



## A Study of Bronze Age Storage and Warehouse Architecture at Tappeh Graziani, Sistan, Iran

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### Abstract

During the Bronze Age, the Sistan civilisation experienced significant cultural and economic development, with Shahr-i Sokhta emerging as a major production and commercial hub. This site played a crucial role in facilitating economic and cultural exchanges within the region. Surrounding Shahr-i Sokhta were numerous industrial and residential sites, with Tappeh Graziani being one of the largest. Over three excavation seasons, substantial evidence of Bronze Age activity at Tappeh Graziani has been uncovered, particularly from Trenches Nos. 4 and 7, which were excavated during the second and third seasons. This study aims to analyse the architectural features of Tappeh Graziani based on the findings from these excavations. The excavation results indicate that the buildings at Tappeh Graziani were constructed using mud bricks and a form of brick known as “chineh”. The architectural layout features square rooms at the centre, surrounded by rectangular spaces—a pattern consistent with other sites in the Sistan region. The evidence suggests a socially complex society during the Bronze Age, as indicated by the presence of industrial products stored in warehouses under the supervision of designated individuals. This conclusion is further supported by the discovery of seals and sealings at the site.

**Keywords:** Sistan, Bronze Age, Shahr-i Sokhta, Warehouse, Administration.

**Article Type:** Research Article

### Introduction

Architectural analysis in prehistoric archaeology is essential as it provides invaluable insights into the development of technology, culture, and social structures. Such analysis aids in reconstructing societal organisation by examining building layouts and construction techniques, which can reveal information about social structure, economic practices, and daily life (Flannery 1972; 2002; Bar-Yosef and Meadow 1995; Banning 1996; 2003). Additionally, architectural remains, which are often more durable than organic materials, provide direct evidence of human occupation, allowing researchers to establish chronological frameworks and trace cultural and technological advancements over time (Byrd 1994; Bar-Yosef and Meadow 1995; Kuijt 2000). The study of ancient architecture also highlights technological innovations and

adaptations to environmental conditions, offering insights into the broader ecological and climatic contexts of the era. In Iran, mud-brick and Chineh architecture have been observed from Neolithic sites onward (Hole 1969; Smith 1976; 1978; Matthews *et al.* 2013; Khanipour *et al.* 2018; 2021a-b), evolving significantly over time. These construction techniques, which originated in the Neolithic period, have undergone various advancements and refinements, reflecting the region’s adaptation to environmental conditions and the development of architectural, economic, and social structures governing it (Oveisi-Keikha and Kavosh 2021).

In West Asia, the Bronze Age is often referred to as the “Age of Exchange” (Amiet 1986). During this period, the Sistan civilisation played a pivotal role in the trade networks of the region (Lamberg-Karlovsky 1972; Kohl 1975; Tosi 1984;



Alden 1982; Potts 1982; Mutin 2013; Kavosh and Oveisi-Keikha 2024b). Its geographical location made Sistan a central hub, connecting the Indus Valley and Central Asia to the southern regions of the Persian Gulf, the southwestern regions of Iran, and Mesopotamia. Several archaeological activities carried out in this region, including archaeological surveys (Mehrafrin and Mousavi Haji 2009) and excavations at sites such as Shahr-i Sokhta (Seyyed Sajjadi *et al.* 2003; Seyyed Sajjadi 2005; 2019; Seyyed Sajjadi and Moradi 2014; 2022; 2014; Tosi 1969; 1970), Tappeh Graziani (Kavosh *et al.* 2019), Taleb Khan (Kavosh 2022), Rostam (Kavosh 2020), Dasht (Mortazavi *et al.* 2011), Sadeq (Shirazi 2018), and Yal (2015). One of the important Bronze Age sites in Sistan is Tappeh Graziani, excavated by the first author of this article over three seasons to understand the cultures of the Bronze Age and teach archaeology students. As a result, architectural remains from this era were recovered.

This research seeks to analyse the architecture of Tappeh Graziani based on the findings from Trenches Nos. 4 and 7, excavated during the second and third seasons. By understanding the functions of these buildings, we can recognise the economic and social structures of the societies of this period. The research questions are as follows: What are the architectural features of this site? According to the cultural findings and the plan, what are the functions of the identified spaces? Based on the architectural analysis, what was the socioeconomic structure of the people residing at this site? Therefore, this article will first introduce Tappeh Graziani, then discuss the findings from these two trenches, and finally, analyse the function of each space and the social structures of the Bronze Age at Tappeh Graziani.

### **Tappeh Graziani**

Graziani is located on the southern plain of Sistan, approximately 56.6 kilometres south of Zabol city and 10 kilometres east of Shahr-i Sokhta (Figure. 1). The site measures 220 x 160 metres and is oval in shape, oriented north-west-to-south-east. Today, Tappeh Graziani emerges from the floodplain to a maximum height of 10 metres, with 4.5 metres of this consisting of artificial Bronze Age deposits (see Figure. 2). Covering an area of c. 3 ha, it can be considered a large village or settlement core within the Bronze Age settlement network, positioned peripherally to the main centre. Notably, Tappeh Graziani features a gentle slope on its southern side, while the other edges of the mound present a steep profile, due to the intense local wind erosion processes caused by the famous

120-day winds of Sistan (Kavosh 2010; 2012). This site was first identified during surveys carried out by Italian archaeologists (Lazzari 2019) and further explored during an archaeological survey of Sistan province (Mehrafrin and Mousavi Haji 2009). The site's name is derived from one of the Italian archaeological team members who discovered it. Archaeological excavations have been conducted over three seasons by the first author, focusing on teaching field archaeology to students at Zabol University. The objectives included understanding the cultural and social characteristics of the Bronze Age in the Sistan region, investigating the functions of satellite sites of Shahr-i Sokhta, establishing relative and absolute chronology, and exploring specialisation and industrial production. The site features eight hummocks, shaped by erosion, which are continuously covered by plain or, (to a lesser extent) painted pottery fragments. Additionally, other cultural materials found abundantly on the surface include overfired potsherds, stone vessel sherds, stone tools and implements, semi-precious stones, metal objects, stone seals, copper slag, and furnace fragments (Kavosh *et al.* 2019: 26). On the northern slope of the site, there are remnants of heat-treated architecture, accompanied by a high concentration of kiln welds, indicating the presence of a kiln in this area.

During three excavation seasons, six trenches were excavated in different parts of the site. Trench No.1 was created for stratification on one of the ridges in the southwestern part in a stepped manner. The sequence reveals 6 building cycles. Trench No.2 was excavated in the eastern part of the site, while Trench No.3, measuring 10 x 10 metres, was dug in the central part of the site, uncovering different architectural spaces with rectangular clay walls. Two additional trenches (Trench Nos. 4, and 5) were excavated during the second season and one more trench (Trench No.7) during the third season in different parts of the site. Valuable data regarding architecture and archaeology was obtained from these excavations. Evidence of settlement continued from Shahr-i Sokhta I to Shahr-i Sokhta IV. The oldest archaeological evidence was found in Trench No.1, where pottery comparable to Phase 7/8 of Shahr-i Sokhta was identified. This was followed by pottery resembling Phases 6, 5, 4 and 3, corresponding to Shahr-i Sokhta II and III (Figure.3). From Trench No.3 and the surface layers, pottery similar to Shahr-i Sokhta IV was identified. Absolute dating indicates that the cultural deposits at this site date back to between 2860 and 2300 BCE (Kavosh *et al.* 2019).

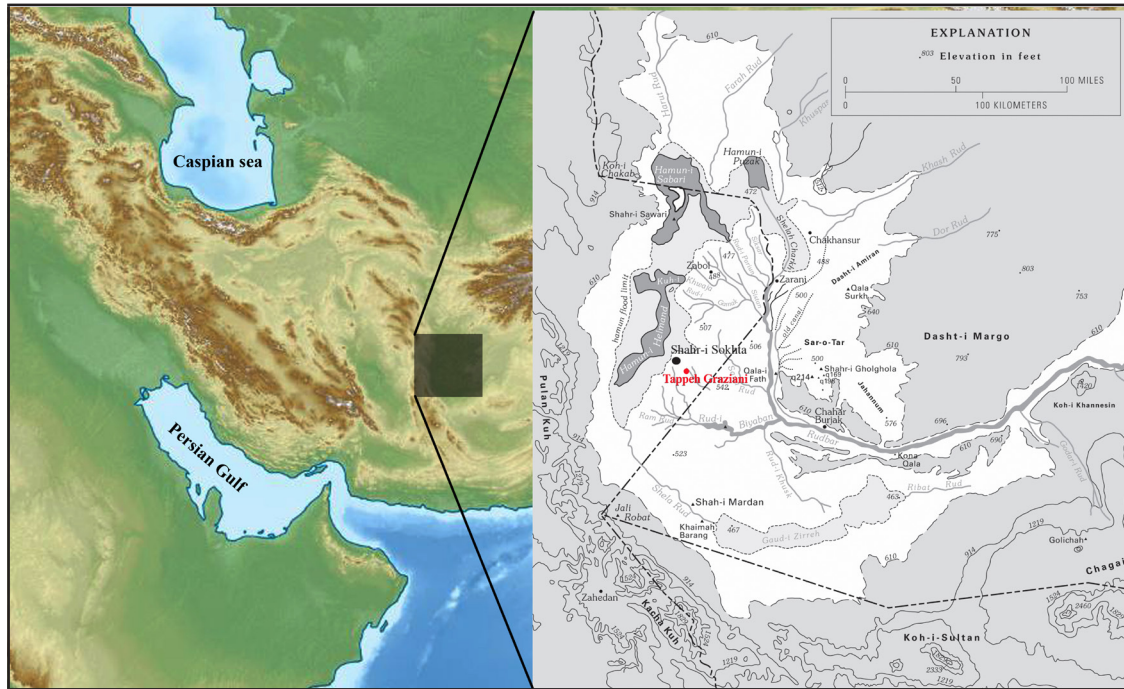


Figure 1: Location of Tappeh Graziani in southeastern Iran (After: Whitney 2006)



Figure 2: Overview of Tappeh Graziani.

#### Trench No.4

Trench No.4 at Tappeh Graziani was excavated horizontally to study the architecture of the settlements at this site. The surface of this trench is flat, with a maximum elevation difference of 29 centimetres between points. It features a gentle slope towards the south and southwest. Architectural remnants in this trench appeared a few centimetres below the surface and are relatively well-preserved, with some walls standing over 75 centimetres high.

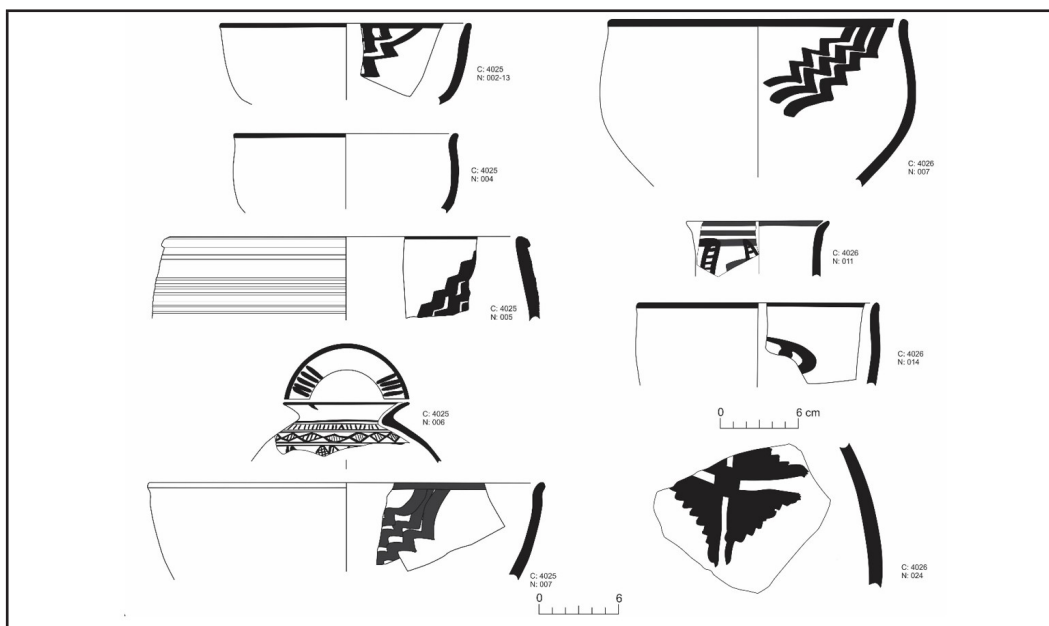


Figure 3: Pottery from Trench No 4.

The architecture found in this trench is divided into two different phases based on distinct structural features, most of which belong to the upper, newer phase. Only the remnants of two walls have been identified from the lower, older phase. The first phase consists of the remnants of several rooms and corridors, which can be subdivided into two stages according to the existing evidence. The most significant room in this area is Room No. 1, measuring 400 by 260 centimetres, and oriented northeast to southwest. It is enclosed by Walls 4003, 4004, 4008, and 4020. This room is one of the most interesting architectural spaces found at Tappeh Graziani, exhibiting high construction quality. Inside this room, there are two clay platforms located on the northern side, adjacent to Wall 4004. They are almost identical, each measuring 84 by 64 centimetres, constructed with six mud bricks per row, and having the same height. Additionally, there are remnants of a well-constructed hearth in the southern part of the room, measuring 70 by 70 centimetres. The floor of this room is severely damaged by debris, and, notably, the identified floor level is equal to the base of the main walls but lower than both the platforms and the hearth. Another floor likely existed at a higher level, aligned with the platforms and hearth, corresponding to the second construction stage of the first architectural phase in Trench No.4. In other words, the platforms and hearth are later additions to the original structure. A partition wall, which was found in the centre of the room, at the base of the hearth, divided the space into eastern and western sections (Kavosh 2018).

To the north of Room No. 1, two longitudinal spaces run from northeast to southwest, parallel to the room. Spacer No. 1, measuring 48 centimetres wide, is bounded by Walls 4005 and 4016 and ends with an L-shaped wall. Corridor No. 2, situated north and parallel to Spacer No. 1, is narrower, not exceeding 42 centimetres, and is formed by Walls 4016 and 4017. Corridor No. 1 demonstrates better construction quality, featuring a 1 to 2-centimetre-thick clay coating on its interior walls. To the south of Room No. 1, corridor-like structures are present, although they are only partially visible. Corridor No. 3 runs parallel to the northern corridors and is created by Walls 4020 and 4038 and enclosed by Wall 4029. Two narrow spaces to the west of Corridor No. 3, measuring 58 and 47 centimetres, likely represent remnants of corridors oriented northwest to southwest (Figure.4). South of Corridor No. 3, two small architectural spaces measure less than half a square metre, making assessment challenging due to trench boundaries. To the east of

Room No. 1, two partially uncovered architectural spaces exist. The northern space, designated as Room No. 2, measures 110 by 173 centimetres and is bounded by Walls 4003, 4004, 4022, and 4023, oriented northwest to southeast. Room No. 3, which is partially visible, is located south of Room No. 2, with Wall 4023 being narrower, indicating it may be an added wall. To the west of Room No. 1, a soil-filled area showed no architectural evidence during excavation. Overall, the architectural findings suggest a relatively complex residential area with an orderly construction plan, consistent with discoveries from the first excavation season at Tappeh Graziani in Trench No. 3.

### **Trench No.7**

To identify architectural remains and unveil the architecture discovered in Trench No.4, a new trench (Trench No.7) measuring 6×6 metres was excavated at the site's upper section, adjacent to the northern side of Trench No.4.

The trench was excavated to a depth of 126 centimetres from a fixed point, where a total of 46 different contexts were identified and recorded. These contexts were classified into two groups: structural and depositional. There were 23 depositional contexts and 23 different structural contexts, including walls, floors, and hearths. In this trench, 97 cultural finds were recorded. Additionally, a mud-brick architectural complex was identified, consisting of 7 spaces, numbered 1 to 7 from north to south for better description. The dimensions of the spaces are as follows: Space No. 1: 250×300 centimetres, Space No. 2: 370×80 centimetres, Space No. 3: 150×280 centimetres, Space No. 4: 170×230 centimetres, Space No. 5: 220×300 centimetres, Space No. 6: 220×240 centimetres, and Space No. 7: 90×370 centimetres. The remaining height of the walls in the tallest section is 37 centimetres, consisting of three rows of mud bricks, with the dimensions being 11×20×42 centimetres (Kavosh 2019).

The entire structure was built of raw mud bricks and coated with mud plaster. The examination of the mud brick dimensions shows that their sizes are mostly consistent, rarely varying by more than 2 or 3 centimetres. These mud bricks measure 11×20×42 centimetres. In the walls where the mud-brick rows are clearly visible, the bricks can be easily identified, and laid side by side in an orderly manner. The mud bricks and wall mortar contain foreign materials such as straw. The plaster coating these walls is made from the same mud used for the mud bricks and walls. The architectural evidence found in this

trench indicates a relatively complex residential area with an orderly construction plan, similar to the findings from the first and second excavation seasons at Tappeh Graziani in Trenches Nos. 3 and 4. An important feature of the architecture discovered in Trenches No. 4 and 7 is symmetry. Three rectangular spaces are located in the centre of these trenches, with two quadrilateral spaces on either side, each containing square hearths. The walls found in this excavation are not interlocked but are positioned next to each other (Figure.5).

and Moradi2014; Ascalone 2020; 2022; Moradi 2020), Talebkhan (Kavosh 2022; Kavosh and Oveisi-Keikha 2024b), and Yal (Oveisi-Keikha and Kavosh 2023).

An interesting aspect of the architecture in this area is the presence of hallway-like spaces situated around the rooms. Due to their narrow width, it is evident that these spaces were not used for habitation. Similar configurations were discovered at the Gilund site (Shinde *et al.* 2005; Sarkar 2014), where the presence of seals indicated their function

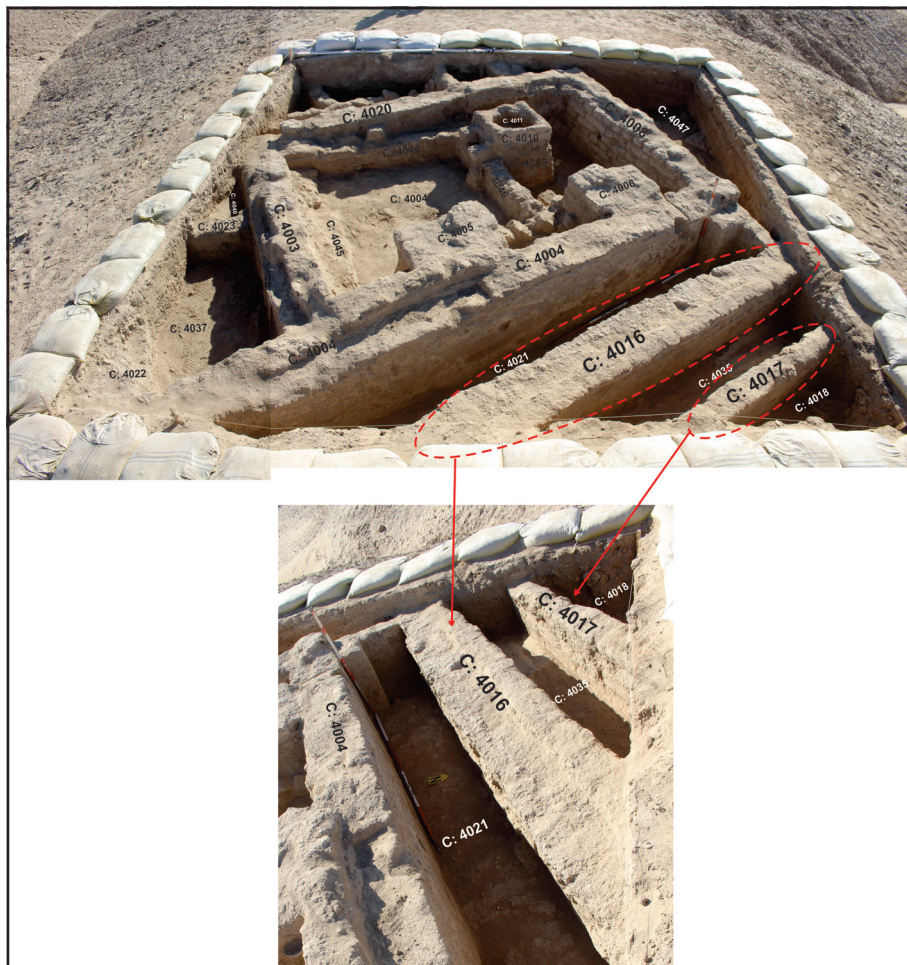


Figure. 4: The architecture of Trench No.4.

## Discussion

during the excavation of Trenches Nos. 4 and 7, numerous architectural spaces were identified, which can be categorised into two groups: square spaces and long, narrow rectangular spaces (Figures. 6-7). The square-shaped spaces, which can be referred to as rooms, contain ovens with either a square or circular plan. The presence of this type of oven is common in the Bronze Age architecture of Sistan. Similar ovens have been found at Shahr-i Sokhta (Tosi 1969; 1983; Seyyed Sajjadi *et al.* 2003; Seyyed Sajjadi 2005; 2019; Seyyed Sajjadi

as storage. In the Bronze Age, warehouses played a crucial role in the development and functioning of complex societies, industry, trade, and architecture. Warehouses were essential for storing surplus agricultural products, raw materials, and finished goods. This capability to store excess resources helped stabilise the economy, particularly during times of scarcity.

The discovery of pottery kilns (Kavosh and Oveisi-Keikha 2024a: 63, Figure. 7) and metal objects (Mortazavi *et al.* 2022; Kavosh in press) indicates that industrial activities took place in



*Figure 5: Overview of Trenches Nos. 4 and 7.*



*Figure 6: Warehouses of Tappeh Graziani.*



*Figure 7: Plans of Trenches Nos. 4 and 7.*

Garziani. Such activities, including metallurgy and pottery, required the storage of raw materials like ores, clay, and fuel. Warehouses provided the necessary space to keep these materials secure and organised. Artisans and craftsmen also utilised warehouses to store their finished products before distribution or trade, ensuring a steady supply of goods. Therefore, it is evident that the artisan community of Tappeh Graziani required spaces to store their products, indicating that the hallway-like spaces were likely used as warehouses.

As archaeological evidence from sites such as Tall-e Bakun (Alizadeh 2006) in Iran and various sites in India (Shinde *et al.* 2005; Sarkar 2014) indicates, warehouses were sealed. During excavations at Tappeh Graziani, several seals, sealing and tokens were discovered (Figures 8-9), suggesting that these warehouses were likely sealed by the elite. Sealing warehouses would have been crucial for controlling and managing stored goods. Seals ensured the security and integrity of the stored items, preventing unauthorised access and tampering. This also implies a level of administrative control and record-keeping, indicating an organised and complex society (Brumfiel and Earle 1987; Clark and Parry 1991; Smith 2011; Renfrew and Bahn 2016). The presence of seals and seal impressions at Tappeh Graziani not only provides insights into storage practices but also highlights the importance of these warehouses in the socioeconomic structure of society. It underscores the role of the elite in regulating and safeguarding resources, which were vital for trade, redistribution, and maintaining

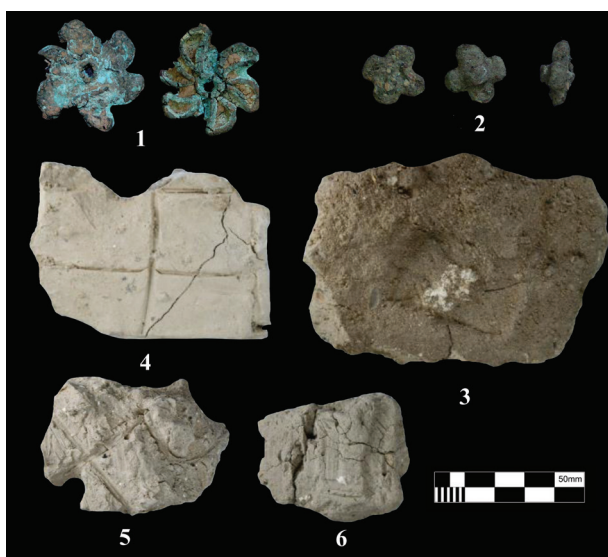


Figure 8: Administration tools from Trenches Nos. 4 and 7,  
Seal and Sealing

social order. In addition to securing goods, the seals may have also served as forms of communication, identifying the owner or contents of the warehouse. This practice parallels similar findings in other ancient civilisations, where sealing was a widely used administrative tool for efficiently managing resources and trades.



Figure 9: Tokens from Trench No. 7.

## Conclusion

Tappeh Graziani has undergone extensive excavation over three seasons, primarily aiming to explore the cultural dynamics of the Bronze Age and provide hands-on training for archaeology students. These excavations, particularly in Trenches Nos. 4 and 7, uncovered significant Bronze Age architectural remains, including central rooms surrounded by storage areas, which highlight the sophisticated planning of the site. The structures, primarily built using mud brick, feature both square and rectangular layouts, indicative of the architectural styles of the period. Notably, a pottery kiln was also discovered in Trench No. 1, along with evidence of metalworking, seals, and various manufactured goods, all stored in dedicated warehouses.

The spatial distribution and construction techniques revealed at Tappeh Graziani offer invaluable insights into the economic practices, social organisation, and daily life of the Bronze Age communities that once inhabited the area. The integration of residential, industrial, and storage spaces within the site highlights the complexity and sophistication of

its society. It reflects a community that was highly adapted to its environmental and cultural context. This research not only deepens our understanding of the site's socioeconomic structure but also contributes to a broader awareness of the interconnectedness of various aspects of life in Bronze Age societies.

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### Reference

- Alden, J. R. 1982. Market Place Exchange as Indirect Disturbtion; An Iranian Example. In J. E. Ericson & T. K. Earle (eds.), *Contexts for Prehistoric Exchange*. New York: Academic Press, 83–101. <https://doi.org/10.1016/B978-0-12-241580-7.50009-7>
- Alizadeh, A. 2006. *The Origins of State Organizations in Prehistoric Highland Fars, Southern Iran, Excavations at Tall-e Bakun*. volume 128. Chicago: Oriental Institute Publications.
- Ascalone, E. 2022. Preliminary Report on the 2017 Excavations in Area 33 in Shahr-i Sokhta: Stratigraphy, Finds and Pottery, In E. Ascalone & S.M.Seyyed Sajjadi (eds.), *Excavations and Researches at Shahr-i Sokhta 2*, Tehran: Pishin Pajouh, 189-323.
- Ascalone, E. 2020. Shahr-i Sokhta Excavations, In L. Battini ,(ed.), *Ash-sharq, Bulletin of the Ancient Near East, Archaeological, Historical and Societal Studies Volume 4* , Oxford : Archaeopress Publishing Ltd , 1-56.
- Banning, E. B. 2003. Housing Neolithic Farmers. *Near Eastern Archaeology* 66(1/2): 4-21. <https://doi.org/10.2307/3210928>
- Banning, E. B. 1996. Houses, Compounds and Mansions in the Prehistoric Near East. In G. Coupland & E. B. Banning (eds.), *People Who Lived in Big Houses: Archaeological Perspectives on Large Domestic Structures*, Volume. 27, Madison: Prehistory Press, 165-185.
- Bar-Yosef, O & R. H. Meadow. 1995. The Origins of Agriculture in the Near East. In T. D. Price & A. B. Gebauer (eds.), *Last Hunters First Farmers*. New Mexico: School of American Research Press, 39-94.
- Brumfiel, E. M & T. K. Earle. 1987. Specialization, Exchange, and Complex Societies: An Introduction. In E. M. Brumfiel & T. K. Earle, (eds.), *Specialization, Exchange, and Complex Societies*. Cambridge: Cambridge University Press, 1-10.
- Byrd, B. F. 1994. Public and Private, Domestic and Corporate: The Emergence of the Southwest Asian Village. *American Antiquity* 59(4): 639-666. <https://doi.org/10.2307/282338>
- Clark, J. E & W. J. Parry. 1991. Craft Specialization and Cultural Complexity, *Research in Economic Anthropology* 12: 289-346.
- Flannery, K. V. 2002. The Origins of the Village Revisited: From Nuclear to Extended Households, *American Antiquity* 67 (3): 417-433. <https://doi.org/10.2307/1593820>
- Flannery, K. V. 1972. The Origin of the Village as a Settlement Type in Mesoamerica and the Near East, In P. J. Ucko, R. Tringham & G. W. Dimbleby, (eds.), *Man, Settlement and Urbanism*. London: Duckworth, 23-53.
- Hole, F; K.V. Flannery & J.A. Neely. 1969. *Prehistory and Human Ecology of the Deh Luran Plain: An Early Village Sequence from Khuzistan, Iran*. Michigan : University of Michigan Press and University of Michigan Museum of Anthropological Archaeology. <https://doi.org/10.3998/mpub.11395036>.
- Kavosh, H. A & Z. Oveisi-Keikha. 2024a. Manufacturing Architecture, Evidence of Pottery Production from Graziani, Iran, *Historia I Świat* 13:55-70
- Kavosh, H. A & Z. Oveisi-Keikha. 2024b. Administrative Management in the Bronze Age of Southeast Iran: Evidence from Tepe Taleb Khan in Sistan, [In Persian], *pazhoheshha-ye Bastan shenasi Iran* 13(39) 61-88. <https://dx.doi.org/10.22084/NB.2023.27525.2569>
- Kavosh, H. A.[ In Press -In Persian]. Archaeometallurgy of Southeast of Iran during Bronze Age: Evidence from Tappeh Graziani, Sistan, *Pazhoheshha-ye Bastan Shenasi Iran*. <https://doi.org/10.22084/NB.2024.28318.2628>
- Kavosh, H. A. 2022. Chronology of Tape Taleb Khan based on C14, [In Persian], *Journal of Research on Archaeometry* 8(1): 67-82. <https://doi.org/10.52547/jra.8.1.67>

- Kavosh, H. A; M.Vidale & H. Fazeli Nashli. 2019. *Prehistoric Sistan 2: Tappeh Graziani, Sistan, Iran: Stratigraphy, Formation Processes and Chronology of a Suburban Site of Shahr-I Sokhta*. Roma: ISMEO.
- Kavosh, H. A. 2019. *Final Report of the Third Season of the Archaeological Excavation of Graziani, Sistan*, [In Persian]. Tehran: Iranian Center for Archaeological Research, Unpublished Report.
- Kavosh, H. A. 2018. *Final Report of the Second Season of the Archaeological Excavation of Graziani, Sistan*, [In Persian]. Tehran: Iranian Center for Archaeological Research, Unpublished Report.
- Kavosh, H. A. 2012. *Southern Plain of Sistan During Bronze Age*, [In Persian], Unpublished PhD Thesis. Tehran: University of Tehran.
- Kavosh, H.A.2020.*Final Report of the First Season of the Archaeological Excavation of Tape Rostam in Sistan*. Tehran: Iranian Center for Archaeological Research, Unpublished Report.
- Kavosh, H. A. 2010. *Final Report of the First Season of the Archaeological Excavation of Graziani, Sistan*, [In Persian]. Tehran: Iranian Center for Archaeological Research, Unpublished Report.
- Khanipour, M., K. Niknami & M. Abe. 2021a. Challenges of The Fars Neolithic Chronology: An Appraisal. *Radiocarbon* 63(2): 693-712. <https://doi.org/10.1017/RDC.2020.113>
- Khanipour, M; F. Zare Kordshooli & H. Karami. 2021b. Archeological Excavations at Tol-e Sangi in Fars Province, Iran. *Persica Antiqua* 1 (1): 97-104. <https://doi.org/10.22034/PA.2021.134834>
- Khanipour, M; H. Emadi & A. Akbari. 2018. Hormangan Site; New Evidences for Neolithic Occupation in the Southern Zagros, Iran, *Neolithic* 18: 17-22.
- Kohl, Ph. L. 1975. Carved Chlorite Vessels: A Trade in Finished Commodities in the Mid-Third Millennium B.C. *Expedition* 18 (1): 18-31.
- Kuijt, I. 2000. People and Space in Early Agricultural Villages: Exploring Daily Lives, Community Size, and Architecture in the Late Pre-Pottery Neolithic. *Journal of Anthropological Archaeology* 19(1):75-102. <https://doi.org/10.1006/jaar.1999.0352>
- Lamberg-karlovsky, C. C. 1972. Tepe Yahya 1971: Mesopotamia and the Indo-Iranian Borderlands. *Iran* 10: 89-100. <https://doi.org/10.2307/4300467>
- Lazzari, A. 2019. Early Survey by the Italian Archaeological Mission, In H.Kavosh, M.Vidale & H.Fazeli Nashli, (eds.), *Prehistoric Sistan 2: Tappeh Graziani, Sistan, Iran: Stratigraphy, Formation Processes and Chronology of a Suburban Site of Shahr-I Sokhta*. Roma: ISMEO, 11-24.
- Matthews, R; W. Matthews & Y. Mohammadifar. 2013. *The Earliest Neolithic of Iran: 2008 Excavations at Sheikh-E Abad and Jani: Central Zagros Archaeological Project*, Volume 1. Oxford: Oxbow Books.
- Mehrafarin, R & S. R. Mousavi Haji. 2009. *Archaeological Survey in Sistan, Phase 2, South of Qale Rostam*, [In Persian]. Tehran: Iranian Center for Archaeological Research, Unpublished Report.
- Moradi, H. 2020. Architectural Style and Technique in Prehistoric Sistan: Sustainable Patterns in Shahr-i-Sokhta Architecture from Early 3<sup>rd</sup> Millennium to the Beginning of the 2<sup>nd</sup> Millennium BC, *Ash-sharq, Bulletin of the Ancient Near East, Archaeological, Historical and Societal Studies* 4: 57-88.
- Mortazavi, M; H. Kavosh; S. Naghavi & R. Khanjari. 2022. Microstructural and Analytical Study of Uncommon Corrosion Features on Archaeological Cu-As Alloys from Tappeh Graziani in Southeastern Iran. *Microscopy and Microanalysis* 28(2): 302-316. <https://doi.org/10.1017/S1431927622000137>
- Mortazavi, M; M. Mishmast & I.Good. 2011. "Bronze Age Textiles: a Preliminary Analysis of Fragments Discovered at Tepe Dasht, Sistan". *Iranian journal of Archaeological Studies* 1(1): 61- 68. <https://doi.org/10.22111/IJAS.2011.459>
- Mutin, B. 2013. Ceramic Traditions And Interactions On The South-Eastern Iranian Plateau During The Fourth Millennium BC. In C. A. Petrie, (ed.), *Ancient Iran And Its Neighbours: Local Developments And Long-Range Interaction In The Fourth Millennium BC*. Oxford: Oxbow books, 253-285. <https://doi.org/10.2307/j.ct-vh1dn46.18>
- Oveisi-Keikha, Z & H. Kavosh. 2023. The Investigation of Residential Architecture in the Bronze Age. Tape Yal (Yalda), Sistan and Baluchestan Province, Iran. *Historia I Świat* 12: 9-30. <https://doi.org/10.34739/his.2023.12.01>

- Oveisi-Keikha, Z & H. Kavosh. 2021. Evolution of Patterns in Architecture of Sistan, East of Iran, *Journal of Sistan and Baluchistan Studies* 1 (1): 87-93. <https://doi.org/10.22034/JSBS.2021.146219>
- Potts, D.T. 1982. The Zagros Frontier and the Problem of Relations Between the Iranian Plateau and Southern Mesopotamia in the Third Millennium BC. In H. J. Nissen & J. Renger, (eds.), *Mesopotamien Und Seine Nachbarn. Politische Und Kulturelle Wechselbeziehungen Im Alten Vorderasien Vom 4. Bis 1. Jahrtausend v. Chr.* Volume. 1. Berlin: Dietrich Reimer Verlag, 33–55.
- Renfrew, C & P. Bahn. 2016. *Archaeology: Theories, Methods, and Practice*. New York: Thames & Hudson.
- Sarkar, A & V. Shinde. 2014. Gilund. In D.K. Chakraborti & M. Lal, (eds.), *History of Ancient India volume II: Protohistoric Foundations*. New Delhi: International Foundation and Aryan Books International, 691-699.
- Seyyed Sajjadi, S. M & H. Moradi. 2022. "The Preliminary Report on Excavations at Eastern Residential Area of Shahr-i Sokhta: Rooms 27 and 28". *Persica Antiqua* 2(3): 101-109. <https://doi.org/10.22034/PA.2022.347323.1015>
- Seyyed Sajjadi, S. M. 2019. "A Selection of Field Researches in 2013 in the Shahr-i Sokhta". In S. M. Seyyed Sajjadi & E. Ascalone, (eds.), *the Collection of Articles of Shahr-i Sukhta 2*. Tehran: Pishinpazhouh.
- Seyyed Sajjadi, S. M & H. Moradi .2014. "Excavation at Buildings Nos. 1 and 20 at Shahr-I Sokhta". *International Journal of the Society of Iranian Archaeologists* 1 (1): 77-90.
- Seyyed Sajjadi, S. M. 2005. *The First Cities of the Iranian Plateau*. Volume II, Tehran: SAMT.
- Seyyed Sajjadi, S. M; F. Foruzanfar; R. Shirazi & S. Baghestani. 2003. "Excavations at Shahr-i Sokhta. First Preliminary Report on the Excavations of the Graveyard 1997-2000". *Iran* 41: 21-97.
- Shinde, V; S. Possehl; G. L & M. Ameri. 2005. Excavations at Gilund 2001-2003: The Seal Impressions and Other Finds, In U. Franke-Vogt & H. J. Weisshaar, (eds.), *South Asian Archaeology, 2003; Proceeding of the 7th International Conference of the European Association of South Asian Archaeologists*. Aachen: Linden Soft Verlag, 159-170. <https://doi.org/10.34780/mvc3-3u6b>
- Shirazi, R. 2018. "Archaeological Excavation in Tepe Sadegh (sixth and seventh Seasons: 2016 and 2017)". In R. Shirazi, (ed.), *Proceedings of the 16<sup>th</sup> Annual Conference of Iranian Archaeology*. Tehran: Research Center of Iranian Cultural Heritage, Handicrafts and Tourism Organization, 298-306.
- Smith, M. E. 2011. Archaeology, Early Complex Societies, and Comparative Social Science History. In M. E. Smith (ed.), *The Comparative Archaeology of Complex Societies*. Cambridge: Cambridge University Press, 321-330. <https://doi.org/10.1017/CBO9781139022712.014>
- Smith, P.E.L. 1978. An Interim Report on Ganj Dareh Tepe, Iran. *American Journal of Archaeology* 82(4):537–540. <https://doi.org/10.2307/504641>
- Smith, P.E.L. 1976. Reflections on four Seasons of Excavations at Tappeh Ganj Dareh. In F. Bagherzadeh, (ed.), *Proceedings of the IV<sup>th</sup> Annual Symposium on Archaeological Research in Iran*. Tehran: Iranian Centre for Archaeological Research, 11–22.
- Tosi, M. 1984. The Notion of Craft Specialization and its Representation in the Archaeological Record of Early States in the Turanian Basin, In M. Spriggs, (ed.), *Marxist Perspectives in Archaeology*. Cambridge: Cambridge University Press, 22-52.
- Tosi, M. 1983. *Prehistoric Sistan I*. Roma: ISMEO.
- Tosi, M. 1970. "Tepe Rud-i Biyaban". *Iran* 8: 189.
- Tosi, M. 1969. Excavations at Shahr-i Sokhta. Preliminary Report on the Second Campaign. *East and West* 19(3/4): 283-386.
- Whitney J. W. 2006. *Geology, Water, and Wind in the Lower Helmand Basin, Southern Afghanistan*. Scientific Investigations Report. Reston, Virginia: U.S. Geological Survey.