

# Islamic Iranian Architecture in Various Zones of Iran Dessert Cities from a Social Point

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## ABSTRACT

**Objective:** Defining the field of climate change in relation to architecture and providing information for a logical architecture projects coordinated by the desert climate is desired. The effect of each of the elements of the climate (Sunlight, humidity and wind) on the building is studied. There are high walls along the streets, sunlight and shadows on the streets as well as protection against desert winds, significant impact. **Methodology:** Among these elements, sunlight - natural light and heat and bring to me - is the most important element. In urban areas, the compact and buildings connected to each other. Streets, narrow and relatively long wall and a broken line along the route. **Results:** Basically, any non-enclosed urban space in these areas because they protect Non-enclosed space against adverse climatic conditions is not possible. One of the reasons narrow streets, sometimes only sufficient to cross two together, to provide better climatic conditions in the road space. **Conclusion:** It should be noted that the winding alleys, the friendly climate, a boon in hot and dry and the desert is because in the course of direct and wide, desert winds can disrupt the flow rate, and are in everyday life.

## 1. Introduction

### 1.1 Regional Distributions in Climate Conditions of Iran

Basically, in many parts of the world, the climate is determined by latitude and altitude. Iran, which is between 25 and 40 degrees North latitude, the region is hot and the altitude, the highland plateau that all levels the height above sea level of less than 475 meters, make up a very small percentage of the whole country (Danieli and Hadianfard, 2010; Izadi, 2011).

The climate is temperate and humid (the southern coast of the Caspian Sea)

Cold climate (the Western Mountains)

Dry and hot climate (Central Plateau)

Hot and humid climate (southern coast)

Plains, plateaus, which are a major part of our country, mainly in the central and eastern parts of the country are located. The Dasht-e-Kavir and Lut desert in central Iran, where rainfall is generally barren or very are low the desert, about one-seventh of the area. Desert and mountainous regions with more temperate climates are more rainfall, but in any case, the climate is hot and dry regions (Kasmaee, 1993).

### 1.2 General Characteristics of Different Climates in Iran Dessert Plaints Are as Following:

- 1 Hot and dry weather in summer and cold and dry in winter
- 2 Very little rain.
- 3 Low air humidity
- 4 Low vegetation cover
- 5 High temperature difference between night and day

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## 6 Desert and desert areas, wind with dust

Sand and desert soils are distributed in the living areas, very good environment for human habitation, does not also in the region, and thus tree wood is scarce and can be easily created and shelter roof. However, due to climatic problems, the traditional architecture of our thousands of years of experience, logical solution for a pleasant life in the region has provided (Kasmaee, 1999; Khani, 2010).

## 2. Materials and methods

The implementation of urban and rural living conditions and natural factors as well as the use of these agents in a very unfavorable climate in this area is considerable. It is safe, it can be said that one of the important achievements of our traditional architecture the implementation and provide an environment conducive to life in this arid and without water and grass (Moradi and Dehnavi Rezaei, 2012)

### 2.1 Generalities of Urban and Village Contexts Are as following:

1. The very dense urban and rural
2. Completely enclosed urban space
3. Narrow alleys and irregular, and sometimes covered with arches
- 4 connected buildings
- 5 of biological collections, according to the sun and wind

Towns and villages of traditional hot and dry areas can be cactus plants or plant resembles field. These plants are very resistant thick shell around itself and under the environmental conditions that may be appropriate transmission plant sap and growth within the plant to create (Mousavi, 2008). In urban areas, the compact and buildings connected to each other. Streets are narrow and relatively high walls and extend in the direction of a broken line. Basically, any non-enclosed urban space in these areas do not exist because of non-enclosed area protected against climatic conditions is not possible (Nasri, 2006).

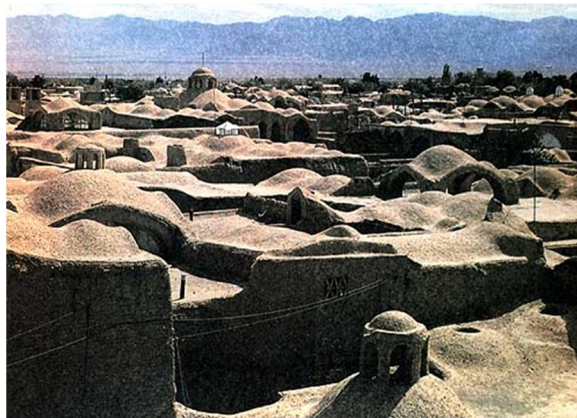


Figure 1: Zavareh, settlements arising out of the soil with a completely enclosed space near the central desert of Iran, Isfahan Province.



Figure 2: The central courtyard of the building, the ceiling of the dome and the wind short one-way Meibod A prominent feature of the city landscape on the edge of Kavir Yazd province

### 2.2 Building Form:

#### 2.2.1 Generalities of Building Form in These Zones are as following:

- 1-All the buildings are quite introverted and enclosed
- 2-All the rooms except the central courtyard and most of them have a basement, porch and wind

3-Floor buildings, especially the courtyard, below the street level

4-Room height relatively high

5- Frequently arc arch and dome

6-Relatively thick wall

As urban space, enclosed and completely protected against unfavorable natural conditions, buildings and courtyard also has a closed fence and a climate-controlled environment is (Parandeh, 2007). This is for all buildings in the region, including the commercial, religious, and residential services holds.

### 2.2.2 Four-Season Houses

Lifestyles adapted to the climate, the characteristics of these regions are very important (Qobadian, 1994; 2013). It is typical of houses in this area, which houses the Four Seasons is known introverts can be seen. Rooms around the courtyard of the building, according to certain season's year, will be used (Figure 3).

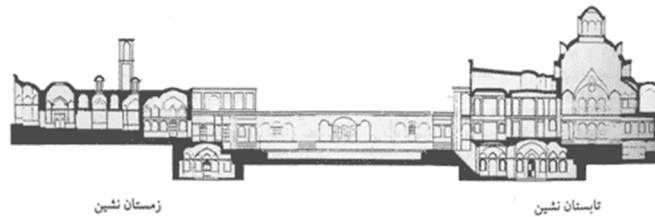


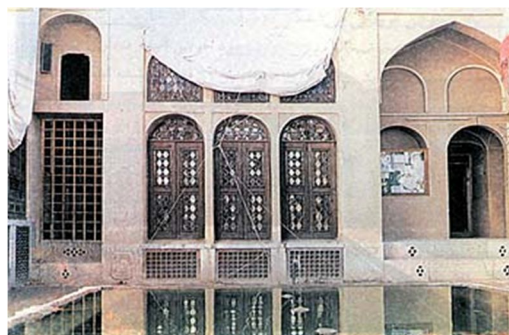
Figure 3 Longitudinal section Borujerdis House in Kashan, the difference between the height of summer and winter populated areas and also between the yards to the alley notice the angle of the sun at noon at the beginning of July, 79.5 degrees and 32.5 degrees in January.



Figure 4: View of the winter stay and a courtyard outside the house in Kashan in Isfahan Province Boroujerdi.



Figure 5: View of the summer, stay at home Boroujerdi, compared to opening levels in comparison to the winter stay note.



**Figure 6: View of central courtyard and three-door room home in Isfahan Shahshahan.**

### **2.2.3 Arches and Dome**

As mentioned before, because of the lack of wood in the central plateau of Iran, to cover the roof of adobe and brick used as arch or dome is made of this practice. The main difference is that the arch-like arch and dome a half-cylinder, the arc continued in the direction of a line and the dome is a hemisphere, which means that arc around a point in their environment, the time. This is a general description and form arches and domes all, according to these definitions not (Rashedi, 2011).

### **2.2.4 Ceiling Track**

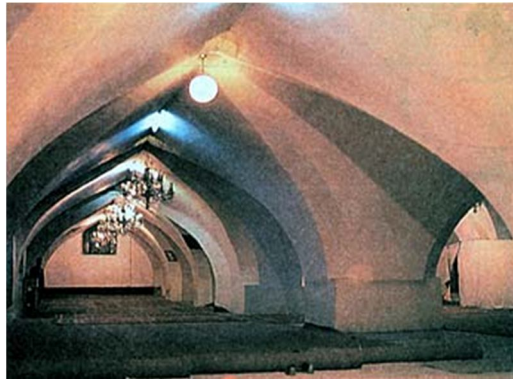
Ceiling track, such as a half-cylinder that runs on two walls of masonry bearing wall is placed at the end of December. The most famous and largest of this type of arch, the arch of Ctesiphon deficit with 30 M and 25 m span arch.



**Figure 7: A tomb with ceiling track Elamite Susa Museum on the second thousand BC.**

### **2.2.5 Four-Section Arch**

If two ceiling track each other on the hide off of their cross is a vault of four parts, such as the western nave vault Friday Mosque in Isfahan



**Figure 8: Western nave Friday Mosque of Isfahan, arches of the nave is Charbakhsh.**

### **2.2.6 Ceiling and Roof**

Ceiling and roof as a half-cylindrical brick or clay, which form arc gear inside the vault, the roof, and the roof once the roof to carry the lower wall (Fig. 14).

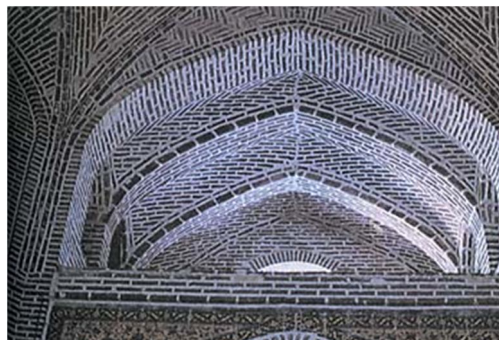




Figure 9: The ceiling and roof on the north side of the mosque or the mosque Nabi Shah.

### 3. Discussion and result

#### 3.1 Arch Kolonbeh

To implement arch Kolonbe like the first four roof arch 15 on the stool out and then the roof are filled with adobe and brick.



Figure 10: How Kolonbeh the arch at the mosque of Imam Ali (AS) in Yazd.

#### 3.2 Nar Dome

This type of Dome is the most common type of dome in Iran. Form these domes, spherical and roof covering of the most important mosques in Iran, such as the Friday Mosque, Imam Mosque in Isfahan Mosque of Yazd Allahverdi Khan Agha mosque and school Yes it is. The dome of the mosque in the shell, in fact implemented two domes on both (types 16 and 19).



Figure 11: The dome of a mosque in Qom, Kashan way, although the dome next to the skin, but the idea implemented with new materials and traditional design.

#### 3.3 Rok Dome

The second dome, the Rok dome which is based on a pyramidal or conical and cylindrical or prismatic often is. The most famous of these, Qaboos dome in the city of the same name in the province the tomb of Shams Almaly, Qaboos bin al-Ziarat Voshmgir and fourth century AH is the best example of architecture. The dome type, the tombs of the kings and rulers of the Seljuk period is also used.

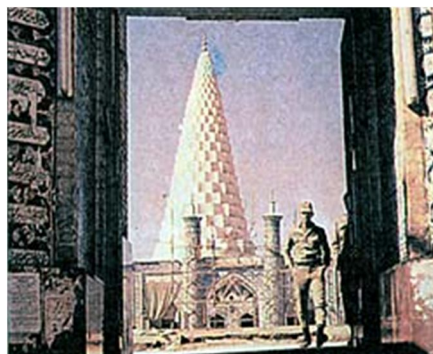


Figure 12: Burj al Seljuk period in Hamedan, the Dome of the rack and a dozen cracks or dodecahedron.

### 3.4 Urchin Dome

See Urchin dome-like dome, cone-shaped, but is on the staircase. The staircase or ridged dome to dome In English the name «Pineapple Dome» or dome called pineapple. I like the dome at any place and any book but has not seen in Iran and Iraq. Iran is the only country in the South West is not so high that they are unique. This is the most famous dome of the tomb of Daniel in Susa. Other buildings that are Avrchyn the dome could be the tomb of Prophet Jacob, Laith bandanna and a monument in Dezful, Shushtar shrine of Abdullah, Jafar shrine in Boroujerd, Mir Muhammad Kharg Island Shrine, the tomb of Salah al-Din Muhammad in the bodies of Ilam dome Zubaida and the tomb of Sheikh Sultan and of his life in Baghdad named.



Figure 13: The tomb of Daniel in Susa in Khuzestan province, the dome is the tomb of Urchin.

### 3.5 Features Arches and Domes

Among the features of the arch and dome roof in the hot and dry climate of the room height from the floor to the ceiling, is high and it can be a room to create natural ventilation in the vertical. Since hot air, lighter, and climb to the top and cooler air, it will be replaced with a valve placed around the room or tip, hot air out of the gate and a natural flow of air from the bottom up, which is established to provide comfort seasons, it is appropriate.

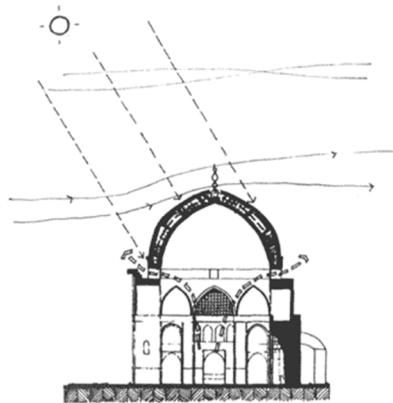


Figure 14: Evaluation of climate vaults and domes in warm and dry climate in the Mosque of Yazd with double-shell dome.

## 4. Conclusion

Traditional villages and in hot and dry areas of Iran can be likened to plant the cactus and desert plants. These plants are very resistant thick skin around and under these conditions, can a favorable environment for transport within the plant sap and development to create. In general, all living space areas, including urban spaces, walkways, courtyards and buildings, in the face of climatic factors, mainly unfavorable wind, completely protected and favorable wind and sunshine with special measures takes. In urban areas, the compact and buildings connected to each other. Streets, narrow and relatively long wall and a broken line along the route. Basically, any non-enclosed urban space in these areas because they protect Non-enclosed space against adverse climatic conditions is not possible. One of the reasons narrow streets, sometimes only sufficient to cross two together, to provide better climatic conditions in the road space. There are high walls along the streets, sunlight and shadows on the streets as well as protection against desert winds, significant impact. It should be noted that the winding alleys, the friendly climate, a boon in hot and dry and the desert is, because in the course of direct and wide, desert winds can disrupt the flow rate, and are in everyday life.

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