

# **Siāh-Kal: A Newly Discovered Chahar Taq in Zarneh of the Ilam Province**

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## **Introduction**

Mapping and studying religious monuments of each period, beyond the scale of single sites, sheds light on several social, cultural, and political aspects of the period under study. Given the significance of Zoroastrianism as the state religion in the Sasanian period, mapping and studying Sasanian Zoroastrian monuments form a fundamental component of our understanding of various aspects of the Sasanian Empire. What follows is a report on the recently mapped Chahar Taq of Siāh Kal, part of an ongoing project of mapping Sasanian religious monuments. The term Chahar Taq refers to the central domed space in the Zoroastrian fire temples of Sasanian and Early Islamic period. The text survived from the Sasanian period report on the construction of Chahar Taqs under the patronage of kings and elites. These monuments included the major religious complexes such as Āzor Gošnāsp (Huff, 1974), Āzor Borzen Mehr, and Āzor Farnbāg (Bondaheš, 1999), but also smaller monuments where religious rituals were held. Siāh-Kal Chahar Taq seems to have belonged to one of these smaller monuments and is significant in being located in the Ilam Province, outside the region of Fars where majority of known Chahar Taqs have been found.

## **Chahar taq (Fire-temple)**

Chahar taqs are the most outstanding architectural style of Sasanian period. The architectural form of Chahar Taq survived in mosque architecture after Sasanian era (Ettinghausen & Graber, 2002:18-47). These buildings are nowadays known as fire-temples, but, their function as places for fire worship was not the innovation of the Sasanian era. Prior to this, Elamite buildings existed from the 13th century in Čoḡāzanbil, Khuzestan (Amiet, 2005:53) and from Medes

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period dating to the 7th century in Nūshijān (Stronach, 1978:1-28); also, in the levels 2,3, and 4 at Nuzi, prototypes of chahar taq with smaller dimensions could be observed (Star, 1939:167).

In Archimedes period, there are also different forms of religious buildings which have survived more or less intact for hundreds of years. The prototype of Sasanian fire-temple style and Chahar taq could be seen in X<sup>v</sup>āje<sup>h</sup> mountains of Sistan (Herzfeld, 2001:200-220; Trudy,1987:13-52), and also in the Zakhāk Castle in Azerbaijan (Rawlinson, 1841:120; Kleiss,1972:163) belonging to the Parthian period.

The most outstanding characteristics of this building style are square-shaped Altar (Mehrab) internal four-column, roofed corridor around the building and also linking fire-place and the place of religious ceremonies in a general building design for this developed collection of fire-temples in Iran (Huff,1990:634-642). Ardeshir I(224-241 A.P) in Qale<sup>h</sup> Doxtar (Huff, 1971:127-171) and in his palace in Firuzabad (Siegler, 1973:20), promoted this style of architecture at native and large quantities, that this outstanding plan with domed roof, became the most common architectural style of Sasanians and Iran. What is related to fire-temples of the Sasanian era is that the rather large number of temples known so far attracts attention. It was when “Chahar taq” became common as a noble and basic change (transition) for religious buildings of Sasanian a large number of Chahar taq plans with circum ambulation parlor has been discovered including following fire-temples: Šiyān (Rezvani, 1995:74), Mile<sup>h</sup> Gard (Moradi, 2009:165), Čen Žiye<sup>h</sup>, Ilam (Vanden Berghe, 1977:182-184), Juliyan (Mohammadi far & Motarjem, 2011:77-88), Bāzehūr (Huff,1989:20), Takht Suleyman (Huff,1983:293-295), the Dārāb Chahar Taq (Miroschedji, 1980:157-160), the Pošt-e Kūh (Vanden Berge, 1977:171-175), Qanāt-e Bāg (Idem,1984:201-220), Čāgārqāpū in Qasr Shirin (Idem), the fire-temple of Ātaškūh (Godard, 1938:7-80), Tang-e Ček Ček in Fars (Vanden Berge,1961:180), Čāhār Deh in Khuzistan (Stein, 1935:65-68), Soltānābād in Kerman (Vanden Berge,1968:94), the Chahar Taq of Naqqāreh X<sup>v</sup>āne<sup>h</sup> (Vandae, 2012,1-14) and in one of the most important Chahar taqs: Niyāsar(Hardi,1938:163-166) could be referred to the book of Sasanian Fire-temples titled Schippmann is also one of the most important sources on Chahar taqs (Schippmann, 1971). The geographical dispersion of Chahar taqs around the country today indicates the propagation of Zoroastrian religion in the lands under Sasanian ruling (Fig. 1).

## Location

The town of Zarne<sup>h</sup> is located in the northern part of the Ilam Province. The Siāh-Kal Chahar Taq is located 10 Kilometer south east of Zarne<sup>h</sup>, as the crew flies. The coordinates are 598536.75 m E 3752274.23 m N. The monument is located near a seasonal river amidst agricultural fields (Fig 2).

## Monument

Siāh-Kal, like other free-standing Chahar Taqs, is the only remaining part of a larger complex in the antiquity (Fig 3). The only evidence for the extent of the original building is the stone scatter around the Chahar Taq. The building material is rubble, sārūj, gypsum, and clay. The pillars of the dome have been restored and consolidated.

Siāh-Kal Chahar Taq is laid out on a square plan measuring 13m<sup>x</sup>13m. It consists of a domed square room in the center surrounded by remains of an ambulatory. The domed area is a square measuring 8.8m<sup>x</sup>8.8m (Fig 9). The four arched openings around the dome are 3.8 m wide. The preserved height of the dome is 6.6 m (Fig 11). The construction technique of the dome is visible in the better preserved part to the south (Fig 12).

The ambulatory is 2.2 m wide surrounded with walls 1.5 m wide. The northern wall is completely destroyed, and only the outline of the eastern and western sides is preserved (Fig 4). The southern wall of the ambulatory is better preserved (Fig 5). Even part of the vault of the ambulatory and its connection to the drum has survived (Fig 6, 7). There is an arched opening in the middle of the southern wall. Following the traditional Sasanian plan of Chahar Taq, our reconstruction has considered the same arch situation for the rest of the unpreserved sides of the ambulatory (Fig 1, Fig 17). A structure which could have been an oven working with the fire temple is partially preserved some 30 m away from the Chahar Taq. The structure features a circular plan with two openings. The true function can only be determined after excavation.

## Function and Chronology

The function and chronology of the Siāh-Kal Chahar Taq can only be hypothesized at this point. The construction technique and building material is shared by monuments of various dates and function in the region and cannot be used for establishing a clear chronology. However, fire temple with a domed central room (chahar Taq) surrounded with an ambulatory is typical of Sasanian Zoroastrian monuments.

The term chahar describes many ruins that are the only surviving part of more complex buildings. Erdmann and Godard interpreted these structures as open canopies used in ancient Iran for open door rituals (Erdmann: 1941, Godard: 1965). But, later studies by Vanden Berghe and Schippmann proved that chahar taqs were not open structures and stood at the center of bigger complexes (Vanden Berghe: 1961, Schippman: 1971). Diversity of plan of the religious monuments featuring a chahar taq has been shown by the studies of Huff in several Sasanian fire temples such as Kuheh Xwajeh, Taxt-e Soleyman, Bandiyan-e Dargaz etc (Huff: 1974).

Therefore, the Siāh-Kal Chahar Taq is tentatively dated to the Sasanian period. This hypothesis is further supported by the location of the monument overlooking the small river. Royal and

religious monuments of the Sasanian period tend to be located near water sources. The significance of Siāh-Kal Chahar is that this monument is one of the few examples of Chahar Taqs outside the province of Fars and contributes to a broader understanding of the religious landscape of Sasanian period.

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Fig 1. Chahar Taqs I: Niyāsar II: Qanāt-e Baḡ III: Ātaš Kūh IV: Bāze<sup>h</sup> Hūr



Fig 2. The access route from Zarne<sup>h</sup> to Siāh Kal Chahar Taq (base image: Google Earth)



**Fig 3. The Siāh Kal Chahar Taq**



**Fig 4. Remains of the ambulatory**





Fig 5. Remains of the ambulatory to the south

Fig 6. Remains of the ambulatory to the south; details of the vault of the ambulatory connecting to the drum





**Fig 7. Remains of the ambulatory to the south**

**Fig 8. Entrance from ambulatory into the domed area**





**Fig 9.** Northwest view to the Chahar Taq

**Fig 10.** Details of the vaults and the dome



Fig 11. The pillar of the Chahar Taq, southeast.



Fig 12. View to the some from four directions.





**Fig 13. Pillars of the Chahar Taq, view from interior.**

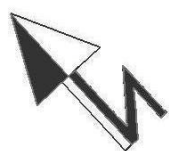
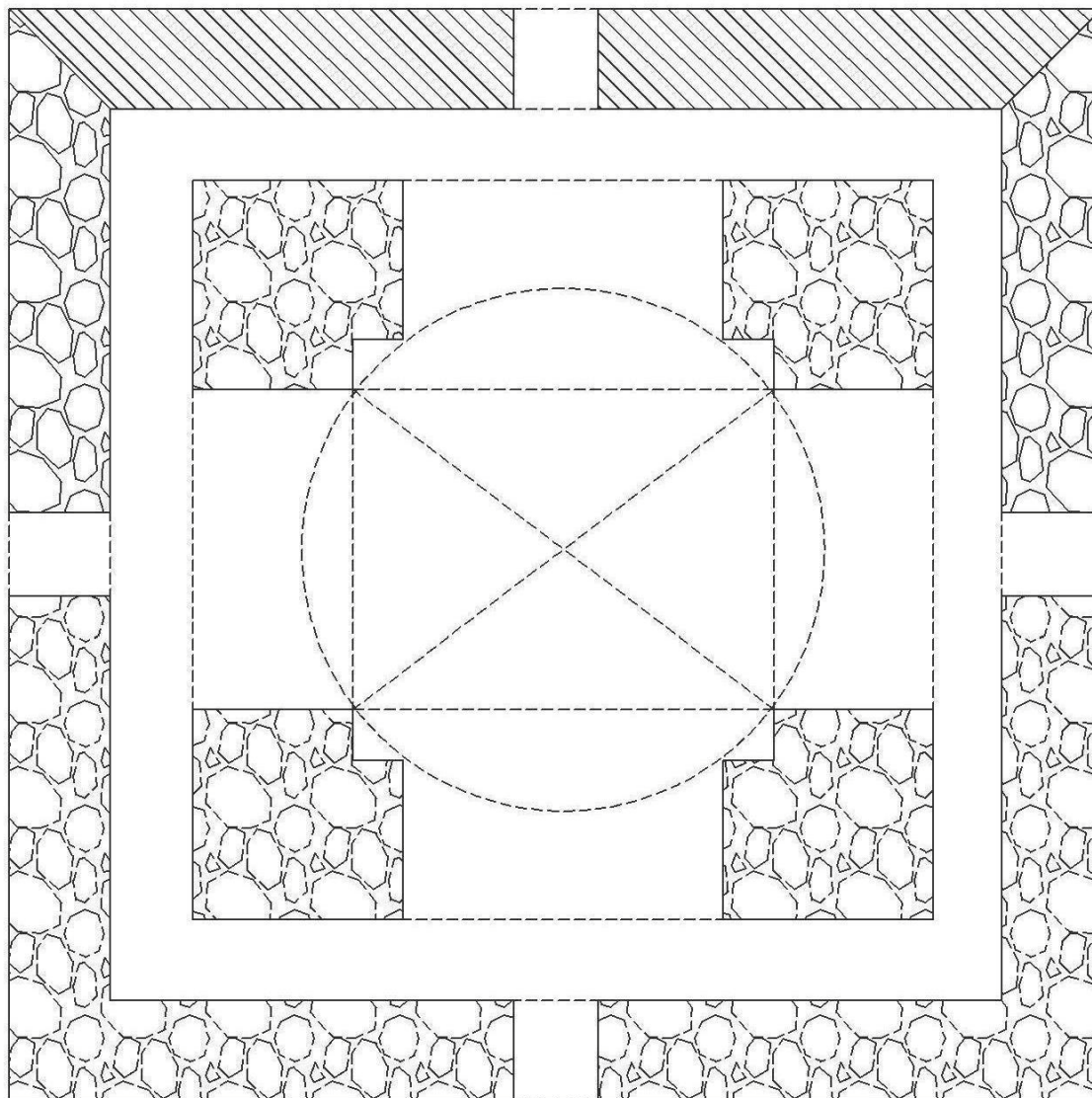
**Fig 14. Detail of squinch below the dome**



**Fig 15.** The location and architecture of the oven that must have been part of the bigger complex and related to the chahar taq.



Fig 16. Plan of the Chahar Taq, mapped and illustrated by the authors. The hatched areas are reconstructed based on the survived parts.



بخش های سالم بنا



بخش های بازسازی شده





Fig 17. The 3D reconstruction of the Chahar Taq by the authors

