

# Relative Chronology of the Historical and Cultural Sites of Yazd-Ardekan Plain Based on the Archaeological Data

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## Abstract

Yazd-Ardekan plain is one of the most important plains in Yazd Province in terms of natural and human resources. Due to its location between different mountains, this plain provides a natural corridor to cross one of the most important transportation routes that connect the cities such as Qom, Tehran, and Kashan to the southern and southeastern regions of Iran. In the past years, scattered archeological activities have been carried out in this plain, the most important of which is the excavation of Gharbalbiz site in Mehriz during several seasons. But, in recent years, several seasons of research have been done in this area, the maximum focus of which has been on Meybod Town and Rostaq region. During these activities, many sites related to the different cultural periods were identified, which include the time interval from the Epipaleolithic period to the Qajar period. Also, the archaeological test trenches of the historical context of Yazd City have provided us with very good information about the Islamic Era, especially in the field of pottery, which shows that Yazd had been considered as one pole of this industry in some periods.

**Keywords:** Relative Chronology; Yazd-Ardekan Plain; Natural Corridor; Islamic Period; Pottery Comparison

## Introduction

Yazd Province is one of the provinces in which the volume of archaeological activities has been very low that is why our knowledge of its archaeological data is very little [1]. But, in recent years, good activities have taken place in this province, leading to an increase in our awareness of its archaeological resources. Among these activities, three chapters of archeological test trenches in the historical context [2-4], archaeological survey of Rostaq region [5,6], the first phase of the archeological study of Abarkooh Town [7]. can be referred, providing us with generally useful information.

The main focus of these activities is in the Yazd-Ardekan Plain, which is one of the most important population centers in the province due to its special natural location, containing about 70% of the province's population. These activities led to the discovery and identification of the sites that in terms of chronology can be dated from the Epipaleolithic period to the Qajar period. Although many parts of this plain have not been explored yet, this little

available information can lead to the correct understanding of its chronological status (Figure 3 and 4).

## Yazd-Ardekan Plain

Yazd-Ardekan Plain's watershed with an area of about 1,595,070 hectares is located in the northern part of Yazd Province and covers about 12.1% of the total area of the province. This plain is spread in the northern latitude of 28° 32' 31" and eastern longitude of 59° 54' 52", in the central part of the Iranian Plateau, which is one of the most important plains in terms of natural and human resources and 6 major cities of the province, including Yazd, Mehriz, Taft, Meybod, Ardekan, and Ashkezar are located in this plain [8].

The plain is surrounded by Shirkuh Mountain Range in the south, Ahangan and Morgh-e-Zard mountain in the west, Haft Admin and Hanza mountains in the east and Chakchak Mountain

in the north and leads to the Siahkuh with a general southeast-southwest slope. The highest heights of this plain are Shirkuh peak with the height of 4075 meters and its lowest point is Siahkuh

Desert with the height of 970 meters above the sea level (Figure 1 and 2).

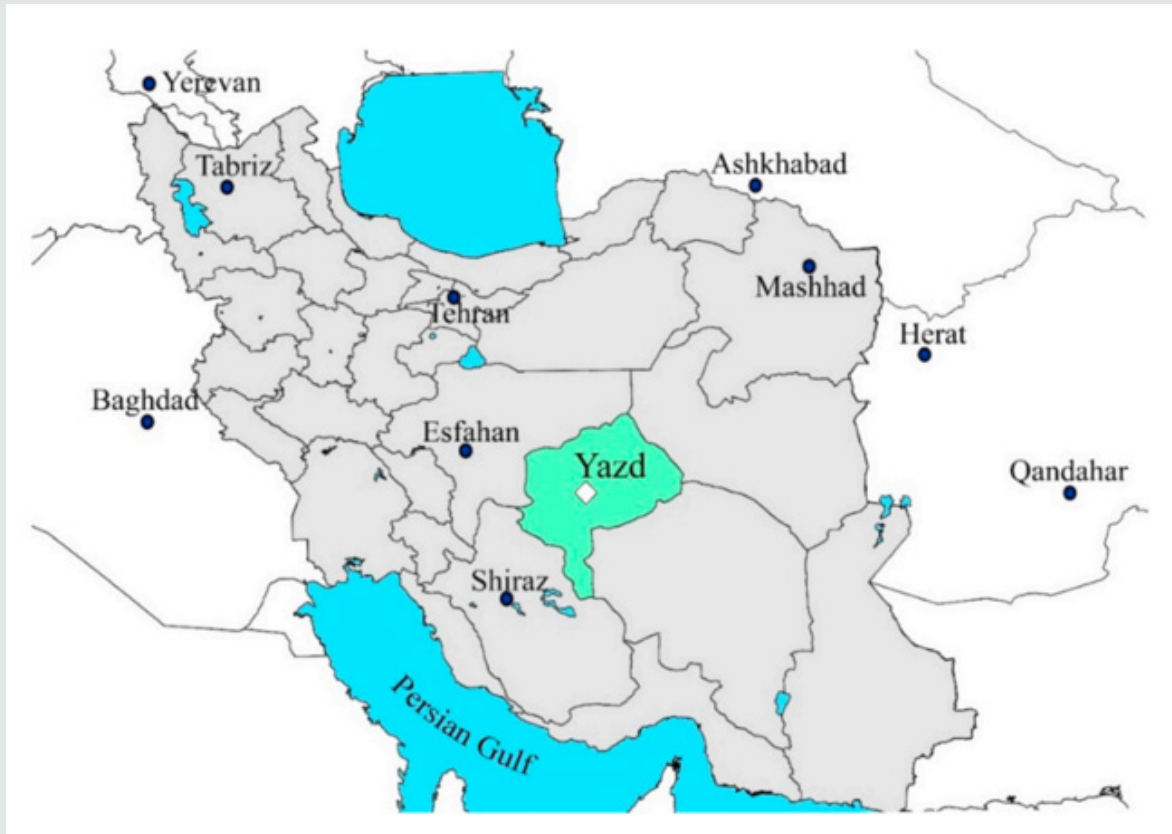


Figure 1: The location of the city of Yazd in Iran and the south west of Asia.



Figure 2: Location of Yazd-Ardekan Plain among the mountains of the province.

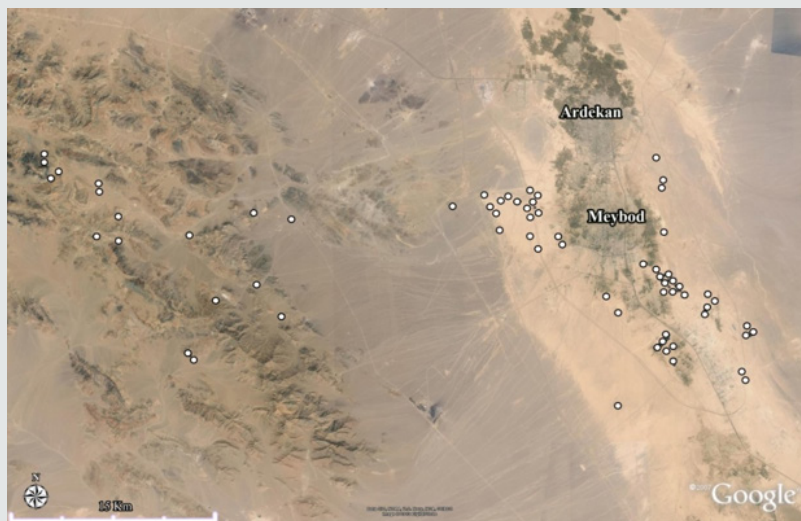


Figure 3: Location of identified areas in the Meybod area.

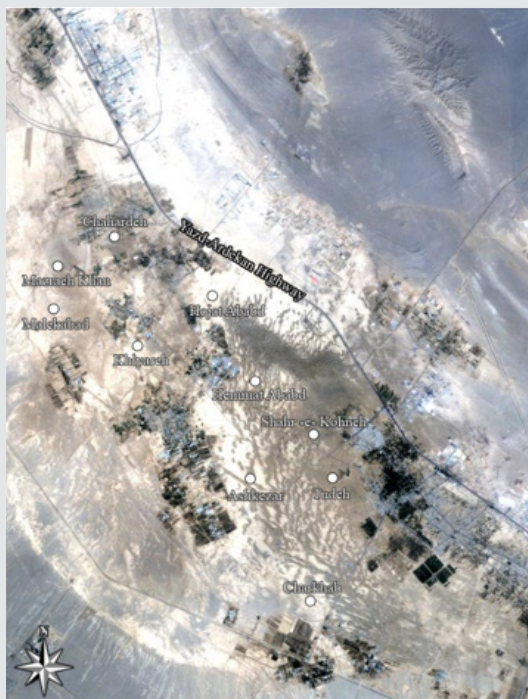


Figure 4: Location of identified areas in Rostaqarea.

The climate of this plain is extremely dry and desert. In the past, several qanat provided water for the residents of the plain; but, today, due to their drying, deep and semi-deep wells have replaced them [9]. The most important vegetation that can be seen on the surface of this plain is hawthorn and tamarisk trees, which are specific to the desert areas. Today, in order to prevent the advancement of quicksands, the government has planted these plant species on a very large scale and they have been able to adapt well to the environmental conditions.

### Relative chronology of Yazd-Ardekan Plain

#### Prehistoric Period

One of the sites of Yazd-Ardekan Plain where prehistoric artifacts have been identified is Meybod. The works related to this period are dated from the Paleolithic period to the Iron Age. The main cultural materials that have been obtained from this period include pottery and stone artifacts. Stone artifacts include various types, including chips, blades, perforators, and cores that could be formed for tool-making after chipping (Figure 5). The mentioned tools had been mostly made of siliceous and calcareous chert stones in different liver, milk, gray, brown, and black colors, mostly using the rubbles of the region [10].

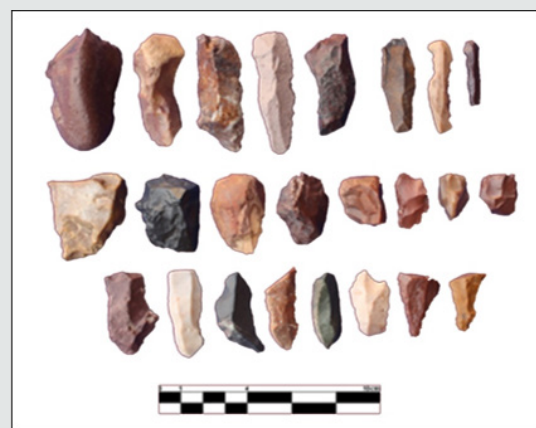


Figure 5: An example of cultural evidence obtained from the Meybod region.

Pottery is also divided into two categories. Plain pottery, which mostly had an orange fabric and was tempered with coarse sand and straw. In addition, shredded copper slags was used as the temper. Their inner and outer parts were covered with an ocher slip.

Painted pottery is both well fired handmade and wheel-made. Their outer surface is decorated with geometric patterns, including horizontal parallel lines, solid triangles, hollow and short parallel and diagonal lines, wide bands, and etc. The surface coating and fabric are orange in color and their tempers are straw and coarse sand particles (ibid). In the excavations carried out in the Gharbalbiz sites, some artifacts were found that were located under the sedimentary layers of the sites, dating to the second half of the fourth millennium BC [11]. Evidence of the Iron Age in this plain is very limited and some of its findings have been mentioned with suspicion only in the excavations carried out in Narin Castle of Meybod [12]. Although according to the results of the surveys and excavations conducted in recent years, it is possible to suggest a relative chronology for the prehistory of the Yazd-Ardekan Plain,

providing a more accurate chronology is needed to complete the surveys and study the obtained the data.

### Achaemenid Period

According to the studies, some sites of Yazd-Ardekan Plain can be attributed to this period. The scattered pottery on the surface of these sites has a paste of pea, red, and gray colors, with higher percentage belonging to the red paste. Also, in most cases, the inside and outside of the container is covered with the pea or red slip and sand temper is used in the clay. Pottery has a good variety, including shallow bowls with small vertically rotated edges [5]. Comparable samples were obtained from the sites of Kahoor Langarchini [13], Pasargad [14] and Gharbaliz site [11].

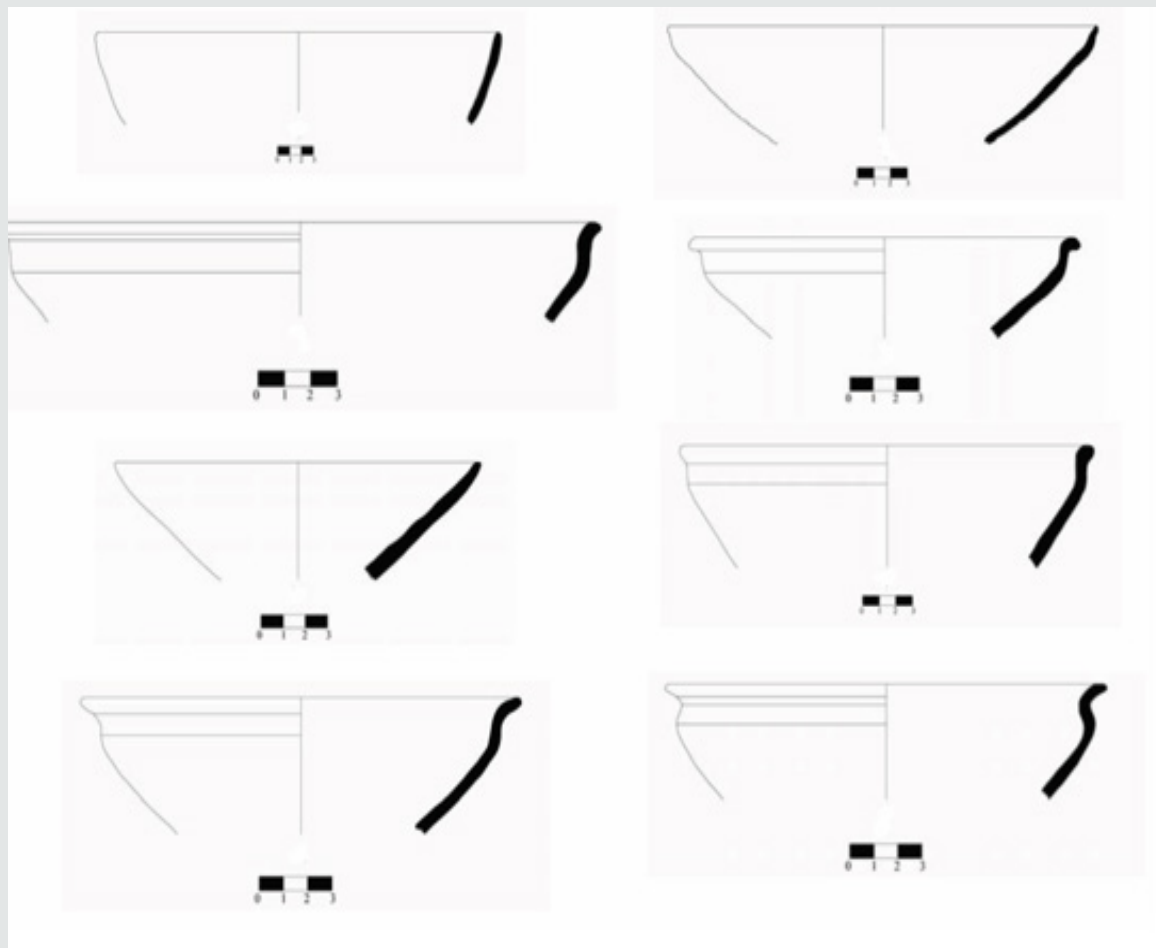


Figure 6: Achaemenid Potteries of the Ashkezar area.

Also, some samples are comparable to the pottery species obtained from the Persepolis Plain [15]. Additionally, some identified pottery species from Gharbalbiz Site have been dated to this period [12]. Other forms are bowls with curved edges to the

outside and an open angle below the edge in the S shape, which were common in the sites of Pasargad [14], Persepolis [16], Gharbalbiz [12], dating back to the Achaemenid period (Figure 6 and 7).



Figure 7: Pottery of the Tudeh area.

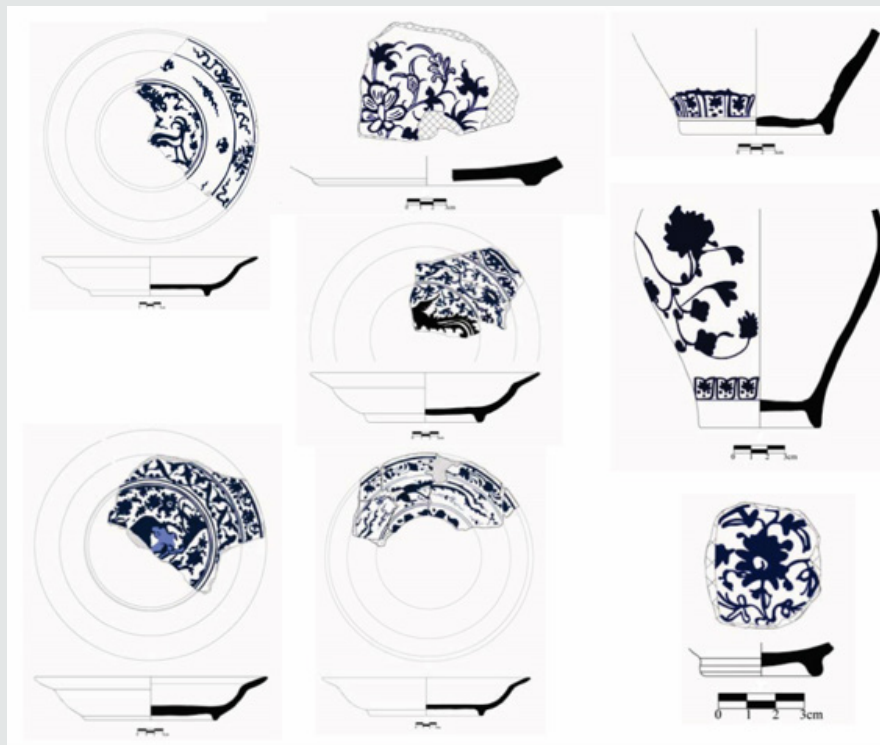


Figure 8: Some white and blue pottery obtained from the historical context of Yazd City.

### Parthian and Sassanid periods

The GharballbizSite can be considered as one of the most important sites from which works related to the Parthian period

have been obtained. As a result of the excavations carried out in this site, a trapezoidal structure with adobe materials has been identified, in some parts of which stone has been used for more

strength. The main part of the building is located in the south and consists of two porches, two corridors on both sides and a small room in the south, surrounded by a thick fence, whose outer surface has been made of stone. Excavation in the southern part revealed a thick corridor and wall along the eastern part. In the northern half of the building, a central courtyard with three porches and a platform made of mud- brick are marked. According to the archaeological evidence, Gharbalbiz building is one of the few known ancient remains related to the Parthian period in the central Iran [17]. Also, the Parthian pottery of this site is comparable to the pottery of Sam Castle in the east of the country [12].

Some types of pottery obtained from the sites of Rostaq region are also comparable with the Parthian samples [18]. Most of these pottery have a red fabric and sand temper used inside. Pottery is wheel-made and the effects of the pottery wheel are well visible on the body. These specimens are comparable with the ones obtained from the northeastern Iran, Sam Castle and the Qomes Site [19].

Evidence has been obtained from the Rostaq region that may be dated to the Sassanid Period. The pottery is wheel-made and in most cases has a red fabric covered with a pea or red slip and its used temper is also sand. Among the obtained pottery species are bowls with raised edges and turned outwards, similar samples of which have been obtained from Yazdgerd Castle [20]. Other types of pottery are the ones decorated with carvings that are comparable to the samples obtained from the Sassanid period [21].

### The Early Islamic period

Archaeologically, very little information is available from the early Islamic period in the Yazd-Ardekan Plain, except for some sites of the Rostaq region that can probably be dated to this period because some types of pottery are comparable to the samples obtained from Ras al-Kheimeh [22]. Archaeological excavations in the Meybod Town have not found any site that can be considered related to the early Islamic period. Due to the lack of the archeological activity, no correct information is available on the conditions of the sites in other parts of the plain.

### Seljuk Period

One of the most important types of pottery that can be dated to this period is the splashed pottery, whose examples have been obtained in the soundages of the historical context of Yazd. This type of pottery, which mostly includes bowls and cups, has pea and red fabric, using sand temper inside.

Sgraffito pottery was also one of the other data dated to this period. Like the previous type, the fabric of this type of pottery, is in red or pea colors using sand temper inside. The motifs that also decorate the dish are geometric and mostly include vertical or horizontal diagonal, wavy and parallel lines in their inner body.

Comparable samples have been also obtained in the excavations of Alamut Castle [23] and Ghubayrā [24].

One of the identified sites in Yazd-Ardekan Plain, which can be dated to this period, is Malekabad. Although pottery dating to the Islamic Middle Ages has been scattered throughout the site, there are many specimens of the splashed glaze that can be dated to this period as well. The fabric of these pottery is mostly pea-colored and sand temper has been used inside them; also, in terms of form, they mostly include bowls and cups [18].

### The Ilkhanid Period

In the Ilkhanid period, the region enjoyed good prosperity. In this period, after Al-Muzaffar government came to power, a new chapter began in the development of the region, so that the peak prosperity and cultural greatness of Yazd is related to the same time [25].

One of the most important sites from which works related to this period were obtained is the historical context of Yazd. In the test trenches made in this site, a large amount of data was composed of the pottery decorated with the under glaze-paintings, which was a common species in that period [26, 27] in the archeological literature, it is referred to *Silhouette Pottery* (decorated pottery in black under a clear turquoise glaze). These potteries mostly have a pea-colored fabric made of sand temper. The cover of the mentioned pottery was mostly pea-colored mud, which after decoration was covered with the turquoise, green, or transparent glazes.

The motifs of the mentioned pottery are also geometric and plant [28] and in very few cases, the inscription has been also used to decorate the pottery [29]. Comparable examples with it were obtained from the sites such as Ghubayrā [24], the tomb of Sheikh Safi al-Din Ardabili [30], Alamut Castle [23], Golkhandan Bumehen Fortress [31] and Toos [32]. An example of tiles decorated in black under a clear turquoise glaze has been installed in the porch of the Yazd Jami Mosque, which has a date of 765 AH [33].

In the studies carried out in the Rostaq region, several sites related to the Ilkhanid period have been identified, among which we can mention Tudeh, Chahardeh and Khiyareh sites. In the Meybod studies, Ilkhanid sites have been identified, among which the areas of Jahanabad 2, Jahanabad 5, and Tal-e Mesgaran 6 can be referred [10].

Zarrinfam species was also obtained in the soundages of the historical context of Yazd City, most of which are related to the tiles and are decorated with plant, animal, and inscription motifs. Some of the discovered specimens have been made in the molded method [28] which can be compared with the specimens in the shrine of Imam Reza in terms of technique [34] and the Thakht-e- Soleyman [35].

White and blue samples that can be confidently attributed to this period were not obtained except for a few cases, in which the container was comparable to the common dishes in the period in terms of form [28, 29] and an example of it has been obtained in Soltanieh excavations [32].

### Timurid and Safavid period

According to the trenches made in the historical context of Yazd City and the identified sites in the Rostaq region, a lot of pottery evidence was identified that can be considered related to the Timurid period. These pottery evidences are mostly blue and white species that are decorated with plant, geometric, and animal motifs [36]. According to the results of XRD and XRF experiments performed on the mentioned pottery, Yazd can be considered as one of the most important centers for the production of such utensils.

Some found specimens are comparable with the ones in the Royal Ontario Museum [37], Uzbek History and Art Museum [38] and Metropolitan Museum [39].

From the Safavid Period, traces and evidences were identified in some sites, among which we can mention the Tudeh and Chahardah sites [18]. From the soundages of the historical context of Yazd, a lot of pottery evidence related to this period was identified [29]. White and blue pottery is one of the most common types of pottery in this period and some samples that are comparable to the obtained evidence are preserved in the Victoria Albert Museum [40], Ardabil Museum [41], and the Metropolitan Museum [42].

The decorative motifs of the mentioned pottery also include plant, geometric, animal, human, and in some cases, Chinese-style motifs, such as clouds, trees and animals, used in this regard. Shapes of this species include bowls, plates, vases, saucers, and cups.

Kerman pottery is another type that has been obtained in the studies and test trenches of the historical context of Yazd City. Their decorative motifs, which were common types in the Safavid period [43], include plant motifs painted with blue, white and black colors on a white background and finally a little green glaze covered them. The main production center of such dishes was Kerman City [44] and the obtained samples from Yazd are also comparable with them.

Celadon is another common species of this period that has been obtained in the excavations and surveys of Yazd region and can be compared with the samples obtained from Kerman [45].

### Qajar Period

One of the significant identified periods in the Yazd-Ardekan Plain is Qajar period. This period has been identified in the Meybod surface surveys such as Kachalag 4, Kachalag 5 and in the Rostaq such as Mazraeh Khan and Asrabad.

One of the characteristic pottery types of this period is white and blue pottery, which is much lower in quality than the samples

dated to the Safavid and Timurid periods. The fabric of these pottery is made of kaolin (Porcelain) soil, and in terms of form includes bowls, plates, and saucers. The motifs that decorate these potteries are geometric and plant motifs, which in some samples have the potter's signature and the date of its construction on the inner floor of the vessel.

Other evidence that has been obtained in some sites dated to this period are English-made porcelain decorated with plant and European motifs [6] and in terms of form, they mostly include a plate and a bowl.

Pottery decorated with under glaze-painting was also widely used in this period. This type of pottery mostly has a red or pea fabric in which sand temper has been used. The motifs are drawn in black on a background covered with the pea or red flowers, and the motifs are mostly geometric or plant. Glaze stains have been also used to decorate the dishes. These types of pottery have been identified in some sites of Rostaq region such as Mazraeh Khan [6] and are widely identified in the test trenches of the historical context of Yazd [29].

### Conclusion

Yazd-Ardekan Plain is one of the most important residential areas in Yazd Province, which has created a natural corridor that has caused the passage of one of the most important roads in the country. This has caused this plain to be noticed by the humans for a long time. The greatest concentration of the prehistoric works of this plain is in Meybod region. The oldest archaeological evidence is related to the Late Paleolithic period, which continues with ups and downs until the Iron Age. In the historical times, Rostaq region has been highly noticed and some sites have been formed in this region. Although the sites related to this period have been identified from Meybod and Mehriz regions, the focus of the settlement is in Rostaq region.

There is not much information about the settlement status in the plain from the beginning of Islam; but, from the Seljuk Period to the Qajar Period, very good evidence has been obtained from the test trenches of the historical context of Yazd in addition to identifying different sites in the Meybod and Rostaq regions. It shows that Yazd region was one of the important centers of the pottery production in some periods such as the Ilkhanid Period (Al-Muzaffar government), whose products competed with other regions. Laboratory results also show that this area was one of the main centers for the production of white and blue pottery, which was equal to the Chinese samples in terms of quality.

Although according to the archaeological activities, we have a good picture of the chronological status of the Yazd-Ardekan Plain, the expansion of these activities can lead us to the better understanding of the archaeological status of this plain. Our knowledge of some of its areas such as Ardekan is still at a very

low level and the scattered activities that have taken place in the Fahraj area do not provide us with accurate information. Also, the stratigraphy of some sites of this plain can complete our knowledge of its chronological status.

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