Kavar Plain in the southwest, and it is related to the Sepidan Plain in the northwest. Today, wide areas of this plain are covered by the modern city of Shiraz, and in the southeastern part of, the Maharlu Lake and the Sarvestan plain are situated.⁴

Buyids period (Wilkinson 1965; Whitcomb, 1985). There are other Achaemenid sites as an Achaemenid site in Kavar plain called Tal-e Hakavan (Sami 1938; Mostafavi, 1967; Razmjū, 2003: 295-309) and an Achaemenid column base in the village of Guyum (Yagmāei & Zeybari, 2013). These cases were the only limited archeological information of the Achaemenid period from Shiraz plain and its adjacent plains. The archaeological study by Gotch (Goff Meade *et al.*, 1968: 168-170; Goff *et al.*, 1969: 190-192) is also important for Shiraz plain, however, it does not provide Data from the Achaemenid period.

⁴ There is no evidence of the settlement in this city in the pre-Islamic era. However, there are indications that show that the name of Shiraz was very old and was later used for the current Shiraz, and originally referred to an older land; Frye, 1973: 1-2; see also Shapur Shahbazi, 2016.

Survey Method

The survey method in this field study was conducted as a full coverage survey. This plain was gridded with squares of 5x5 km in the direction of longitude and latitude, and then each of the grids was coded in two horizontal and vertical axes. Despite the presence of the large city of Shiraz in the area of central plain, it was attempted to use the same systematic method of gridding the plain in a full coverage with more intensity in potentially fertile areas. William Sumner experienced this method of surveying the gridding the plain and full coverage with more focus on potentially fertile area in the 1970s in Marvdasht Plain.⁵ However, there is a difference as follows: as a result of the expansion of urbanization, archaeological sites prior to the Islamic period were not evident in the central part of the Shiraz plain for the sake of urbanism constructions. For this reason, the archaeological surveys were mainly focused on the visible parts in the foothills and agricultural lands. In total, 12 archaeological sites from the Achaemenid and Post-Achaemenid were identified, which are introduced and discussed here from northwest to southeast respectively.

Chah Mur

The archaeological site of Chah Mur lies close to the village of Chah Mur, some 3 km northwest of the modern city of Dalin. This site is located at the latitude and longitude of 33° 26' 547" North and 60° 55'14" East at an altitude of 1941 meters above sea level [Fig. 1, no. 87].⁶ In this place, there were ancient low height mound, which were leveled with the surrounding grounds as a result of ploughing the ground to create the modern garden. As a result of these plowing the land, a piece of gray torus in the Achaemenid stonemasonry art manner was revealed from this place. This torus has a diameter of 51 cm and the height of its body is 10.5 cm. On top of this torus, there is a smaller torus base with a height of 1.5 cm and a circle diameter of 43.5 cm. The surface of the upper part of this torus is well polished and the mason's marks are cut on the stone on its surface. This gray torus has been polished with excellent quality, and delicate which shows the complete skill by the stonemasons. The lower part of torus base was hammered with progressively punches until surface was perfectly leveled [Fig. 2]. Edge of torus worked fine smooth with toothed chisel and then it was delicately polished. According Tilia's report, torus base face was smoothed down even further with sand and abrasive stones. The torus base is worked smooth on the contact

⁵ Sumner, 1986; 1990.

⁶ The Site, Chah Mur was introduced in details as Achaemenid site; see Askari Chaverdi, 2023a.

planes without the little projection or clear-cut anathyrosis because the torus supported wooden and not stone column in this way of treating the contact plane.⁷

Guyum site

Guyum town is located in the northwestern part of Shiraz city, and its distance from the center of Shiraz city is about 20 km [Fig. 1, no. 41]. For the first time, Guyum was mentioned in the studies on the Achaemenid period when George Cameron thought that the possible place of Kamaini of the Achaemenid period is modern's Guyum in the northwest of the Shiraz Plain.⁸ In the archeological survey on the Shiraz plain, a broken column base was identified, designed and documented in the old site of the Guyum town gate.⁹ According to these finds obtained from the remaining parts of this column base, respectively [Fig. 3], the full elevation of the column base was 5.05 m, which this elevation contains the elevation of the surface part 41.05 cm and torus of the upper part is 9,00 cm long. The dimension of the bottom diameter of this column base is 54 cm and the diameter on the surface of the torus on the upper most part is 45 cm. All around the surface part of the column base is carved with fluting grooves and decorated with vine palmette. The fluting grooves are carved in the vertical rows in the form of two relief bands, each with a thickness of 1.05 cm in consecutive rows around the column base in 16 frames in the traditional and classical style of Achaemenid architecture. Inside each frame, it is decorated with hanging lobe triangles in the uppermost part with the base side 8 cm wide and two sides facing down each with an elevation of 7 cm.

The points of the hanging triangles in the upper part are located exactly in the vertical axis of the continuous relief bands in central part of each frame and are carved in relief in such a way that the vertical space inside each frame is divided into two equal parts, each with a height of 40 cm has been exhibited in reliefs. In the uppermost part, below the surface of the connection between the column base and the torus, there are 32 rows of curved hanging lobe, each with a base side of about 5 cm and an elevation of 6 cm, in a continuous row. In the lower part, this continuous relief bands extend in vertical rows around the column base with an oval curve, and between each frame, a small pointed lobe triangle hangs down at a height of 4 cm. A surface of about 6 cm

⁷ Tilia 1968: 80-81.

⁸ Cameron 1948: 15, Tab.1, 179, Plate XXXV, No.64; In the third month of the 20th year of the reign of Xerxes, 101 workers were paid for working in the treasury of Persepolis. These workers were from Kamaini. George Cameron (1948: 179) has guessed the place of Kamaini or (ka-ma-a-nu-is) in the northwest of Shiraz city in Guyum.

⁹ In 2013/1392 HA, a brief report from a column base was published in Persian (Yaghmaei & Zeybari, 2013: 82-84). The discovered column base is not located in the context or the archeological site and it is preserved in the residential house of Mr. Ramazani. During his visit in 1970, Mr. Yaghmaei mentioned that there were three column bases.

in the lowest part around the column base is completely fine rendering finished and along this surface, the diameter of the lower part of the column base with a curve towards the outside is about 1.05 cm more than the upper part. This fine rendering finish surface with greater curvature on thickness of the surface part of the column base shows that there was a flagging pavement all around this column base and the fine rendering finish part of that column base was inside the surface of the flagging pavement and was not visible. The torus of the column with an elevation of 9 cm and a circle diameter of 45 cm is connected to the surface part of the column base. On the surface of this torus, a surface with a diameter of 35 cm has been carved in rendering rough circular, which was the location of the column shaft. This column base is in the style of other Achaemenid column bases, gray and black in color and made of gray limestone. The decoration of the lower part of the continuous vertical relief bands all around this column base is similar to the discovered column base from Mamasani region of Jinjan and Gachgaran sites, but the decoration of the upper part in Mamasani region is decorated with relief flowers.¹⁰ Similar samples of the decoration used in this kind of column base was obtained from Persepolis and the archeological site of Jin Jan or Qal-e Qali in Mamasani region of Fars.¹¹

Tol-e Sefid-e Sadra

The site is determined in the geographical coordinates table (39° R 063° 99' 11") with the situation of 92° 535" UTM 32 [Fig. 1, no. 28]. The site located in the right side of the Golestan district street toward Sadra town, at the 2 km of this road in right hand, a high hill is visible on the surface of flat grounds, which looks more like

¹⁰ Potts *et al.*, 2009.

¹¹ Schmidt, 1953: 74; Potts *et al.*, 2009; The type of curved decoration is observed from the western portico of the Apadana (Schmidt, 1953: Fig. 50B) that called decoration with pointed tongues. Amanda Dusing (2014: 117-120) described these kinds of decoration in Achaemenid site of Qal-e Qali site in Mamasani region in Fars. These stone bases are the most common in the Achaemenid repertoire; There are three variants within the type, but all feature 'long outlined tongues' of Greek type with angular spines (Boardman, 2000: 70), also described as long tongue shaped leaves by Wesenberg (1971: 143). This decorative motif also appears in Type C bases. In the most common form, the tongues are topped with a series of pendent triangles, with a flattened 'egg and dart' moulding on the shoulder. The egg and dart can be described as a quarter round egg shaped moulding alternating with an element shaped like an arrow or dart. The second variant has no egg and dart motif, but features the pendent triangles, which have the added decorative motif of multiple triangles nested within the outer one (Dusing, 2014: 117-120). Examples of this form were found on large bases at Persepolis in Edifice E of the Barzan (Fig. 9.33), and a smaller version (Fig. 9.26) was recovered from a storeroom in the southeast tower of the Apadana (Schmidt, 1953:74). The third variant of the Type B base has only the long outlined tongues, without either the pendent triangles or the egg and dart motif on the shoulder. The few examples found of this sub-type come from a variety of contexts and chronological periods (Dusing, 2014: 117-120). It may be a prototype at the beginning of the Type B sequence, or it may equally be a later development. Examples include an isolated find from Tang-i Bulaghi 34 (Atai & Boucharlat, 2009: 14), from Susa (Fig. 9.13 #10) and Karacämirlı in Azerbaijan. The common feature of this variant is that they tend to be smaller bases (Dusing, 2014: 117-120).

a natural hill [Fig. 4]. This site is known as White Hill (Tol-e Sefid). Its width is about 130 by 90 meters, and its height is about 15 meters from the surface of the surrounding grounds. Next to this site is a spring called Joshanak River which flows into this part from upstream. The site was surveyed and the settlement was introduced in detail as Achaemenid and Post-Achaemenid site.¹²

Qal-e Bandar-e Pahandej sa'adi site

In the northern foothills of the Shiraz plain, where Saadi's tomb is located today, there is a fortress called Qal-e Pahandej [Fig. 1, no. 27]. This fortress is also called Qal-e Bandar. The remains of this fortress can be seen on a high tepe with a width of 150x250 meters and a maximum height of 110 meters. On the surface of this fortress, the ruins of numerous fortifications and towers, water pits, and collapsed architectural structures are visible. According to the historical narratives, this fortress is dated to the Achaemenid, Sasanid, and Atabak dynasty of Fars region [Figs. 5-7].¹³

In terms of architecture, materials and plan, the large tower of Qal-e Pahandej together with the surface topography is associated with the slope of the mount from north to south and for this reason it has a triangular plan. In the two corners on the north side, there are two towers built with pebble stone material and plaster, and there is a similar tower with a circular plan in the extreme corner on the south side of the fortress. The diameter of each of these towers is between 8 and 10 meters. The boundary between the towers is surrounded by a thick barrier approximately one meter thick. This fortress was surrounded by these towers from all sides. In the interior space of the fortress, two pits have been dug in the heart of the rock. These pits are square in plan and significant. The dimensions of the opening of each of the pits are about 4x4 meters and about 100 meters deep and the relative similarity of these pits with the Achaemenid pit in the Persepolis terrace is considered as a reason for some historians to date Qal-e Pahandej to the Achaemenid period.¹⁴ In addition, in some parts, there are traces of carved rock stone, which probably belong to the Sasanid period, and the traces of restoration in fortification and tower structures belong to the Atabakan period of Fars.

¹² Askari Chaverdi, 2023b.

¹³ I must point out that most historians in their writings refer to a deep pit near the fortress and describe and evaluate that pit more than examining the construction of Qal-e Bandar. One of the wonders of this fortress is its wide and deep pit, which is dug in the heart of the mountain, and at the foot of the fortress, its mouth is square, and its water is used for drinking by the inhabitants of the fortress. Since, this pit is similar to the one that was dug in the northern slope of terrace of Persepolis; it is possible that this fortress and this pit were built in the Achaemenid period. In addition to the big pit of the Qal-e Bandar, there were two smaller pits in that fortress, but there are no traces of them now. The materials used in this fortress include stone, bricks, rubble stone, mud brick, and stucco and water proof mortar. There were fortifications around the site and this can be seen from the remains of the destroyed walls around the building.

¹⁴ Sami, 1984: 23.

Surface survey to collect ceramic samples showed that the few ceramic findings follow the same tradition of pottery common in the late Sasanid period and early Islamic period in Qasr-e Abu Nasr or some similar sites such as Istakhr [Fig. 8]. The ceramics are coarse, brownish, and buff brown with comb incision bands, glazed with a blue-green glaze coating are from Sasanian to Islamic period in ceramic typology, and various kinds of ceramics with parallel ridges around the body of vessels can be compared to the ceramics of Sasanid period. Two samples of blue ceramics correspond to the vessels of the Middle Islamic centuries and possibly the Atabakan period of Fars.

Haiedeh Marie Koch writes that Shiraz has been an important city since the Achaemenid era and following Persepolis, where was the center of the administrative court and the seat of the country's highest administrative authority; Shiraz and its suburbs were also important and had a treasury. However, it refers to the fact that the Achaemenids did not build fortifications in any of the important cities under their rule. "Although, the cities did not have fortifications, certain administrative edifices were protected by fortifications".¹⁵ It should be noted that in this historical period of this region called Tirazziš or Shirazziš.

Therefore, it can be stated that this fortress was not called Qal-e Bandar or Qal-e Pahandez. Rather, it was called Qal-e Tirazziš or Qal-e Shirazziš in the past. Currently, the important issue regarding the Qal-e Bandar-e Fahandej is to accept whether this fortress existed and was used in the Achaemenid period or not. Recently, Reinhard King from New York University has raised the issue of Shirazis, which is basically the same as Halmarish/š in Achaemenid period, that are the words not related to a specific place, but rather to a kind of management system in the Achaemenid tax and administrative system. According to Reinhard King, Shirazis was a kind of vassal and overlord fortress that managed the administrative system of a plain and was mentioned in numerous Achaemenid clay tablet sources.¹⁶ Consequently, the name of Shiraz can be derived from the name of the administrative system of the Achaemenid period, which has been inherited in history owing to the existence of one such fortress in the Shiraz plain. It is difficult to accept that the Qal-e Bandar-e Fahandej Sa'adi had this function in the Achaemenid period. Nevertheless, it can be accepted that this kind of vassal and overlord fortress system existed in the Shiraz plain, which subsequently in Sasanid and later periods this fortress could have this kind of function. From the point of view of archaeology, the only comparable evidence for assigning this fortress to the Achaemenid period is a square leaching pit catted in rock which can be similar to the pit of Persepolis terrace. Though, to confirm the dating of the construction of this pit to the Achaemenid period, more archaeological evidence is needed.

¹⁵ Koch, 1992.

¹⁶ King, 2024.

Therefore, the importance of Qal-e Bandar Fahandej-e Sa'adi could have been limited to this extent. However, it should be noted that at the end of the Sasanid period and the beginning of the Islamic era, the management of the administrative system of the Shiraz plain was concentrated in Qasr-e Abu Nasr.¹⁷

Tol-e Tut (Tit) Site, Kaftarak

This site is located in the northern foothills of Maharlu Lake, in the south of Kaftarak village police station, among agricultural lands [Fig. 1, no. 15]. The site is a tepe of 55x60 meters and a maximum of 2 meters height that is left from the surface of the surrounding land [Figs. 9-10]. The surface of the site is covered with grassland and a major area of the southeast and southwest of it is completely flatted. Due to the presence of a large mulberry tree in its center, this site is known as Tol-e Tut or Tit. As a result of extensive destruction in this site, the remains of a wall has been exposed, which shows that during the settlement in this area of the site, it was used a mud wall with cobblestone foundation. Survey on surface ceramics of this site indicate that the site was firstly settled in Bakun A and B periods in prehistoric period. Buff pottery with geometric and floral painting and Lapui ware with reddish wash coating are the proof that this site was settled in the 5th to 3rd millennium BC [Fig. 11]. Moreover, two ceramic samples of plain reddish and beige ware from the 1st millennium BC were found in the surface of this site, which is likely to have been settled during the Achaemenid period [Fig. 12]. In terms of color, fabric, and shape of the vessel, both pieces of ceramics are similar to Achaemenid samples from the 1st settlement period in Jin Jan site, Qal-e Qali, in Mamasani, Fars.¹⁸

Qasr-e Abu Nasr site

The site known as Qasr-e Abu Nasr is located in southeast of Shiraz city on the Kaftarak road, on a natural tepe [Fig. 1, no. 25]. This tepe is 320 meters long and 240 meters wide. In the northern part, due to the passage of water at a great depth, it is separated from the mountain, and in the northern and eastern areas it creates a very steep slope and is a kind of natural fortification. The map of the site is triangular which narrows from north to south. The western part of the site is occupied by a village. The American expedition of the Metropolitan Museum, under the supervision of Upton and Hauser, conducted three seasons of excavation in Qasr-e Abu Nasr between 1932 and 1934.

¹⁷ Frye, 1973; Whitcomb, 1985.

¹⁸ Potts *et al.*, 2009: 261-263; pl. 4-6.

Qasr-e Abu Nasr is an archeological site with several phases of successive settlements, the objects and ceramics obtained from the surface of the site are very diverse and include traces from the Achaemenid, Seleucid and Parthian periods until the middle of the Islamic period. What we know about Qasr-e Abu Nasr owes to the efforts by Prof. Donald Whitcomb, who published them all.¹⁹ From the Seleucid period, only coins were found, but from the Parthian period, other than coins, ceramics, glass and metal objects were also found. The seals impression were also found, which are very important in terms of reconstructing the economic history of this place.²⁰ The discovery of Byzantine and Chinese coins points to trade relations with distant regions. The objects of the Islamic period include coins from the time of the Umayyad and Abbasid caliphs until the end of the Seljuk period. The abundance of the coins of the late Sasanid period and also the early Islamic period shows that this place had a lot of population and prosperity from the 6th to the 8th century CE.²¹ It should be mentioned that there is a place known as Barm-e Delak, where is two kilometers southeast of this place. In this site, on a rocky face overlooking a fountain of the same name, there are two reliefs of Bahram II (274-293). These reliefs indicate that during the time of this king, i.e. the end of the 3rd century CE, the Qasr-e Abu Nasr was occupied.

From the excavations of Persepolis, a clay tablet with Elamite cuneiform script was found, which bears the name of Shirazis.²² Based on this, probably some people believe that the Shiraz city was located in this place before Islam. Whitcomb divides the architecture of Qasr-e Abu Nasr into three periods and five phases: the first period between 100-250 CE and coincides with the Post-Achaemenid and probably the Parthian period; The second period is between 250-400 CE and third period coincides with the late Sasanid period and the beginning of the Islamic period. The most important buildings inside the fortress belong to the second phase.²³ According to Charles Wilkinson, all the discovered architectural elements of the Achaemenid period were transferred from the site of Persepolis to the site of Qasr-e Abu Nasr.²⁴ During the excavation in the western area of the site, there was a stone doorway similar to the doorway of Persepolis. Referring to the statements by Flandin and Coste, Hauser suggested that this doorway was not in its original place and was brought from Persepolis.²⁵ According to Frye, this transfer may have been done by ad-Dawlah Daylami.²⁶ However, there is no definitive evidence in this case. Based on new

¹⁹ Whitcomb, 1985.

²⁰ Frye, 1973.

²¹ Whitcomb 1985: 32-74.

²² Frye, 1973: 2.

²³ Whitcomb, 1985.

²⁴ Wilkinson, 1965: 341-345.

²⁵ Hauser, 1933; Winlock, Hauser & Upton, 1934.

²⁶ Frye, 1973: 3.

research and how to understand the evolution of the Achaemenid heritage and the formation of local dynasties of Fars in Post-Achaemenid, followed by the rising of the Sasanids, the transfer of the architectural monuments from Persepolis site could have happened in the first period of settlement in this site, i.e. 100 to 250 CE as the same issue of transfer has been done in the lower buildings of Persepolis terrace ,i.e., Farataraka and Istakhr city. Based on this issue, the settlement in Qasr-e Abu Nasr in the Post-Achaemenid period as well as the reason for the transfer of this volume of archeological monuments from Persepolis to the Shiraz plain becomes important as this time period is a phase where during the 1st and 2nd centuries CE the local governments of Fars simultaneously are evolving and dynamic with the Parthian period.²⁷ The need to gain legitimacy from the Achaemenid heritage is important in the Shiraz plain, and as a result of its central location in the late Parthian period and during the formation of the Sasanid dynasty in Fars, this plain contributed an extraordinary role. Therefore, Qasr-e Abu Nasr is a considerable site that has the heritage of Achaemenid monuments in Shiraz plain.²⁸ The two capitals and the column base in the Haft Tanan Museum become important by being attributed to Qasr-e Abu Nasr [Figs. 13-14] for the reason that the capital No. 14 cannot have been transferred from Persepolis, but in the view of its lower quality technique deterioration level, it is more similar to the objects of Tomb-e bot site in the 2nd century CE in South Persia.²⁹

Tal-e Shahrokhi Maharlu

In the foothills of Maharlu Lake, near the village of Maharlu, there is a high tepe known as Tal-e Shahrokhi [Fig. 1, no. 79]. This site with an expanse of 40x50 meters and a height of 8 meters is considered one of the most important settlements of the historical period in the area of Maharlu Lake [Fig. 15]. All around of this site, it is made up of architectural structures and mud brick collapse caused by the mud-brick deposit and the distribution of pottery is evident on the entire surface [Figs. 16-17]. Surface survey of the ceramics show that most of the potteries are of reddish and orange type with high manufacture quality and firing of temper with similar samples from the Achaemenid period in Persepolis and Jin Jan or Qal-e Qali sites in Mamasani area.³⁰ Additionally, some potteries with brown slip coating and buff core probably

²⁷ Askari Chaverdi, 2010.

²⁸ The process of transferring the Achaemenid objects from Persepolis to Qasr-e Abu Nasr was carried out in a framework of taking political legitimacy during the 1st and 2nd century CE for local government of Fars region. Formation of the Sasanid government in the pre-Sasanid phase of Fars region can be interpreted and explained in relation to the local rulers of Fars with taking legitimate of Achaemenid heritage (Askari Chaverdi, 2010).

²⁹ Askari Chaverdi, 2002: 277-278.

³⁰ Potts *et al.*, 2009: 261-270, pl. 4-12; Askari Chaverdi & Callieri, 2012.

belong to the Post-Achaemenid and the Sasanid period. A pottery sample with pale green glaze was obtained that is a kind of the pottery from early Islamic centuries.

Qal-e Sangi-e Pol-e Fasa site

In the police station of the Shiraz road to Fasa, where one road to Firuzabad and another road to Sarvestan and Fasa branches off, there is a high rocky mountain, which is known as Qal-e Sangi [Fig. 1, no. 78]. On top of this mountain, the fortification of a fortress is visible [Fig. 18]. The latitude and longitude of the geographic location of this site is 29° 28' 80.2" North and 052° 38' 17.2" East and it is located at an altitude of 1500 meters above sea level.

The defensive barrier and fortification of the Qal-e Sangi is 130 x 170 meters long and 50 meters high, extending across the mountain of the Qal-e Sangi. A part of the towers and the fortifications of the fortress are remained. The materials used for their construction are mostly river stones and gypsum mortar and are significant. There various architectural structures throughout the site of this fortress, and several square leaching pit catted in rock have been dug into the rock, which are similar to the Qal-e Fahandej, Sa'adi pit. More importantly, the ceramics of the site includes a diverse range of pottery from the Post-Achaemenid to the Sasanid period. Orange and reddish pottery with a thin triangular edge from the Post-Achaemenid period, buff ceramics coated with a brown slip and thickness out flaring rim, from the Parthian period, and pottery with wavy combed incisions from the Sasanid period was sampled on the surface of this site [Fig. 19]. In terms of fabric, color and shape, the pottery of the Achaemenid to Post-Achaemenid periods of this site is also similar to the pottery of Parse city and other Achaemenid sites such as the Jin Jan or Qal-e Qali site in Mamasani.³¹ The location of this archeological site is situated on top of a rocky tepe where the access and communication routes of entering and exiting the Shiraz plain is from the center of the plain to the east, i.e. towards Sarvestan and Darab, and south of Fars, i.e. towards Firuzabad and the Persian Gulf. This strategic location can be a proof of the sequence of settlements in different periods in this fortress. A direct route passes through the center of the plain from this fortress to the north side of the Shiraz plain as well as to the foothills of Qasr-e Abu Nasr site. The Qal-e Sangi has a commanding view of the entire plain of Shiraz. The access roads and caravan routes to the southern and eastern plains, especially to the Persian Gulf, could pass from this fort. The communication position of this fortress is also important.

³¹ Potts *et al.*, 2009: 261-270, pl. 4-12; Askari Chaverdi & Callieri, 2012.

Tal-e Hakavan, Farmashgan site

In the north of Hakavan village, in Farmashgan district, a tepe 15 meters high above the plain is visible in the center of the plain, this site is known as Tal-e Hakavan [Fig. 1, no. 51]. The extent of this site is 40 x 60 meters and the stone structures are visible on its surface. This site is known as a monument of the Achaemenid period, but the tepe that was used to construct the building in the Achaemenid period was actually a prehistoric mound. This site is located at the latitude and longitude of 29° 08' 429" North and 052° 49' 121" East at an altitude of 1580 meters above sea level.

On the surface of this site, there are remains of a stone terrace measuring 10 x 24 meters. The stone pavement of the floor of this building is made of carved stones similar to those of Persepolis [Fig. 20] and stone blocks of different sizes and dimensions of approximately 150 x 200 cm are scattered around the site [Fig. 21]. The temper of stones in Tal-e Hakavan terrace and available stone blocks in this site are rock limestone material. The same Ashlar masonry kind were found in Kavar Plain from another site called Heydari Garden at the entrance of Kavar to Farmashgan Road, which are similar in terms of dimensions, fabric and carving method.³² In the archaeological excavations of this site, a relief of a spear man was found, which is maintained today in the Persepolis Museum. A stone lion statue with 74 cm long and 47 cm high made of black stone was obtained from this site, which is maintained in the Pars Museum today in Shiraz. In the site survey, a number of blades and micro blades along with Bakun A type painted pottery were obtained. Previous Research has been done on this site and also on its relation to the Achaemenid period.³³

Mozaffari site

This site is located among the agricultural lands in the east of Mozaffari village in Kavar plain [Fig. 1, no. 58]. The mentioned site is 30 x 40 and 3 meters high. A major area of this site has been destroyed due to the advancement of agricultural lands [Fig. 22]. This site is located at the latitude and longitude of 29° 10' 669" North and 52° 49' 060" East at an altitude of 1517 meters above sea level.

There is a column base on the surface of Dashqab site A, which has a 50 cm diameter torus. The elevation of this stone column base is 50 cm. The carving stone on the surface of this column base is rough ground and the polish on its surface has not been enough [Fig. 23]. The material of the column base is made of white rock stone. Although the quality of the column base is low compared to the Achaemenid ones, for the mentioned reason, the strength of the stone chosen for this monument is important.

³² See site No. 12.

³³ Sami, 1938; Mostafavi, 1967; Razmjju, 2003: 295-309.

In terms of material, it has a close similarity with the stone blocks of Tal-e Hakavan.³⁴ In this place, another column base was found from Mozzafari village, which can be dated to the Achaemenid period. Today, this column base is maintained in Haft Tan Museum in Shiraz [Figs. 24-25]. The column base is severely broken and about 60 cm high and wide is left from its dimensions. Its fabric is gray in color and fluting grooves around the column base are visible. In terms of carving masonry, this column base is similar to the column base of the Achaemenid period from Persepolis, Guyum, Mamasani region and Gachgaran.³⁵ However, as a cause of the broken upper part, it is not clear whether the decorations on that part were similar or not.

Tol- e Cheshmeh, Jalalabad site

On the way to Bahman Kavar Dam, in the area of the newly constructed storage dam and 300 meters east of Jalalabad village, there is a site called Tol-e Cheshmeh Jalalabad [Fig. 1, no. 88]. This archeological site is located at the latitude and longitude of 65° 25' 35" North and 32° 33' 124" East at an altitude of 1600 meters above sea level. The width of the plain in this area is less than 3 km and the Qara-Aghaj river passes through this mountainous plain. Its agricultural land is limited to grasslands and pastures. Achaemenid settlements located in this mountainous plain, namely Tal-e Baba Mahdi Dehdar and Tal-e Cheshme, have been destroyed caused by agricultural plowing, and their height is at the same level as the foot of the mountain.

In an area of one hectare, there are scanty traces of cobble stone, mud wall collapse and a few ceramic on the soil context, and also a torus was obtained from the site of Tal-e Jalal Abad [Figs. 26-27]. This torus is gray in color and polished with adequate quality. The column torus consists of two parts: the base part and the torus part, and its total elevation are about 14 cm, the base part is 12 cm and the torus part is 2 cm high. The full diameter of the surface of the base below at the torus is 50 cm and the diameter of the torus on the upper surface part is 42.5 cm. In terms of material, color, and polishing, this column torus is similar to the Achaemenid era ones in Persepolis.³⁶

Bagh-e Heydari-e Kavar

The archeological site is located on the southern margin of the city called Kavar today in 300 meters north of the Qara-Aghaj river, on the entranceway to Farmashgan road [Fig. 1, no. 54]. Nowadays, around the entire site is surrounded by Heydar Eskandari's garden and the site is known as Tal-e Nagar-eh Khaneh of Heydari

³⁴ See site No. 9.

³⁵ Schmidt, 1953: 74; Potts *et al.*, 2009; Dusting, 2014: 117-120.

³⁶ Schmidt, 1953.

Bagh [Figs. 28-33]. This archeological site is located at the latitude and longitude of 066° 59' 59" North and 32° 29' 842" East at an altitude of 1540 meters above sea level.

This archeological site is one hectare expanse and as a cause of the land leveling to create a garden, most of it has been destroyed and it has been leveled with the surrounding lands. Numerous ashlar masonry blocks, about 16 stone blocks of different dimensions, are scattered on its surface. The dimensions of these blocks are on average about 110 x 150 cm, 60 x 170 cm and 70 x 160 cm. The dimensions of the stone blocks and also the carving on their surface show that they were all used in one building unit. The ashlar masonries are of white rock limestone type, and in terms of dimension aspect and masonry, they are closely similar to the blocks of Tal-e Hakavan terrace.³⁷ The surface survey of the site shows that its ceramic vessels are similar to the Achaemenid era pottery tradition in terms of fabric, color and decoration [Fig. 34]. In terms of the decoration of the flatted ridge band around the vessels body, it can be said that the same pottery tradition of the Achaemenid period and the late Achaemenid period is observable, which was also observed in the pottery tradition of the archeological sites of Tang-e Bolaghi, Persepolis West, and Jin Jan or Qal-e Qali site in Mamassani.³⁸ Therefore, in terms of the architectural style and materials used in the construction of the terrace or the building in it, this archeological site is similar to the architectural tradition of Tal-e Hakavan in the Achaemenid period. Furthermore, in terms of pottery tradition, it can be dated to the late Achaemenid until Post-Achaemenid period. Owing to the location of this archeological site, being situated next to the river and the main path of the plain, this archeological site has continued to be settled in the Sasanid period, and the sites of Tal-e Naqarekhane and Tal-e Zard have been formed in continuation of previous occupations in the same part of the plain and adjacent to it.

Conclusions

The archaeological information on 12 archaeological sites in the Shiraz plain and the plains related to this, i.e. Kavar and Sepidan, were investigated. Of these, only 2 sites were discussed as fortress, which were located in the mountainous part and at a height: In Qal-e Bandar Fahandej Saadi and Qal-e Sangi on the police station road from Shiraz to Fasa, the authentic Achaemenid evidence was not found in these two sites. Based on other finds, these were dated to the Post-Achaemenid period (Qal-e Sangi) or based on historical narratives, they were only attributed to the Achaemenid (Qal-e Fahandej Saadi). From the point of view of archaeology, the only important finds of these two-fortresses are the presence of square leaching pits that can be

³⁷ See site No. 9.

³⁸ Potts *et al.*, 2009: 261-270, pl. 4-12; Askari Chaverdi & Callieri, 2012; 2016: 281-300.

compared with the cutted pit or well in stone rock in Persepolis. From 10 other Achaemenid sites, the documented and accurate archeological documents were obtained, which are clearly dated to the Achaemenid period, and also architectural elements or ceramics of the Achaemenid period were also found in these sites. All these sites are located in the plains and none of them were fortress at high mountain elevation. The issue of why the Achaemenid monuments are located in the plain can be discussed in relation to the organization and management system of the Achaemenid security and considered as the settlement pattern of the archeological sites of this period in Fars. The reason is that we are confronting this pattern not only in the Shiraz plain, but also in the plain of Marvdasht, Passargadae, Tang-e Bolaghi in the north-western region of Fars. The same location of settlement on the level of the plain and the foothills is the main and early pattern of Achaemenid settlements. Conversely, during the Parthian and Sasanid periods, the mountain fortresses became as a main settlement pattern in these plains.

Regarding the Shiraz plain, based on the repetition of the name of Tirazziš in clay tablet of Persepolis, it was always expected that one would encounter a town or a large residential area of the Achaemenid period in the Shiraz plain. Some contemporary writers applied different interpretations of the term Shiraz and proposed the name of the city of Shiraz in a way that Shiraz existed in the Achaemenid period and was an important city in this period.³⁹ In fact, according to archaeological evidence, no Achaemenid trace belonging to the Achaemenid period were found from Qasr-e Abu Nasr, which could date the important site of Qasr-e Abu Nasr to the Achaemenid period.⁴⁰ The only surviving historical narrative can be referred to the name of Qal-e Fahandej, which was existed in a plain prior to Sasanid era and subsequently its name survived from older times, for instance, the Achaemenid period, as Fahandej or Pahandej is a name that is also used for citadel located in the plain.

The Shiraz plain was not widely occupied in the Achaemenid period, like the Marvdasht plain (so, it cannot be compared with the Marvdasht plain). In this case, one cannot even compare the Shiraz plain with the Mamasani plain in the northwest Fars, because, regarding each plain, its geographical location in the Achaemenid period must be considered and these are the issues that are considerable in addition to environmental favorable resources and the amount of exploitable potentials. For instance, while there were dry rivers in Shiraz, the existence of the two large rivers including Kur and Pulvar River (full of water) in Marvdasht Plain and the Fahlian River in Mamasani Plain was significant in terms of environmental dynamic potential for agriculture. In the 1970s, the main source of water in Shiraz city was supplied from the Kur River from the Marvdasht Plain through the construction of the Dorud Zan

³⁹ Henkelman, 2014: 59.

⁴⁰ Wilkinson, 1965.

Dam. The only limited sources of water in the Shiraz plain have been limited to the springs or small water fountains. Based on the amount of water and soil fertility identified from the Achaemenid period in those places including Guyum, Sadra, Kaftarak and Maharlu, archeological sites were occupied during this period. It should be noted that majority area of the Shiraz plain in the northwestern parts of this plain is made of saline soils as well as marl and has always been uncultivable. These type of soils combined with acidic soils in the case of the presence of water sources are only suitable for gardening. Accordingly, a large area of the southern part of the Shiraz plain around Maharlu Lake is brackish and wetland. In these areas in the modern century, the Shiraz plain has become widely occupied through drainage. Therefore, the limitation of resources such as the lack of large rivers, soil salinity, soil moisture, and the high level of salty water in Maharlu Lake are among the factors that causes Shiraz Plain did not have the capacity for large-scale urban settlement during the Achaemenid period. During the Post-Achaemenid, Parthian and Sasanid periods, Qasr-e Abu Nasr was occupied in the mountainous area of foothill. However, it should be noted that the management system of this archeological site was developed only at the end of the Sasanid period as well as the beginning of the Islamic era, as the Shiraz Plain was managed in the same traditional administrative system of Ardashīr Kūrah.⁴¹

Historically, based on the name of Shiraz in the pre-Islamic period and the Islamic era, regarding the existence of the name of Tirazziš, it can be referred to the accurate interpretation and documented narrations of the ancient cuneiform of the Persepolis tablets. In the Elamite cuneiform tablet of Persepolis fortification, the names of Tirazziš and Tirazziš's citadels are mentioned, which were related to two other fortresses.⁴² In some cuneiform tablets, the name of Širazziš is mentioned, and it seems that this was the original name of Shiraz. This is a fact that this name is used for both a fortress and a small town, and perhaps it can be justified with the assumption that Širazziš was the name of a region with numerous villages and fortresses. Later, during the Seleucid and Parthian periods, the name of Širazziš is not mentioned, until the name of Shiraz appears on the seal impressions of Qasr-e Abu Nasr. In more than ten seal impression, the seal impression of *šyr'cy* or Shiraz is found in the middle of the seal impression, while in the margin of the text there is apparently the name of a larger governmental unit of where Shiraz was a district, i.e., *rtxštr GDH'* or Ardashīr Kūrah, where Gur or Firuzabad was its center. Consequently, according to Richard Frye's opinion, the origin of the name of Shiraz is Tirazziš, which was a fortress or a town in the Achaemenid period. This is mentioned in the tablet of Persepolis fortifications.⁴³ According to King's opinion, the term Shiraz and also the repetition of this name in the tablets of the Persepolis fortification show that the Tirazziš in the tablets of

⁴¹ Whitcomb, 1985; Frye, 1973: 4.

⁴² Hallock, 1969 (cf. Frye, 1973: 3).

⁴³ Frye, 1973: 3.

Persepolis did not refer to a specific place. However, this name refers to a function type of administrative management system in the collection of tax resources related to the vassal and overlord fortress in providing economic exchanges with Persepolis rather than the name of specific place.⁴⁴

According to the background of the name of Shiraz and the Achaemenid sites discovered in this study and also referring to the name and function of Tirazziš in the tablets of the Persepolis fortification and other historical narratives, it is possible to reconstruct the Shiraz plain for the Achaemenid period in this way: in the Achaemenid period, there has been the administrative system in Shiraz plain, and this system has had economic cooperation with the management center of Persepolis in providing livelihood and human resources. With the collapse of the Achaemenid government, this system lost its function. However, with the revival of the Fars management system in the Sasanid period, the same system was concentrated in the Shiraz plain until the beginning of the Islamic era in Qasr-e Abu Nasr and has cooperated with the center of *rtxštr GDH'* or Ardashīr Kūrah. Finally, this management system was revived in the center of the Shiraz plain in the early centuries of the Islamic era and managed the Shiraz plain until present centuries.

In this way, the management system of the economic administrative system of the Shiraz plain was founded in the Achaemenid period, developed in the Sasanid period, and led to the formation of the city of Shiraz in the Islamic era. Due to its central geographic location, this efficient management system cooperated with several important archeological regions including Persepolis and Istakhr, Bishapur, Firuzabad and Darabgard. This function of the Shiraz plain over time led to the complexity of a political and administrative organization in the center of the plain, namely *ṭassūj*, in the Sasanid period and the beginning of the Islamic era.⁴⁵ The continuation of this process with the revival of systems and the need to manage financial administrative resources in southern Iran during the Islamic era, finally made Shiraz to become as the inheritor of ancient cities, as the management center of administrative and financial systems. Through this management system, scientific, literary and cultural systems were formed and institutionalized there. Therefore, the basic reliance of the economic resources of these institutionalized cultural and social administrative systems not only has been on the Shiraz Plain, but also more on the sustainable agricultural and food resources of its surrounding plains. Due to the central location of the Shiraz plain, the system of economic, financial and administrative resources of the surrounding plains was managed there. Based on this administrative management system in the ancient period, finally the related political, cultural and religious systems in the management system of this plain in the Islamic era, were used, continued and

⁴⁴ King, 2024.

⁴⁵ Frye, 1973; Whitcomb, 1985.

developed. With this background in the process of the Islamic era, the financial administrative institutions of the Shiraz plain reached social complexity and lastly, this system, i.e., the formation of the central core of the city of Shiraz, replaced and inherited all the administrative management systems.

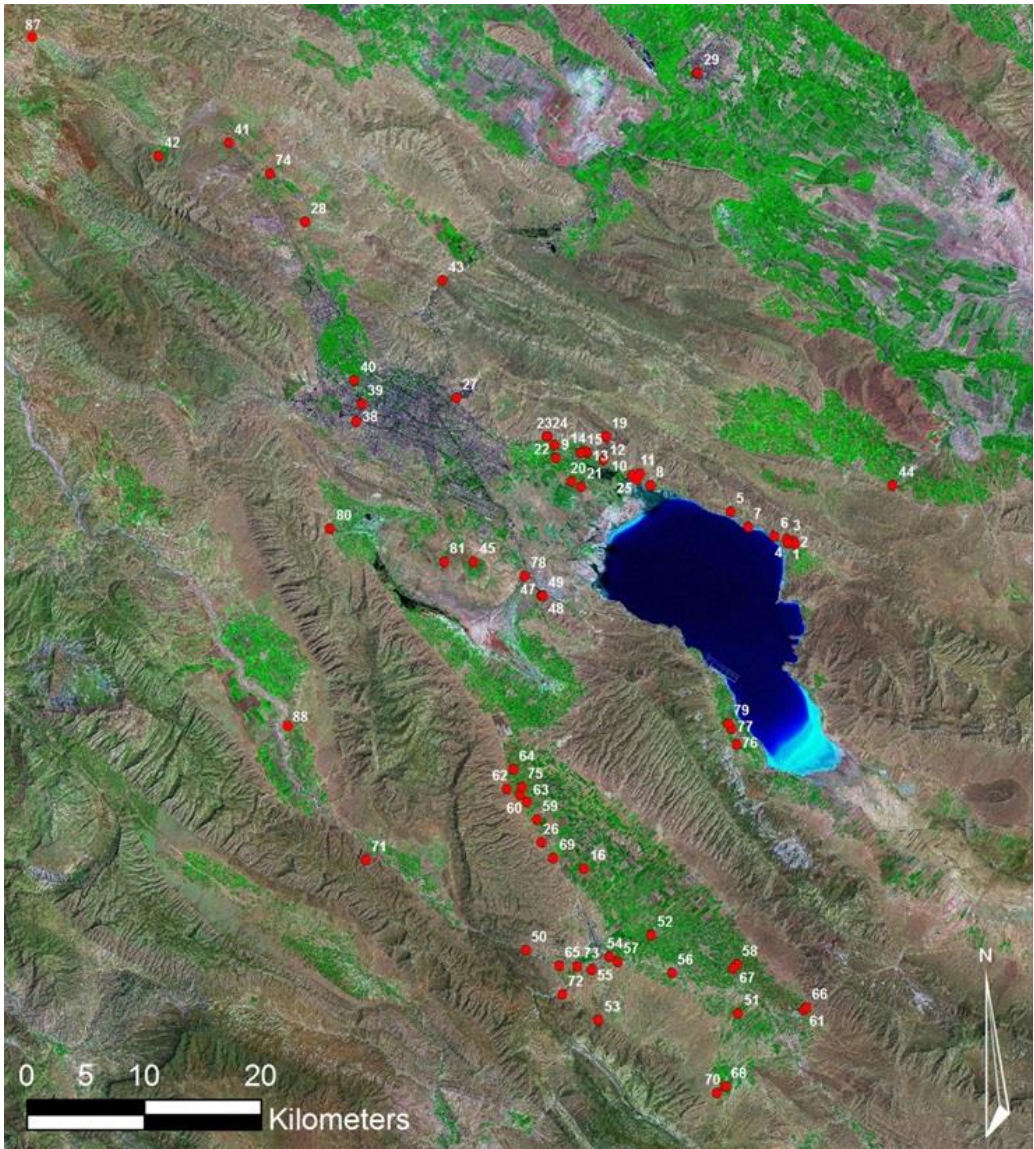


Fig. 1. The archeological map of the Shiraz, Kavar and Sepidan plains (after Askari Chaverdi, 2023b: Fig. 1)

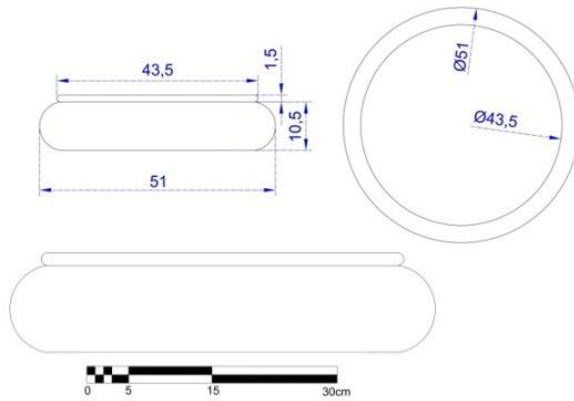


Fig. 2. Torus base, Chah Mur. Bottom and Surface of torus: there are two fitter marks on the upper surface (after Askari Chaverdi, 2023a: Fig. 3)

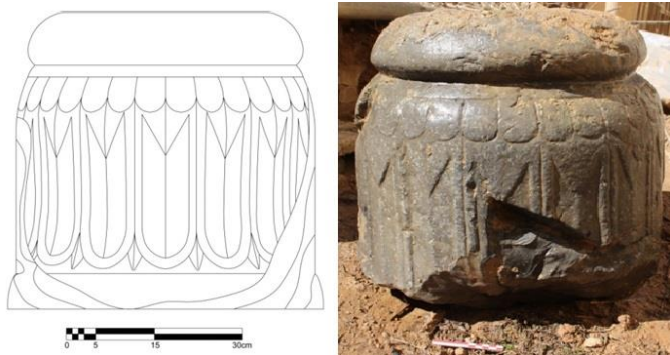


Fig. 3. The column base of Guyum (drawing by M. Rakhshandeh Khu; photo by A. Askari Chaverdi, 2008)



Fig. 4. Tol-e Sefid-e Sadra
(after Askari Chaverdi, 2023b: Fig. 3)



Fig. 5. A tower with circular plan,
Qal-e Fahandej, Bandar
(photo by A. Askari Chaverdi, 2008)



Fig. 6. A part of fortification wall in Qal-e
Fahandej, Bandar
(photo by A. Askari Chaverdi, 2008)



Fig. 7. A square leaching pit catted in rock
located in Qal-e Fahandej, Bandar
(after Qazvini, 1945: 28)



Fig. 8. Sampling pottery from surface of Qal-e Bandar-e Fahandej-e Saadi site (photo by A. Askari Chaverdi, 2008)



Fig. 9. Tol-e Tut (Tit) site, kaftarak (photo by A. Askari Chaverdi, 2008)



Fig. 10. Tol-e Tut (Tit) site, kaftarak (photo by A. Askari Chaverdi, 2008)



Fig. 11. Ceramics from Tol-e Tut site (photo by A. Askari Chaverdi, 2008)

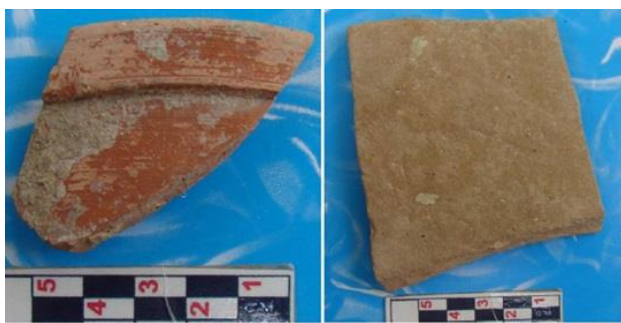


Fig. 12. Ceramics with coating of plain reddish and beige (photo by A. Askari Chaverdi, 2008)



Fig. 13. Achaemenid capital from Qasr-e Abu Nasr. Haft Tan Museum (photo by A. Askari Chaverdi, 2008)



Fig. 14. Column base from Qasr-e Abu Nasr in the Haft Tan Museum (photo by A. Askari Chaverdi, 2008)



Fig. 15. Tal-e Shahrokhi in Maharlo (photo by A. Eghra, 2022)



Fig. 16. Ceramics from the Shahrokhi site (photo by A. Askari Chaverdi, 2008)

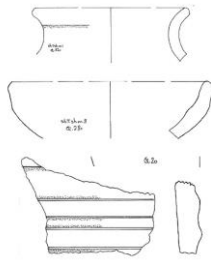


Fig. 17. Ware Forms, Shahrokhi site (1.25 scale) (drawing by A. Askari Chaverdi, 2008)



Fig. 18. Qal-e Sangi site (photo by A. Askari Chaverdi, 2008)



Fig. 19. Qal-e Sangi: Ceramic collection from Surface (photo by A. Askari Chaverdi, 2008)



Fig. 20. Aerial picture of the stone terrace and architectural plan of Tal-e Hakavan (photo by A. Eghra, 2021)



Fig. 21. Scattered blocks of a stone terrace from Tall-e Hakavan (photo by A. Askari Chaverdi, 2008)



Fig. 22. Aerial photo from the location of Mozaffari village and archeological sites (photo by A. Eghra, 2021)



Fig. 23. Column base, Tal-e Dashghab Mozaffari (photo ICHTO of Fars, 2008)

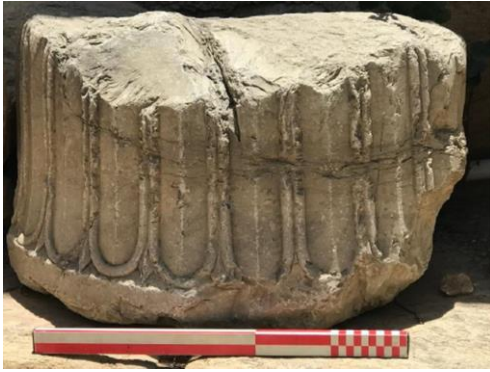


Fig. 24. The column base from Mozaffari village (photo by A. Askari Chaverdi, 2008)

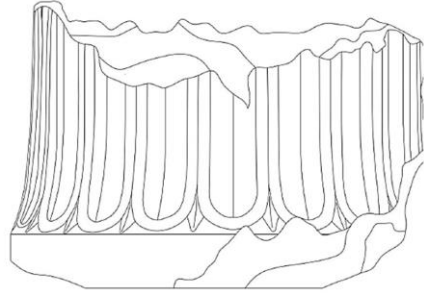


Fig. 25. The column base from Mozaffari village (drawing by M. Rakhshandeh Khu, 2020)



Fig. 26. Column torus from Jalalabad site (photo by A. Askari Chaverdi, 2008)

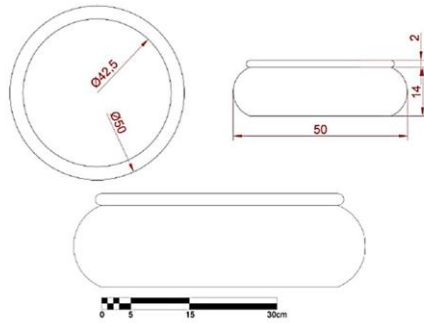


Fig. 27. Column torus from Jalalabad site (drawing by M. Rakhshandeh Khu, 2020)



Fig. 28. Heydari bagh's site (photo by A. Askari Chaverdi, 2008)



Fig. 29. Heydari bagh's site (photo by A. Askari Chaverdi, 2008)



Fig. 30. Heydari bagh's site (photo by A. Askari Chaverdi, 2008)



Fig. 31. Heydari bagh's site (photo by A. Askari Chaverdi, 2008)



Fig. 32. Heydari bagh's site (photo by A. Askari Chaverdi, 2008)



Fig. 33. Heydari bagh's site, gray stone (photo by A. Askari Chaverdi, 2008)



Fig. 34. Ceramics with flatted ridge, bands, Heydari bagh's site (drawing by M. Hoseini)

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