

From Drought to Deity: Borrowing Freshwater Worship in Third Millennium BCE Shahdad

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Despite its severe climate, Shahdad, an ancient civilisation on the edge of the Lut Desert, thrived in the third millennium BCE. This article examines the worship of Enki, the Mesopotamian god of fresh water, in this area. An abundance of archaeological data found at Shahdad suggests that there were contacts with Mesopotamia in the third millennium BCE. This may be related to Shahdad's adoration of a water and fertility deity because it involves the presence of expert stoneworkers versed in Mesopotamian temple construction methods, the iconography of a water deity on the city seal and flag, and unique stone building elements. Although there is evidence of Mesopotamian influence in the freshwater deity worshipped in Shahdad, it is more likely that this interaction contributed to the emergence of a distinct freshwater deity. Archaeological excavations have unearthed unique artefacts that lend credence to this theory. These include pottery depicting water conservation practices, stone objects used in water rituals, and clay statues portraying figures praying for water.

KEYWORDS: Lut Desert, Shahdad, Mesopotamia, Bronze Age, Fresh Water God, Enki

Šahdad, starodavna civilizacija na robu puščave Lut, je kljub ostremu podnebjju, uspevala v tretjem tisočletju pred našim štetjem. Ta članek obravnava čaščenje Enkija, mezopotamskega boga sladke vode, na tem območju. Številni arheološki podatki, najdeni v Šahdadu, kažejo na stike z Mezopotamijo v tretjem tisočletju pred našim štetjem. To je lahko povezano s šahdadskim čaščenjem božanstva vode in plodnosti, saj vključuje prisotnost strokovnih kamnosekov, ki so poznali mezopotamske metode gradnje templjev, ikonografijo vodnega božanstva na mestnem pečatu in zastavi ter edinstvene kamnite gradbene elemente. Čeprav obstajajo dokazi o mezopotamskem vplivu v sladkovodnem božanstvu, ki so ga častili v Šahdadu, je bolj verjetno, da je ta interakcija prispevala k nastanku posebnega sladkovodnega božanstva. Pri arheoloških izkopavanjih so bili odkriti edinstveni artefakti, ki dajejo verodostjnost tej teoriji. Med njimi je tudi keramika, ki prikazuje prakse ohranjanja vode, kamnite predmete, ki so se uporabljali pri vodnih obredih, in glinene kipe, ki prikazujejo figure, ki molijo za vodo.

KLJUČNE BESEDE: puščava Lut, Šahdad, Mezopotamija, bronasta doba, bog sladke vode, Enki

Perilously perched on the edge of the Lut Desert, the Shahdad region of Iran's Kerman province has a surprisingly lengthy history of human settlement. The availability of scarce water sources, especially nearby rivers, is responsible for this resilience. There is evidence that the Shahdadi people worshipped a watery deity that is similar to the Mesopotamian god Enki for a long period of time. The Sumerian epic poem *Enmerkar and the ruler of*

Aratta, inscribed on a twelve-column tablet housed in Istanbul's Museum of the Ancient Orient (Kramer 1963), depicts a conflict between the rulers of Uruk (Enmerkar) and the city of Aratta (Vanstiphout 2003). Notably, some scholars have equated Aratta with Shahdad (Mosapour Negari 2022), suggesting a possible connection between the two regions. This, along with potential cultural exchange, could have contributed to the development of a shared belief in a water deity among the Shahdadi people and the Mesopotamians.

It is interesting to note that the Mesopotamians, with their sophisticated expertise in irrigation and agriculture, could have shared knowledge related to water management with the Shahdad population – both worshipping the water deity Enki (Richards 2000). This potential knowledge exchange, along with the possible exchange of resources as suggested by Mosapour Negari (2022), could have facilitated reciprocal communication between the regions. It is possible that such an exchange of resources could have facilitated a cultural and intellectual exchange between Mesopotamia and Shahdad, potentially leaving a lasting impact on the southeast of Iran. Evidence of extensive carnelian production at the Shahdad archaeological site (Salvatori and Vidale 1982), a material mentioned in the Sumerian epic related to Aratta (Kramer 1963), further strengthens the possibility of a connection.

THE ENVIRONMENT

The Dasht-i-Lut and Dasht-i-Kavir, two of Iran's largest salt deserts, cover a considerable area of the country's eastern and central regions (Fig. 1) (Mortazavi 2009: 115). The Lut Desert occupies around 80,000 square kilometres, or 12% of Iran's total land area. It is divided into the northern Lut, the southern Lut and the central Lut (Kharazmi et al. 2020: 37). The current dry terrain of the Lut Desert conceals a startling secret: a large freshwater lake previously dominated the area. At least seven terraces on the northern slopes provide evidence of the lake's former splendour. Imagine a time when the Iranian plateau saw an abundance of rainfall, resulting in the submersion of even the highest valleys, while glaciers dominated most of Europe (Shahzeidi 2016: 124, 129).

According to research by Shoaee and colleagues (2023), the Lut Desert is a massive endorheic basin that was formerly home to a large paleolake (Fig. 2). The presence of yardangs – streamlined, elongated ridges of silt sculpted by wind erosion – supports the existence of this ancient lake. Further research is needed to determine the exact time-frame of this lake's existence. While the specific climate conditions of the Lut Desert during the third millennium BCE require further investigation, research by Vaezi et al. (2023) suggests a significant climate shift in southeastern Iran around this period. Their findings indicate a transition from a humid climate to a drier one at the beginning of the third millennium BCE. This shift likely had an impact on the environment of the region, including the Lut Desert. Reconstructing past climates for specific locations requires detailed local data. Although Jiroft, located approximately 275 km from Shahdad, offers valuable climate history for southeastern Iran (Vaezi et al. 2023), directly applying its findings to Shahdad presents challenges due to the distance between the two locations.

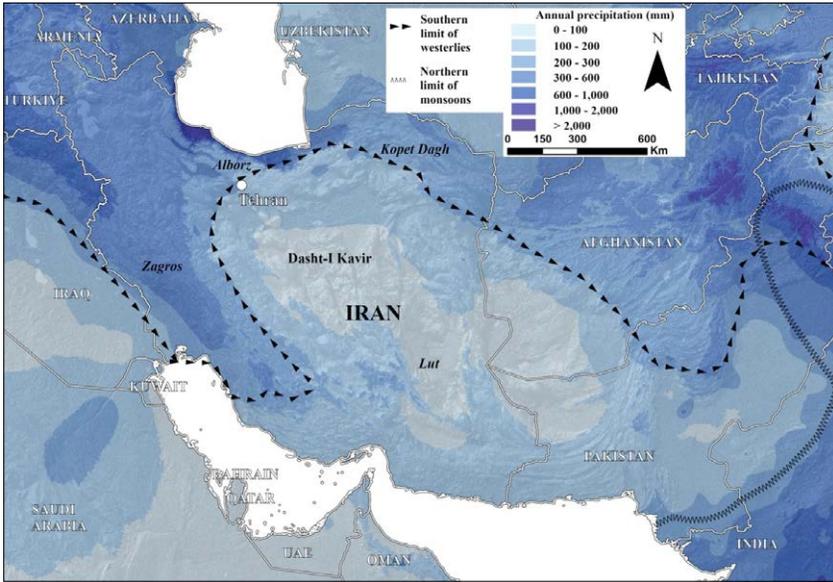


Figure 1: Present-day mean annual precipitation in Iran, focusing on the Dasht-i-Lut and Dasht-i-Kavir Deserts (WorldCLIM Data) (Shoae et al. 2023: 5).

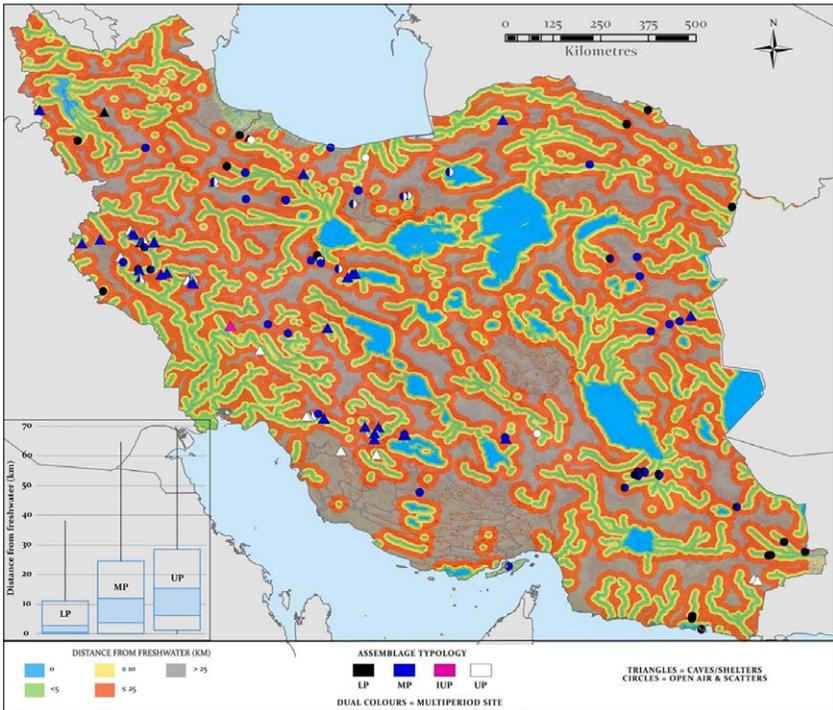


Figure 2: Distance from water analyses, highlighting the distance from mapped paleohydrology for all areas of the country (Shoae et al. 2023: 18).

Local climatic variations can occur even over relatively short distances. Further research specifically focused on the Lut Desert and Shahdad is necessary to understand the precise climate history of the region during the third millennium BCE. Paleoclimate studies in Shahdad or the surrounding areas would provide more conclusive evidence for the environmental conditions there. Despite the limitations, the Jiroft data still provides a valuable context. The observed climate shifts in Jiroft suggest that Shahdad may have also experienced similar changes, albeit potentially with some variations due to the distance. Jiroft's findings highlight the need for further investigation in Shahdad.

Fragility and change characterise the current climate in Shahdad. January is the coldest month, with average highs of above freezing and lows of below zero at night (Kardavani 1971: 7). The region surrounding Shahdad, bordering the Lut Desert, boasts unique features. These include the Rūdkhāneh-ye Shūr, the sole and vital river of Shahdad, the Shahdad Kaluts (local name for yardangs) and the Gandom Beryan plateau (the hottest place on Earth) (Koohestani 2020: 26). Despite its advantageous location on a trade route, Shahdad's climate presents a challenge for long-distance trade. Average temperatures range from 20 to 25 degrees Celsius. The city barely gets 45 mm of annual rainfall on average, with the majority of that falling in the winter and early spring, potentially creating difficulties for caravans traversing the region in ancient times. There can be no permanent lake because of very little rainfall. As the hot season begins in March, wind erosion is made worse by water shortage and aridity, which causes deep holes and cracks to appear in the surface of the land (Kardavani 1971: 6). Understanding Shahdad's past can be aided by the existence of stabilised sand dunes, river erosion features and the yardangs (Salighe et al. 2011: 4; Negaresh et al. 2011).

By examining these elements (environmental conditions, such as past climate changes and their potential impact on water availability or agriculture), we can gain a deeper understanding of the potential hardships endured by the residents of Shahdad. Furthermore, evidence suggests that Mesopotamia served as an important communication channel for Shahdad (Aratta) during the third millennium BCE. This is evidenced by the presence of trade routes and cultural exchange. This connection raises the possibility that Mesopotamian beliefs, particularly those related to water deities, may have influenced Shahdad's belief system.

FROM ENKI TO EA: THE EVOLVING FRESHWATER DEITIES OF MESOPOTAMIA

According to Jordan (2004: 85, 89–90), Enki, the multifaceted Sumerian deity (3500–1750 BCE), embodied creation, wisdom and life-giving fresh water. Known by various titles such as “Lord of the Soul” and “Owner of the Deep”, he was revered in Eridu (present-day Iraq). Over time, this powerful god transformed into Ea in the Babylonian-Akkadian pantheon (1900–200 BCE). Ea retained some of Enki's core attributes, but also became associated with the primordial waters, the source of all existence. While the worship of Ea spanned millennia, his prominence had gradually shifted by the Neo-Babylonian period.



Figure 3: Enki, Mesopotamian god of fresh water: A multifaceted deity.

3a: The water god Ea and his two-faced minister the god Usmu. Detail from the cylinder seal of a scribe named Adda, Akkadian Period (Black and Green 1992: 75).

3b: Gudea, Prince of Lagash, is introduced to the god Enki by his personal deity Ningiszida, shown with horned serpents rising above his shoulders. Details from Gudea's own cylinder seal; Neo-Sumerian period (Black and Green 1992: 139).

3c: The double-faced minister god Usmu ushers a bird man into the presence of the water god Ea; from a cylinder seal of the Akkadian Period (Black and Green 1992: 110).

3d: The god Ea in the watery *apsu* receives another god, probably Samas; from a cylinder seal of the Akkadian period found at Ur (Black and Green 1992: 27).

3e: Neo-Assyrian sun-dried clay figurines of the goat-fish and the merman, probably from the city of Assur; lengths 140 and 130 mm (Black and Green 1992: 92).

3f: Enki's symbolic emblem of the Kassite, Babylonian and Assyrian periods, a curved stick that ended in a ram's head (Black and Green 1992: 97).

He became the father figure of the rising god Marduk, signifying a change in his role within the evolving Mesopotamian belief system. Enki's significance requires an exploration of Eridu (present-day Abu Shahrein). Sumerian scribes regarded the southern Mesopotamian city of Eridu as the oldest city in the universe, the location "where kingship came first from heaven" (Leick 2003: 41). The Sumerian King List claims that Eridu's rulers reigned for incredibly long periods, although these are probably mythological tales. Eridu never rose to become the capital of a significant dynasty, despite its fabled past, and was not a significant political centre. However, it was of importance in the realm of religion, as the primary sanctuary of Enki, the god of water, was located there. The city's construction reached its zenith under the Third Dynasty of Ur, with contributions from numerous Mesopotamian monarchs. However, by the eighteenth century BCE, Eridu had been abandoned. The cult of Enki persisted in other shrines, most notably in nearby Ur, even after the city had collapsed. The Iraqi Department of Antiquities conducted archaeological excavations that uncovered a lengthy row of structures from the Ubaid period (around 4900 BCE), stacked one on top of the other. The Eunir, the temple devoted to Enki, is depicted in these eighteen layers as it continues to evolve (Leick 2003: 41). Unearthing the layered history of Eridu, evident in archaeological finds such as the evolving Eunir, sheds light on the city's changing religious landscape. The presence of a male deity, Enki, associated with the Eunir, prompts us to consider the possibility of earlier deities worshipped there. The presence of a male god in Eridu raises questions about a possible earlier female deity. Scholar P. Steinkeller suggests that during the Uruk period (c. 4500–3100 BCE), most Sumerian city-states may have had "goddesses as their titular divine owners". He proposes that Enki, considered the head of the earliest Sumerian pantheon, may have been paired with these goddesses, acting as a "sort of universal husband" (Steinkeller 1999). This theory suggests the possibility of female dominance in the early stages of Sumerian religion. It follows that the original deity in Eridu may have also been female, potentially replaced by a male god as societal structures shifted towards male dominance.

Although there is not much concrete archaeological evidence for Enki himself, artistic interpretations provide insightful information. These representations show a long-bearded, reclining god with a pleated, flowing robe and a horned cap. Water shoots out of his arms and onto the ground, occasionally carrying tiny fish with it (Fig. 3a). He frequently appears to be accepting worshippers or bearers of offerings (Fig. 3b). Alternatively, he can be seen accepting the lion-demon or the bird-man, who is shown to him as a prisoner under guard (Fig. 3c). Other gods may introduce these figures. Isimud, Enki's minister, is most frequently portrayed in this role. Enki is occasionally seen sitting inside a building called the abzu or in his E-abzu shrine, which is encircled by water channels (Fig. 3d) (Black and Green 1992: 75).

As the god of groundwater and all freshwater sources, including rivers, lakes and oceans, Enki is highly revered in Mesopotamia (Boehmer 1965: 87). He ruled over the Abzu, an enormous freshwater reservoir thought to be the source of all rivers, springs, marshes and precipitation (McIntosh 2005: 211). Since fertility and water management were crucial components of Enki's domain, archaeologists also investigate more general

cultural practices in these areas. Examining Mesopotamia's highly developed irrigation systems – some of which date to the sixth millennium BCE – can illuminate the cultural significance of water, which may be connected with Enki-related beliefs. The goat-fish was identified as Ea's representation in the iconography of the Kassite, Babylonian and Assyrian periods (Fig. 3e). The god also had two further symbols: a turtle and a curved stick that ended in a ram's head (Fig. 3f) (Black and Green 1992: 75).

SHAHDAD: A BRIEF LOOK AT ITS DISCOVERY & CHRONOLOGY

After travelling across Baluchestan and Kerman, as well as the edge of the Indian Plateau, Sir Aurel Stein conducted the first surface survey of the Lut Desert region in 1937, sparking interest in archaeology in the area (Yule 1998: 2). However, large-scale archaeological fieldwork did not start until later. The breakthrough came in 1967 when a team of researchers from Tehran University's Institute of Geography, led by Ahmad Mostofi, was conducting fieldwork near Dasht-i-Lut in northwest Kerman. While surveying the area, they stumbled upon surface ceramic fragments in Chaleh Takab, a location close to modern-day Shahdad. This discovery led them to identify Shahdad as an archaeological site. The General Directorate of Archaeology and Popular Culture received these samples. Two years later, in 1969, formal excavations got underway with the founding of the

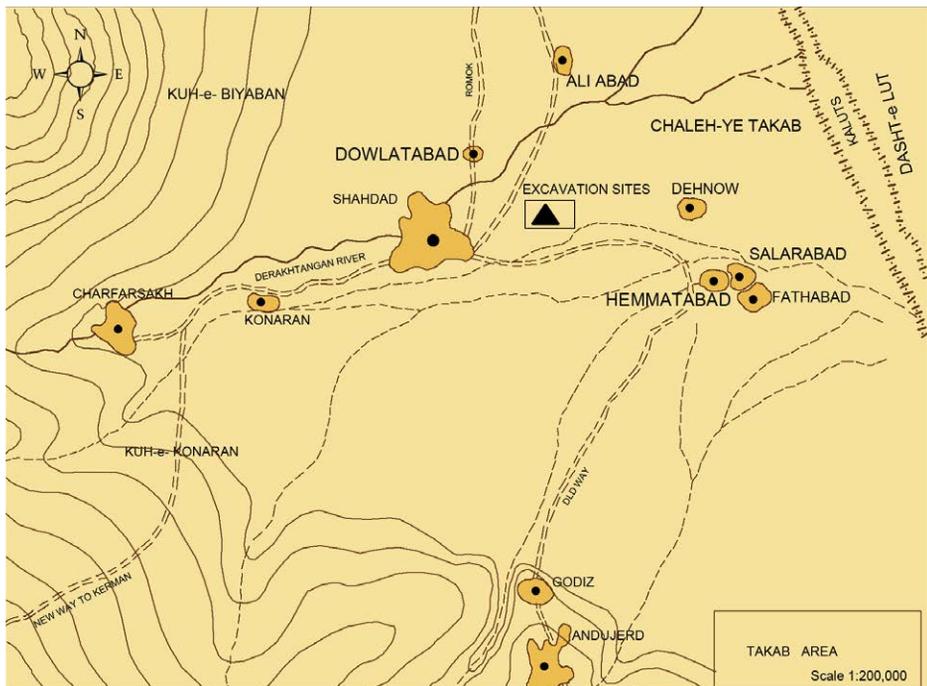


Figure 4: Map of the Takab Plain showing the location of the Ancient Shahdad excavation site relative to the present-day city of Shahdad (Hakemi 1997a).

Dasht-i-Lut archaeological department, which was led by Ali Hakemi (Hakemi 1997a). The ancient civilisation known today as Shahdad, was located some seven kilometres from the present-day city, according to preliminary research conducted by the Dasht-i-Lut archaeological team (Hakemi 1997a). They concentrated on the Takab Plain, situated five kilometres to the east of Shahdad, and the area surrounding a sizable, historic cemetery. This is situated between two parallel hills and the Takab Plain's alluvial fans (Fig. 4).

This area, which included the cemetery, was the archaeological team's main excavation site (Hakemi 1997a: 241). As a result, the name Takab has been honoured in the designation of the Shahdad archaeological sequences. Hakemi (1997a) used ceramic remnant classification to determine cultural periods on the Takab Plain. He used the prefix "TAK" followed by a Roman numeral to identify these periods. The earliest phase is designated as TAK IV, and is followed by TAK III, TAK II and TAK I. The most recent period, TAK I, is distinguished by pottery that is less sophisticated and lighter in colour, indicating that it is associated with historical and Islamic periods (Table 1).

TAK I	TAK II		TAK III		TAK IV		Cultural Period
	II1	II2	III1	III2	IV1	IV2	
1500 BCE-?	1700–1500	1900–1700	2200–1900	2500–2200	2700–2500	3300–2700	Time BCE

Table 1: Cultural Sequences of Shahdad (based on Hakemi 1997a).

EXPLORING HISTORICAL DEPTHS: SHAHDAD'S WATER DEITY

Deciphering ancient symbols and venturing into the depths of history can provide an insight into the traditions and beliefs of former societies. Evidence of the water deity in Shahdad reveals a culture of reliance and respect for this essential component.

- TAK IV: Whispers of Rain and Fertility

Excavated from the TAK IV period, a fine buff jar features cylindrical spouts and depictions of snakes with triangular heads (Fig. 5). Similar snake depictions are found in the glyptic styles of Konar Sandal South (Jiroft) (Pittman 2018). In some contexts, researchers have drawn connections between snake imagery and water sources (Desset et al. 2021). However, further evidence is needed to determine the specific meaning associated with the snakes on this particular jar. These jars depict imagery that may be interpreted as a water goddess entwined with a snake, potentially symbolising both strength and procreation. Similar snake representations are commonplace on carved chlorite artefacts from the Jiroft region (Madjidzadeh 2003). In broader contexts across Iran and Mesopotamia, snakes were often associated with deities linked to the chthonic realm, particularly underground water sources and springs, and consequently with life-giving forces such as fertility and healing (Benoist 2007; Golan 2003; Desset et al. 2021). This association suggests that the Shahdad jar imagery may be understood to hold similar symbolic meaning. Regarding the

flag featuring a human figure with horns and a snake (Fig. 6), Hakemi suggests it depicts a legendary conflict (1997a). This interpretation aligns with the established presence of conflict between snakes and deities or other powerful beings in the Jiroft artistic repertoire (Madjidzadeh 2003; Basafa & Rezaei 2014; Helwing 2017; Desset et al. 2021; Eskandari et al. 2022). This image may symbolise the human struggle against drought and the worship of the power of water and rain. Interestingly, a similar flag has been discovered at the Gonur site in Central Asia, bearing a resemblance to plaques found in western Iran (Meier and Vidale 2013).

- TAK III: A Cry for Water

A range of ceramic vessels from the TAK III period have been found, including narrow-rimmed jars that are believed to have been used for collecting water and wide-rimmed jars that may have been used for storing grain. The high proportion of red jars (85.1% of the total red vessels) during the TAK III period suggests a focus on utilitarian pottery (Fazeli Nashli et al. 2012). However, definitive evidence for specific functionalities would require analysis of the vessel content or residues. Jars from the TAK III period exhibit a range of rim diameters (Fig. 7). As a preliminary attempt to understand the potential functionalities of the jars, two broad categories can be defined: narrow-rimmed and wide-rimmed. Further analysis of the ceramic assemblage from TAK III reveals a dominance of utilitarian pottery vessels. This is evident in the high proportion of red jars (85.1% of the total red vessels) dated to this period (Fazeli Nashli et al. 2012). Interestingly, data from our previous research also highlights a significant presence of pots (89.58% – combining the narrow and wide-rimmed jar groups) during TAK III (Figs.

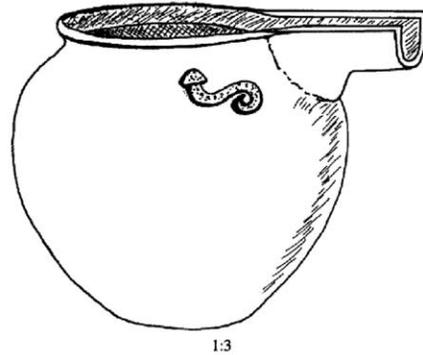


Figure 5: Fine buff jar, cylindrical spout, decorated with rolled band around the rim; a snake with a triangular head is applied to the upper part of the vessel's body (Hakemi 1997a: 569).

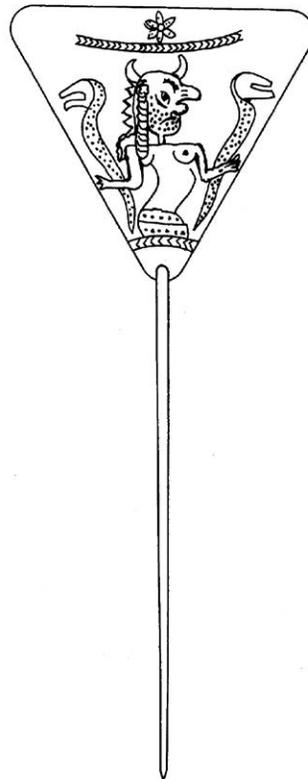


Figure 6: Silver triangular flag (Hakemi 1997a: 715).

6–7 and Table 3, Fazeli Nashli et al. 2012). The presence of distinct vessel categories, including wide-rimmed jars (38.17% of all jars) and narrow-rimmed jars (61.41% of all jars), alongside the narrow and wide-rimmed jar typology, suggests some level of specialisation in pottery production during TAK III (Fazeli Nashli et al. 2012). This may be indicative of centralised workshops or different workshops producing specific types of utilitarian jars. These findings on utilitarian pottery and the potential specialisation in production align with the observations regarding a close similarity between the red jars discovered in TAK III (Fazeli Nashli et al. 2012). While further investigation is needed, this consistency could point towards a standardised approach to pottery production during the mid-third millennium BCE.

The narrow-rimmed jars from TAK III may have been used for preserving water, considering Shahdad's arid climate and the challenges of obtaining reliable water sources (Fazeli Nashli et al. 2012). However, further analysis of jar contents or residues would provide more definitive evidence for their specific function. The function of wide-rimmed jars remains unclear. However, their wide rims could be advantageous for several tasks, including scooping, pouring and accessing contents. In some contexts, wide rims might also be suitable for storing grain, particularly if easy access is a priority. It is important to note that wide rims may not be the most effective design for creating airtight seals, which can be crucial for long-term grain storage in arid environments. As stated, our previous research identified various pottery types in TAK III, suggesting their use in different storage practices. However, a definitive link between wide rims and specific stored materials, such as grain, cannot be established solely based on rim design. Further investigation is necessary, including analysing jar residues and examining rim design in relation to the potential stored materials. This broader approach would be crucial for understanding the specific use of these wide-rimmed vessels, especially their potential role in grain storage practices in TAK III.

However, an intriguing inscription found on the rim of a red jar from TAK III (Fig. 8) sheds light on the importance of resource management at this site. The inscription, consisting of six symbolic syllables, has been interpreted by Professor Walter Hinz as signifying “sixty ka of fresh rainwater” (as cited in Kabuli 1989). While the full meaning and context of the inscription require further specialist study (Kabuli 1989), it highlights the community's focus on water management in Shahdad's arid climate. This emphasis on water conservation raises the possibility that other vessels, particularly those with different rim designs, may have been used for storing dry goods such as grain. Future analyses of jar morphology and residue analysis could help consolidate hypotheses regarding the specific functions of various jar types in TAK III.

Among the intriguing artefacts unearthed in TAK III, the curved and square-lined grey chloritic stone house stands out for its unique architectural features (Hakemi 1997a: 708) (Fig. 9). Hakemi's detailed description highlights its distinctive combination of curved and straight lines, along with the specific material used – chloritic stone. These miniature houses come in two forms: clay (without pots) and stone (with pots placed on top) (Hakemi 1997b). While the exact function of this structure remains unclear, its prominent presence suggests potential symbolic or religious significance. Interestingly,



Figure 7: Shahdad Archaeology storeroom: water & grain jars. (Photo by the author)



Figure 8: Jar from Shahdad with the inscription "Sixty ka of fresh rainwater" (National Museum of Iran).

Kabuli (2004) introduces the concept of “replica houses” found in graves in TAK III, potentially connected with water management practices. These miniature houses, some made of stone and some of clay, raise questions about the broader role water-related structures may have played in the lives of the TAK III community.

As discussed in my previous article (Mosapour Negari 2022), the environmental and archaeological evidence strongly suggests that Shahdad is a viable candidate for the location of Aratta. The wide-rimmed jars found in Shahdad, with their rims ideal for storing grain (Fazeli et. al 2012), further reinforce this argument. In an arid region such as Shahdad, such jars would have been essential for storing any grain received, potentially from Enmerkar, as suggested by Kramer (1963). Interestingly, the resemblance of these jars to those depicted atop the small stone house models (Fig. 9) raises an intriguing possibility. While it is likely that these models possessed symbolic meaning, the jar design may also reflect their practical use for collecting rainwater in this arid environment (Mosapour Negari 2022).

Notably, Kramer (1963) states that Erakh provided for Aratta with its grain surplus. Upon receiving the grain, the people of Aratta expressed their desire to fulfil Enmerkar’s request. This narrative suggests a potential grain exchange between the two regions. The wide-rimmed jars of Shahdad, which were ideal for storing grain (Fazeli et. al 2012), could have been used for this purpose. However, further evidence is needed to confirm this hypothesis. Additionally, Aratta was known for its skilled craftspeople, particularly those specialising in stonework. The grain from Enmerkar could be connected with Aratta’s potential contribution of expertise in exchange, although more evidence is needed to substantiate this hypothesis.

According to Kramer (1963), Enmerkar, the ruler of Erakh, desired to build a temple for his god. He may have sought the skilled stoneworkers of Aratta, renowned for their expertise in this area, to complete this grand project. In exchange for their craftsmanship, Enmerkar potentially offered grain, a valuable resource for Aratta, as suggested by the epic tale (Kramer 1963). While it is likely that the wide rims of the jars on the model stone buildings of Shahdad possessing symbolic meaning, they also resemble jars that are ideal for storing grain (Fazeli et. al 2012). This resemblance could be interpreted as a subtle reference to Aratta’s need for grain, a resource potentially offered by Enmerkar. Furthermore, if, as suggested by Kramer (1963), grain was a crucial resource for Aratta, these jars could have played a vital role in storing any grain received from Erakh.

The narrative from Kramer (1963) further strengthens this possibility, as it describes Enmerkar sending grain to Aratta. Upon receiving it, the people of Aratta expressed their willingness to fulfil his request. This suggests there may have been a trade agreement involving the exchange of grain for expertise between the two regions.

The abundance and blessing of water and rain are further symbolised by metal plates and bowls adorned with fish and snake designs (Fig. 10) (Pittman 2013). This association is supported by the symbolism of these creatures in the broader Iranian context. Snakes are commonly depicted alongside water sources in the region’s art (Desset et al. 2021). For instance, the glyptic styles of Konar Sandal South (Jiroft) frequently feature snakes alongside other aquatic imagery (Pittman 2018). Additionally, a lost-wax cast copper

statuette, likely dating to the third millennium BCE, portrays a potential goddess holding a snake wrapped around her waist (Eskandari et al. 2022). This imagery aligns with the wider Mesopotamian and Iranian belief system where snakes were associated with the chthonic realm, particularly underground water sources and springs (Benoist 2007; Golan 2003). Consequently, they were seen as symbols of life-giving forces such as fertility and healing (Desset et al. 2021). It is worth noting that snake depictions can hold various symbolic meanings beyond that of water. For instance, they can be associated with royalty and positive cultural aspects in the region. This aligns with the persistence of positive folk beliefs and traditions regarding snakes that continue into the modern era in Iran (Naseri Tehran et al. forthcoming).

The strength and sovereignty of the water and rain god is exemplified by a flag (Fig. 11), which probably depicts a god on a throne with bowls and a mace with geometric and spiral patterns (Hakemi 1997: 139). This interpretation is supported by several pieces of evidence:

1. Iconographic similarities:

- The Shahdad Standard, a similarly decorated metal object, depicts a figure seated on a throne holding a mace and flanked by women. This figure is widely identified as the water and rain god (Mosapour Negari 2022: 81).

2. Symbolic elements:

- The flag's imagery includes a god seated on a throne, a symbol of authority and power in the ancient world (Hakemi 1997a: 62).
- The god holds a mace, a weapon frequently associated with divine power and the ability to control natural forces (Hakemi 1997a: 62).
- The presence of date palms, a symbol of fertility and abundance closely associated with water in the region (Vaziri Kermani 1974: 90; Mostofi 1972: 342).
- The geometric and spiral patterns on the mace may represent water or the movement of water, further connecting the figure to his domain (Hakemi 1997a: 62).

3. Contextual considerations:

- The flag was unearthed in Shahdad, an area known for its ancient water worship practices (Hakemi 1997a: 62).
- The arid climate of Shahdad suggests a strong desire for divine intervention to ensure water availability for both human consumption and agriculture.

4. Archaeological interpretation:

- Archaeologists, including pioneers in the excavation of Shahdad, Hakemi (1969–1976) and Kabuli (1977–1978 and 1984–1991), have interpreted the flag as a symbol of the water and rain god's power, a means of seeking divine favour for rain and agricultural prosperity (Hakemi 1997a: 62; Kabuli 1974: 40). Furthermore, Hakemi (1973: 80) suggests the flag was used in religious ceremonies or as an offering to the water god.

The flag's central figure is surrounded by animals in a natural setting with trees. This imagery is likely to reinforce the god's association with fertility and the natural world. Additionally, a noteworthy detail is the presence of a smaller figure on the right side of the scene. Depicted as smaller than the main character, this individual is pointing to the central figure and holding a container in their hand. Their posture suggests an act of supplication, possibly begging for water from the enthroned god. Taken together, this evidence strongly suggests that the flag from Shahdad is a powerful symbol of the water and rain god's strength and sovereignty. It reflects the deeply held belief in divine power to control water and ensure agricultural prosperity in an arid environment.

The archaeological record from Shahdad reveals a rich tapestry of deities depicted on various artefacts. As discussed previously, the flag discovered in Shahdad (Fig. 11) likely portrays the water and rain god, wielding power and symbolising the hope for life-giving rain in this arid environment (Hakemi 1997a: 139). This focus on deities associated with water and fertility is further reflected in another intriguing artefact. Hakemi (1997a: 661) interprets a figure on a stone cylinder seal as a goddess seated on the ground encircled by nine wheat stems (Fig. 12). This imagery suggests a connection with fertility and abundance, potentially representing a symbol of heavenly mercy and humanity's saviour.

The stone cylinder seal itself measures between 38 and 32 millimetres in diameter (Fig. 12). The scene depicted on the seal is captivating, featuring a goddess in profile, her face framed by long hair and round eyes (Hakemi 1997a: 661). A second female goddess stands before her, with long, wavy hair cascading down her shoulders, a slender neck, and wide eyes. This goddess has a unique feature – two vertical horns, reminiscent of those found on goats. Intriguingly, a crescent moon sits between the two goddesses in the upper portion of the image. At the bottom of the frame, a child rests on a platform. Four goats, one with a twisted horn, complete the scene. Several small, scattered circles add to the symbolism (Hakemi 1997a: 661).

This tableau, particularly the nine wheat stems encircling the seated goddess, evokes comparisons with Aratta's epic and the Mesopotamian deity Enki, associated with freshwater. The presence of the crescent moon may further connect this scene with celestial bodies and their potential influence on the natural world. The rich imagery on the stone cylinder seal offers a window into the complex belief systems of the people who created it. The scene invites further analysis and interpretation, considering the potential connections between the various elements and their significance within the broader context of Shahdad's cultural landscape.

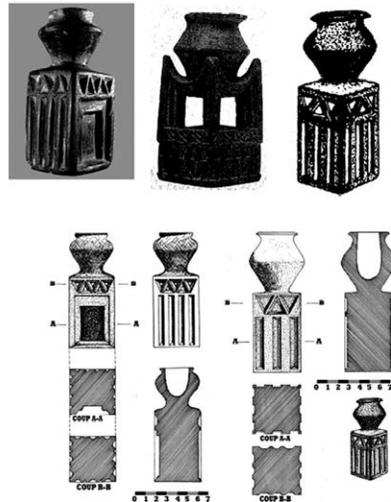


Figure 9: A miniature house of stone, crowned with a mysterious vessel, a symbol of reverence for fresh water (Hakemi 1997a: 621–624).

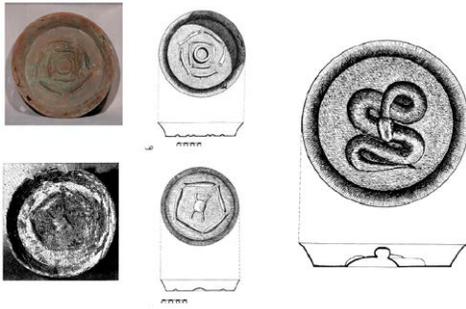


Figure 10: Metal vessels with fish and snake motifs, evoking dreams of water (Hakemi 1997a: 284, 402, 476).

Figure 11: The flag of Shahdad speaks of nature and water (National Museum of Iran).

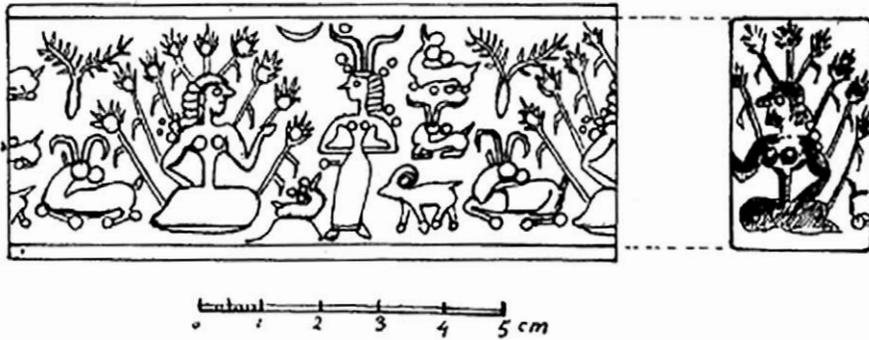


Figure 12: A cylindrical seal impression tells the story of water and food, two vital elements for human life in ancient Shahdad (Hakemi 1997a: 661).

The clay statues discovered from the TAK III period at Shahdad are among the most significant pieces of evidence pertaining to the city’s symbolic system. These statues fall into two distinct categories: male and female. Male statues typically feature square, elongated and bony faces. They are depicted either standing or kneeling. Hair and beard styles vary, with some figures having long locks and beards while others exhibit shorter styles. The statues possess a stocky build with broad shoulders and muscular arms. Their hands are often positioned on their chests (Fig. 13). According to Hakemi (1997a: 217), these clay statues, particularly the one depicting a man with long hair and a beard, exhibit striking similarities to artwork from Mesopotamia’s Early Dynastic Period. These parallels are particularly evident when compared with statues discovered at the archaeological site of Tell Asmar. Basin his theory on the translations by Jacobsen of inscriptions found on three statues unearthed at Khafajah, Henri Frankfort (Frankfort 1939) suggests that these figurines represent worshippers within the deity’s temple. The posture of the statues with their hands clasped in front of them further reinforces this idea.

While the Shahdad statues differ from those found at Khafajah and Tell Asmar in terms of material and quality, they share a remarkable similarity in style and representation. The standing posture with clasped hands and the depiction of the eyes are strikingly similar. Frankfort notes that the statues from Khafajah and Tell Asmar vary in size and quality, and he suggests this reflects differences in the social status of the donors who commissioned the statues (Frankfort 1939: 11). However, such distinctions are not readily apparent among the Shahdad figurines. This may be explained by the possible absence of pronounced social stratification in Shahdad society, as discussed earlier. It is important to note that the simplicity of the Shahdad figurines does not necessarily imply a simple society. In fact, a considerable amount of evidence suggests that the majority of Shahdad's inhabitants belonged to the upper social classes.

The function and symbolism of the statues remain open to interpretation. The question of whether these figures are connected with the god of water, a prominent deity in Shahdad, requires further investigation. Is there a drought signal in the fact that they are composed of unfired clay? Do their interlocked hands represent a request to the water god? These are a few of the topics that need more research. The remarkable similarities between the Shahdad statues and Mesopotamian art point to early cultural and artistic connections between these regions. Frankfort's interpretation of the statues as representations of worshippers offered to deities provides a valuable insight into the ritualistic functions of these objects. Further research is needed to unlock the full significance of these intriguing artefacts.

- TAK II: Abundance and Dependence

The richness and blessings of water and rain are symbolised by a bronze axe adorned with two fish (Fig. 14) discovered from the TAK II period at Shahdad. This interpretation is supported by several key arguments:

- **Fish symbolism:** Fish are a well-established symbol of water and fertility in Mesopotamian cultures (McIntosh 2005: 211). The presence of two fish prominently displayed on the axe suggests a strong association with water and its life-giving properties.

- **Dependence on water:** Water scarcity is a constant challenge in arid regions such as Shahdad. The emphasis on a tool (an axe) adorned with fish symbols highlights the critical role water plays in sustaining life and agriculture (Hakemi 1997a: 140).

Remarkably, this axe's form and composition are similar to those discovered in Bactria (Hakemi 1997a: 243). However, the inclusion of the fish imagery specific to Shahdad emphasises the vital importance of water in the local context. The presence of numerous axes at the site further underscores the centrality of this tool for daily life. These themes draw attention to the significance of water in the beliefs and customs of the Shahdadi people. The association of the fish imagery with an essential tool such as an axe suggests that water deities enjoyed an elevated status in daily life and not just in religious ceremonies.

Several metal and pottery plates from Shahdad were found with decorations depicting fish circling their lower rims. This imagery is interpreted as a possible representation of the Mesopotamian rain god, Enki (Hakemi 1997a). This interpretation is supported by the following:



Figure 13: The similarity of the Shahdad clay statues to the worshippers of Tell Asmar, Mesopotamia (Hakemi 1997a: 661).

- **Mesopotamian fish symbolism:** As previously mentioned, fish were a well-established symbol of water and the rain god Enki in Mesopotamia (McIntosh 2005: 211).

- **Parallels with Mesopotamian shrines:** The association between specific motifs and deities in Shahdad finds parallels with other ancient cities. Shrines in Mesopotamia, for example, were often linked to deities based on the imagery found within them (McIntosh 2005: 199).

Instead of concluding with an assumption about water worship, let us explore some encouraging indications that the people of Shahdad had a deep respect for water. While we have not yet unearthed definitive proof of a fully developed cult dedicated solely to water deities, there is evidence of a strong symbolic connection between water and fertility.

- **Symbolic associations:** Artefacts such as the bronze axe adorned with two fish (Fig. 14) and the vessels decorated with fish are particularly noteworthy. These objects strongly suggest an association between water and fertility, mirroring established Mesopotamian symbolism in which fish represented the water god Enki (McIntosh 2005: 211).

- **Emphasis on water in an arid environment:** Water scarcity is a constant challenge in arid regions such as Shahdad. The emphasis on water imagery throughout the archaeological record highlights its vital importance beyond mere practicality. It suggests a reverence for water that permeated the lives of the people of Shahdad (Hakemi 1997a: 140).

- **Elevation of water deities:** The association of water symbolism with essential tools such as axes suggests that deities connected with water may have enjoyed an elevated status in daily life, not just religious ceremonies. This further emphasises the significance of water in the belief system of the people of Shahdad.

The available evidence does not point to a fully developed water worship system in Shahdad. However, it reveals a deep respect and symbolic connection with water and its associated deities. Further excavations and analyses of discovered artefacts may shed more light on the specific rituals or practices related to water reverence in this ancient civilisation.

While the inscription interpreted by Professor Hinz offers valuable insights into water management practices in Shahdad (as discussed earlier), potters' markings found on Shahdad pottery present another exciting avenue for unlocking the secrets of this ancient civilisation. These markings, similar to those found on pottery elsewhere in the region, hold the potential to reveal a wealth of information.

Deciphering these markings could contribute significantly to our understanding of Shahdad's social organisation, trade networks and pottery-making techniques. We could learn about the potters themselves, their workshops, and perhaps even gain clues about the dating of the artefacts (Kabuli 1989: 74). The sheer abundance of decorated jars in Shahdad further underscores the significance of these markings. With over 1,233 decorated jars unearthed, including 133 with intricate designs and 1,100 bearing incised or stamped markings, Shahdad stands out for its rich pottery tradition (Hakemi 2006: 172). It is important to note that while the current evidence suggests a deep respect for water in Shahdad, deciphering these markings might reveal a more direct connection with water deities. Further analysis and potential discoveries could shed more light on this possibility.

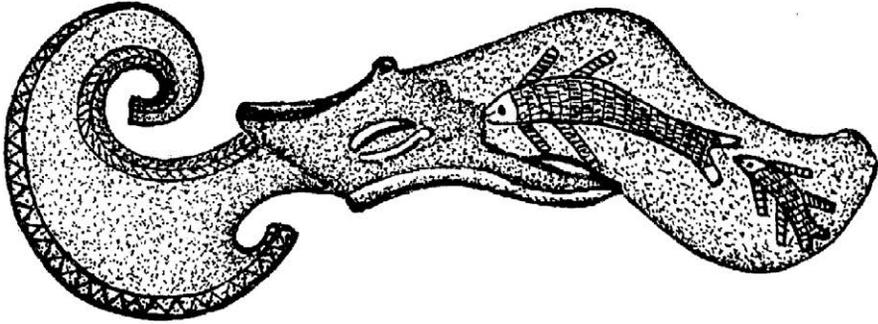


Figure 14: Double fish design on a ceremonial bronze axe (Hakemi 1997a: 693).

Archaeologist Mir Abdin Kabuli, who succeeded Ali Hakemi in excavating Shahdad, unearthed a fascinating collection of potters' markings with various computations (Kabuli 1997). Initially, he interpreted them as signatures or workplace identifiers used by individual potters. However, further investigation revealed these markings to be a system of calculations and measurement symbols, not simply potters' signatures.

For instance, during an excavation, multiple bowls were discovered nestled inside one another. Mark II was carved next to the larger plates or bowls, while Mark I was identified on the smallest bowl. A fourth, larger container had a distinct mark, and two more containers carried Mark III. Interestingly, the capacity of the first container with Mark I was three times smaller than the fourth container's capacity (Kabuli 1997). This suggests a possible correlation between the markings and the size or volume of the vessels.

While illustrations of these specific potters' markings are not available in Kabuli's (1989) publication, further analysis of these markings has the potential to reveal valuable information about Shahdad's pottery production and trade practices.

HUMAN-ENVIRONMENT INTERACTION: WATER SCARCITY AND ABUNDANCE SHAPING WATER DEITY WORSHIP

The previous passage explored evidence suggesting a deep respect for water among the people of Shahdad. While the arid environment undoubtedly fostered this reverence, a definitive link to established Mesopotamian water deities has not yet been established. However, the emphasis on water imagery in Shahdad, mirroring established Mesopotamian symbolism such as fish representing the water god Enki (McIntosh 2005: 211), suggests a potential connection with broader regional water deities. Future research focused on deciphering potters' markings and analysing unearthed artefacts may shed light on the specific belief systems related to water held by the people of Shahdad.

This section delves into the human-environment interaction in both regions, exploring how water scarcity may have shaped their beliefs and potentially led to a connection in their reverence for water. The concept of animism, as presented by Arhem (2016: 7) following Descola, offers a valuable lens through which to understand human-environment interaction in these regions. Animism suggests a metonymical continuity between nature and society, where natural elements are viewed as “real persons” with agency (Arhem 2016: 7). In contrast to totemism, which emphasises a metaphorical connection between humans and nature, animism aligns well with the reverence for water observed in both Mesopotamia and Shahdad.

Confronted with similar arid conditions, both the Mesopotamian and Shahdadi societies developed a deep appreciation for water. Mesopotamia, with its constantly flowing Tigris and Euphrates rivers, may have regarded water as a symbol of abundance, teeming with life as evidenced by the fish iconography (McIntosh 2005: 211). However, Shahdad’s situation was different. Fresh water was scarce, which meant its reality was very different from that of Mesopotamia’s abundance. The inscription mentioning “sixty ka of fresh rainwater” emphasises the critical importance of water management in Shahdad (Kabuli 1989). This constant need is likely to have transcended mere practicality and evolved into a form of reverence for this life-giving resource.

The presence of fish symbolism on Shahdad objects, mirroring Mesopotamian iconography, suggests a potential link in their symbolic representation of water. This shared symbolism and the prominence of water imagery in Shahdad, suggests the possibility of a connection with broader regional water deities. Shahdad’s location on trade routes is likely to have exposed it to Mesopotamian cultures (Kharazmi et al. 2020). The exchange of goods could also have facilitated an exchange of ideas. The shared fish symbolism may be a reflection of this cultural exchange, suggesting an animistic perspective where water was viewed as a vital force worthy of respect, if not deification.

While the current evidence suggests a deep respect for water in both regions, the precise nature of the connection between Shahdad and the established Mesopotamian water deities remains open to further investigation. Future research focused on deciphering potters’ markings, analysing trade routes, and examining unearthed artefacts may provide a clearer picture of the human-environment interaction and the potential exchange of ideas related to water reverence in these regions. Additionally, further exploration into the concept of animism in both cultures could shed light on their specific beliefs about the agency and importance of water.

CONCLUSION

The arid environment of Shahdad undoubtedly shaped its cultural development, fostering a deep respect for water as evidenced by the emphasis on water imagery. This article explored the intriguing possibility of a connection between Shahdad and the Mesopotamian water god Enki. While archaeological evidence reveals intriguing similarities, such as the shared fish symbolism, a definitive link remains elusive. The significance

of Shahdad extends beyond its reverence for water. The sheer abundance of decorated objects suggests a thriving artistic tradition and the potters' markings have the potential to reveal valuable information about trade practices, social organisation, and even the dating of artefacts. Further research focused on deciphering these markings, analysing unearthed artefacts, and exploring trade routes could provide a more comprehensive picture of Shahdad's ancient civilisation.

Shahdad's strategic location on trade routes suggests potential connections to broader regional cultures. The presence of fish symbolism, mirroring Mesopotamian iconography, hints at a possible exchange of ideas. While the exact nature of this connection remains unclear, it underscores the importance of Shahdad as a potential bridge between different cultures in the region. Future exploration of trade routes and cultural artefacts could offer valuable insights into these connections.

This article has only scratched the surface of Shahdad's rich history. Future archaeological investigations hold the potential to unveil a wealth of information about this fascinating ancient city. By deciphering the meanings behind Shahdad's water imagery, exploring the significance of the potters' markings and understanding its role in regional trade networks, we can gain a deeper appreciation for the ingenuity and cultural richness of the people of Shahdad.

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FROM DROUGHT TO DEITY: BORROWING FRESHWATER WORSHIP IN THIRD MILLENNIUM BCE SHAHDAD

FARIBA MOSAPOUR NEGARI



The scorching sands of the Lut Desert cradle the ancient Iranian city of Shahdad, a civilisation that thrived in the third millennium BCE despite its harsh environment. This article delves into the captivating story of Shahdad, exploring its profound respect for water and the intriguing possibility of a connection with Mesopotamian water deities. It also raises the possibility of a link to the legendary Land of Aratta. Archaeological excavations at Shahdad have unearthed a treasure trove of artefacts adorned with symbols that speak volumes about the city's reverence for water. A prominent flag depicts a figure wielding power – potentially representing a water and rain god – a desperate plea for life-giving rain in this arid region. A captivating stone cylinder seal portrays a goddess encircled by wheat stems, symbolising fertility and abundance, possibly a divine source of sustenance. Even seemingly mundane objects such as clay figurines acquire significance. Their resemblance to Mesopotamian objects of worship hints at a shared belief system centred on water deities.

Fish emerge as a recurring motif in Shahdad's artistic repertoire. This aquatic imagery aligns perfectly with Mesopotamian symbolism, where fish represented the water god Enki. The presence of a bronze axe adorned with two fish is particularly striking. This utilitarian tool, intricately decorated with a symbol of water, suggests that deities connected with this life-giving resource held an elevated status in daily life, not just religious ceremonies. Fish also adorn various pottery plates, potentially representing an homage to Enki, the Mesopotamian water god.

Interestingly, the wide-rimmed jars discovered in Shahdad, which were ideal for grain storage, resonate with the story of Aratta, a city mentioned in Sumerian epics. According to these epics, Aratta, facing a grain shortage, received grain from Erakh, a Mesopotamian city ruled by King Enmerkar. Could Shahdad be the fabled Aratta, and the exchange of grain a reflection of a deeper cultural and possibly religious connection? The presence of carnelian production in Shahdad, a material mentioned in Sumerian texts related to Aratta, strengthens this intriguing possibility.

The reverence for water extended beyond mere symbolism. An inscription mentions “sixty ka of fresh rainwater”, highlighting the critical importance of water management in Shahdad. This inscription, along with the numerous narrow-rimmed jars unearthed from the arid TAK III period, underscores the ingenuity of the Shahdadi people in conserving this precious resource. These narrow-rimmed jars, with their smaller openings, were likely to have been used for storing and transporting water, while the wide-rimmed jars were ideal for bulkier items such as grain. Miniature clay houses crowned with vessels further raise questions about their potential connection with water rituals or their symbolic representation of the importance of water.

The similarities between Shahdad's water imagery and Mesopotamian symbolism are undeniable. The presence of fish iconography and the potential connection between the Shahdad figurines and Mesopotamian worshippers suggest a cultural exchange or shared artistic influences. Shahdad's strategic location on trade routes strengthens this theory. The flow of goods is also likely to have facilitated an exchange of ideas. The shared reverence for water, a vital element for survival in both regions, may have found expression in a common visual language.

While the current evidence suggests a deep respect for water in Shahdad, a definitive link to established Mesopotamian water deities remains elusive. The key to unlocking this mystery may lie in the potters' markings found on Shahdad pottery. These markings, although not yet fully deciphered, could potentially reveal a wealth of information. They could shed light on trade practices, social organisation, and even the dating of artefacts. Even more importantly, these markings may contain clues about the deities venerated in Shahdad, providing a more direct connection with water worship.

The importance of Shahdad extends beyond its water reverence. The sheer abundance of decorated objects unearthed at the site points to a flourishing artistic tradition. The intricate designs and craftsmanship displayed on these artefacts reveal a sophisticated and vibrant culture. Additionally, Shahdad's location on trade routes suggests a role as a bridge between different regional cultures. The presence of fish symbolism, mirroring Mesopotamian iconography, hints at a possible exchange of ideas and artistic influences. Further exploration of trade routes and cultural artefacts could offer valuable insights into these connections.

This article has merely scratched the surface of Shahdad's rich history. Future archaeological investigations have the potential to unveil a wealth of information about this fascinating ancient city. By deciphering the meanings behind Shahdad's water imagery, exploring the significance of the potters' markings and understanding its role in regional trade networks, we can gain a deeper appreciation for the ingenuity and cultural richness of the people of Shahdad.

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