Study of the arches of the caravansaries of the Bajeastan region in two periods of Safavid & Ghajar, by surveying two samples namely Younesi & Fakhr Abad

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Abstract
The roads in Khorasan Province have been the center of attention for several communities and dynasties throughout the time, outlining the economic and political significance of these pathways. During the Safavid dynasty and with the development of roads all over the country, the Safavid kings paid special attentions to this area because of the pilgrimage significance of Imam Reza P.B.H and as a result, numerous caravanserais and mosques were erected on the roads by the kings and people with spiritual incentives.

Historical documents and accounts indicate that Bajistan area has been a significant geographical point and historians believe that it used to be the main route for old caravanserais of the southern Khorasan and Ghahestan region. During the Saffavid and Ghajar, the major routes of Mashhad-Kerman and Yazd-Tabas passed this region and merge near Torbat Heydariah and finally arrive at Mashhad. Thus, given the specific topography of the region and its significance for transportation, several caravanserais were built or renovated, most of which have been mentioned generously in historical accounts.

The aim of this paper is to evaluate the architectural and structural features of these caravanserais in Bajistan region in order to identify the discrepancies and shared properties of these places during the two dynasties. (Saffavid and Ghajar)

The research approach applied here is empirical, historical and analytical. Therefore, an initial study has been carried out using historical literature e.g. travel journals and itineraries from the past, to form an understanding of the popular routes in the area. Then, topographic means have been utilized to locate and register the sights followed by an empirical analysis of the data related to the accommodations which were later documented. The authors then began the process of evaluation in terms of architecture and construction.

Keywords: caravanserai, Bajistan, arch, structural analysis, saffavid, Ghajar.
Introduction

Unique climatic features in Iran have led to long distances between the cities and villages, a situation which would have definitely benefited from an integrated system of roads and pathways. As a result, construction and development of roads and accommodations on them would have been inevitable. Caravanserais in particular were erected on the roads in order to accommodate travelling groups. These unique structures date back to hundreds of years and some historians have claimed Iran to be the birthplace of such buildings. In this respect, Arthur Pup maintains that “the development of caravanserais is one of the biggest victories in Iranian architecture and in no other place in the world; one is able to witness the features of these structures.” (1993- 165). The more powerful and resourceful the king, the more caravanserais they managed to build, which led to more prosperous trading in the area. During the Safavid dynasty, routes to Isfahan and ports improved significantly. In response to the kings’ requests numerous caravanserais, royal accommodations and chaparkhaneh (palaces for mailmen on horses) were built. These structures were carefully designed and planned in the central halls of the government. (Friedman, 2005: 69; Blair and Bloom, 2002: 484).

Safavid era is known as the golden era of caravanserais. During this period, not only several caravanserais were constructed but also their application and magnitudes were elevated. “Shah Abbas I built caravanserais relentlessly which was one of his scheme to enhance the economy. His family, merchants and local rulers followed him”. The legend has it that Shah Abbas ordered the construction of nine hundred ninety nine caravanserais. He believed the thousand would be limiting and thus ordered one lower than that to give future generations an opportunity to ponder over the significance of these structures. (Nourbakhsh 1992: 27). Maxim Sirau maintains in his notes that this number is much lower than what has really been constructed in that era.

Nonetheless, it is clear that serious attempts to construct and develop caravanserais and similar buildings kicked off in this era. In addition to commercial incentives and enhancing trading security in Iran, several other reasons might be influential here. Helen Brand brings about two reasons when discussing public structures in the fifth and sixth century. First is the wealth and second is the Islamic faith which dictates as a principle that the Islamic ruler is in charge of Muslim lives and assets.

Using the valid research conducted on Iranian caravanserais, we now have a clear categorization of these structures. The caravanserais of the Safavid era with yards which can be found in the central parts of Iran are the most exquisite and significant amongst others. (Rafiee, 2002)

The visual features of desert caravanserais from the Safavid era are as follows: A fort like view with a sustainable design and a prominent gate, including mosques, water reservoir, baths, stalls, detached porches and platforms for travelers to rest on. A unique feature of these caravanserais is the same plan for all of them. Helen Brand believes there must have been a center for planning in the court of Safavid kings. (Rafiee, 2002). Ciro explains these centers in this way: technical procedures were handled by a specific group of people with clear responsibilities. These people
had distinguished hierarchies and included royal construction supervisors, technicians of different skills and masters, all of which were paid by the royal treasury. (1947:60). Halen Brand asserts that the similarity in design has caused such beliefs.

The researches indicate that Iranian caravanserais were bound to traditional designs and architectures. Factors such as location, region, material and geographical conditions were all influential. (Rafiee: 2002). Despite the changes in architectural forms, theses structures have followed the same construction design since old times. Nevertheless, there are features in each of the caravanserais which make them unique. It must be noted that unlike most of the historical buildings, caravanserais cannot be exclusively studied due to the fact that they were designed and constructed separately from other buildings.

**Approach**

It is understood from the aforementioned that:
1. Arthur Pup asserts that: “the development of caravanserais is one of the architectural achievements in Iran and in no other place in the world one can perceive the features of caravanserais in Iran.”
2. Unquestionably, Saffavid and Ghajar dynasties are the golden ages of Iranian caravanserais.
3. The most notable aspect of Saffavid caravanserais is the consistent plan which was used commonly in almost all of the country during that era, which as Halen Brand put it, is partly due to the fact that there used to be central hall in the court of Saffavid king in charge of planning. “The existence of such a center in the court justifies the absence of excessive ornamentations in the caravanserais.
4. Ciro emphasizes that the overall approach to the construction of caravanserais has remained intact during the years which is mainly the same form of a yard in the middle with surrounding rooms and chambers.
5. Zomorshidi explains that during Saffavid and Ghajar dynasties, sharp arches named square arches and pentagonal arches of sharp and dull formations in addition to Shah Abass arches were used in abundance.

Having mentioned these points, a question is raised as to what similarities and differences can be witnessed amongst the caravanserais of Saffavid and Ghajar era and what specific features are evident in these structures.

**Bajistan**

Bajistan is a city located in the central part of Khorasan province and is bordering the city of Khalil abad in the north and Boshruyeh in the west, Gonabad in the east and on the east side there is the city of Ferdows. Bajestan is located on the longitude of 34 degrees and 13 North to 34 degrees and 56 minutes. Historical documents reveal that this city possessed a significant position especially during the rise of Esmaeelieh and it has been recorded that it was a part of Ghahestaan. This city dates back to Archimedean times and has long been called Buzestan, Bazhestan and Baqestan. (Barzegar,1991).
As historians believe, caravan routs from Khorasan to Qahestan and Tehran to Marv were linked through Bajestan. Teyourian dynasty is the era in which Bajestan developed the most in terms of architecture and civilization. It was ruled by Teymourian leaders and was even visited by the king Teymour himself. During the saffavid and Ghajar dynasties as well, this city held the link point between Kerman and Mashhad and Yazd. As Labaafi Khaniki puts it “the routs to Mashhad to the south were divided in three direction, one to Gonabad and Qaen, another to west and the final one to Bajestan. In fact, the rout was divided at a place called Shadmehr to Kashmar and Gonabad and the most important one to Bajestan and the salt desert of Tabas which is currently known as the international route of Sento”.

Figure 1: communication path leading to Mashhad in south of Khorasan (Labbafi Khaniki, 2014: 421)

Therefore, the aforementioned route is the hub of significant roads from Kerman and Yazd to the city of Mashhad. The significance of this route is also outlined in many historical journals and accounts, most which were recorded by the travelers who abided in caravanserais. For instance, two houses which were mentioned in the diaries of Afzalolmelk (Khorasan and Kerman travel journals 1321) and by Sefa’olsaltaneh(1299-1300) are outlined in the following table.

Figure 2: roads caravanserais Bajestan area (documentation Administration of Cultural Heritage, Rabat Jonah)
Table 1: Torbat-centered homes and distances - Bajestan - Nayband from the perspective of Afzal-ul-Mulk in the logbook Khorasan and Kerman in 1321 AH. (Labaf Khaniki, 442)

<table>
<thead>
<tr>
<th>Home number</th>
<th>Home name</th>
<th>Distance from the former home</th>
<th>A brief description of facilities and home</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rabat Bibi</td>
<td>5 milestone</td>
<td>In one of Ashvan inns built for Qavafel, heirs of Haji Mohammad Zaman Larry using Bibi Rabat’s bricks here have built good caravanserais</td>
</tr>
<tr>
<td>2</td>
<td>Faizabad</td>
<td>4 milestone</td>
<td>There is a caravanserai which was built twenty years ago by Sirjani, a citizen of Kerman. There are sixty shops</td>
</tr>
<tr>
<td>3</td>
<td>Yasna (Jonah)</td>
<td>6 milestone</td>
<td>There is a good caravanserai. From Yasna there are a two ways, one to Yazd, one to Kerman.</td>
</tr>
<tr>
<td>4</td>
<td>Bajestan</td>
<td>6 milestone</td>
<td>There is a Borough. There is a caravanserai, fresh water. Sixty shops and four baths.</td>
</tr>
<tr>
<td>5</td>
<td>Zain Abad</td>
<td>3 milestone</td>
<td>Twenty people can stay there</td>
</tr>
<tr>
<td>6</td>
<td>Ahang</td>
<td>1 milestone</td>
<td>The rabat here is the dock of Qavafel</td>
</tr>
<tr>
<td>7</td>
<td>Boron</td>
<td>3 milestone</td>
<td>Caravanserai semi-finished and there is a large mosque destroyed</td>
</tr>
<tr>
<td>8</td>
<td>Toon Ferdows</td>
<td>3 milestone</td>
<td>Qavafel reside at large chunk of the city and mosques, the baths and shops and markets, schools and mosques have water storage</td>
</tr>
</tbody>
</table>

There has been a different route from Faizabad to Tabas, houses of which are manifested in the following table as is derived from the journals of Sefâ’olsaltaneh:

Table 2: accommodations that mentioned in Naeeni itinerary (Labaf Khaniki, 443)

<table>
<thead>
<tr>
<th>Home number</th>
<th>Home name</th>
<th>Distance from the former home</th>
<th>A brief description of facilities and home</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Marndyz</td>
<td>Five milestone</td>
<td>First is Tabas soil, has salt water and rain water storage, not rabat, with rainwater storage</td>
</tr>
<tr>
<td>2</td>
<td>Fakhrabad</td>
<td>-</td>
<td>Haji Hassan a Tabassi merchant built arabat that has town water and rainwater storage</td>
</tr>
<tr>
<td>3</td>
<td>Sar Howz</td>
<td>Five</td>
<td>Villages is limited to a dock</td>
</tr>
</tbody>
</table>
As understood from the table, this has been a desert road moving along the salt plains which bears significant circumstances. Remote villages, severe water sources and sandstorms have all causes casualties for the passing caravans. Finding water sources and shelters were critical, thus several philanthropists attempted to build water reservoirs and caravanserais. These caravanserais were equipped with all the necessary facilities and human resources, even military forces to protect them. (Labaf khaniki)

Amongst the valuable caravanserais in this region, Younesi caravanserai from saffavid era and Fakhrabaad are being discussed.

**Rabat Younesi**
This caravanserai is located on the edge of the road from Torbat to Bajestan in the village of Younesi. This caravanserai hold a critical significance since it is links the two ways. Afzalolmelk in his journals explains that: “in Younesi, there is a good caravanserai since the roads separate here, one goes to Kerman and the other sets out to Yazd”. Rabate Younesi is a summer caravanserai with open designs and rectangular form. The entrance is through a single gate on which an artifact known as Mazqal is inscribed.

The corridor ends in a yard with four porches which have chambers on each side. The porch is facing the corridor opens to a spacious hall which is for the purpose of unloading. The main bulk of this structure is the porches around it which are built using straight bricks that add fancy view to the building.

Each of the chambers is designed with a platform style with a space of one meter from the ground and in front of each chamber, there is a hook side situated in the wall which is used to tie horses and donkeys. Most of these chambers have found new functions. The material for this
building is mainly bricks, gypsum and sand. Currently, this building enjoys standard stability. On the outer side of the building, small shelf like porches are built for temporary settlement.

![Figure 3: Caravanserai Yunus (Source: authors)](image)

**Rabat Fakhrabadd (caravanserai)**

Fakhrabaad village is located twenty meters away from the village of Marandiz. This is why it is a very important caravanserai. Naebolsaltaneh adds in his journals that:” On Tuesday the fourteenth, we arrived at the shelters in Fakhrabad. The well had salty water and the reservoir was full of freshwater. There is plenty of cattle, Thanks God, and we stayed at the caravanserai built by the Tabasi Merchant.(Naieeni). Fakhrabaad caravanserai is located on the northeast of the village and has a summer design with open yards.

The general plan is rectangular and has four porches. Two porches are located at the entrances and the other two porches are situated across from the entry. Behind the walls, there are loading areas. Fakhrabaad was probably built at the same time of Ghasemabad caravanserai during Ghajar. In terms of architecture, they share several features and both own specific ornamentations. Platforms are built on both sides of the yards for the purpose of unloading. Quatrain porches, chambers and rooms are situated on the east and west side of the structure, behind of which you will find stables.

![Figure 4: Caravanserai Fakhrabadof (Source: authors)](image)
Structure

Prior to the evaluation and analysis of the aforementioned caravanserais, it is most required to have an overview on the structural literature of the constructs used in these caravanserais. In a country where wood is scarce in most areas, architects have managed to resort to shelters that met both spacious requirements and even local resources. Thus, the constructs used in these structures include the two following categories:

1. Flat constructs: that is flat in form and befits from a high level of statics thanks to its vertical structure. It is also highly durable because of little wood used in the construction and as a result a lower level of decaying and termites.

2. Bow constructs: Jamshid Kashani was the first person to use the term azj for arches and created a classification for them based on their static features and reactions. This construct is actually based on curved arches. The choice of right arches for domes and porches in Iranian architecture is based on static conditions of the building and is a result of years of experience. (Assar magazine)

Bow constructs are spurred or splintered, both of which have a long history. The Arches of pre-Islam eras are spurred with crescent formations. Later, splintered arches replaced the former ones which as one might imply from the name, have a sharp axis and are formed by linking two curved arches. After Islam, the buildings were designed shorter and public like in order to avoid glorifications of any sort.

Splintered and spurred arches are divided in four groups based on their formations: Sharp, Dull, Steep and Beat. (Assar magazine, issue 24)

Arches categorization

During the Sassanids, arches were revolutionized in terms of appearance and were mostly circular, ellipse and slotted. With the rise of Islam and Seljuk empire, tall porches became prominent in buildings and mosques. In order to achieve heights, sharp arches were utilized and it was exactly this period of time in which goat-horn arches were developed.

During Teimourian dynasty, different arches in addition to square types and dome coverings were developed. Eventually, Sharp arches named as square ones or patupa, became dominant which were later accompanied by Shah Abass arches and octagonal arches.

ARCHES (ghous)

This is a curved formation which is the basis of porches and domes. An arch is not spatial and presents a form not a mass. These forms find new names once they represent masses, just like a square which turns into a cube when it gains mass. Arch is the basis of domes and porches and finds these names as a result of a mass given to it. Based on this determination, an arch is a curved formation which is individually useless and can represent its structural qualities when it is turned into porches or domes.
Figure 5: arch lacks space and is only one form (Golabchi, 2013: 91)

Dome: an arch which is revolved around its own axis will form a dome.
Porch: an arch which is stretched in its length will form a porch. The longer the entry, the deeper the formation. That is x>y

Figure 6: the formation of Tuyzeh, vault and dome-shaped base of arch (Golabchi, 2013: 92)

An arch has different sections with different statics and features which can manifest various reactions on different situations. In the following; the most important parts of an arch are discussed:

Image 7: different sectors of arch (Golabchi, 2013: 93)

1. *Pakaar*: is the basis of an arch which is where the arch starts from.
2. *Tizeh*: is topmost part of the arch
3. *Afriz*: is the head of the arch
4. *Afraaz*: is the space between 2 and 3
5. *Shekar gaah:* is the $22/5$ degrees angle of the arch which bears the highest pressure.
6. *Ivargaah:* is the $67/5$ degrees angle of the arch which imposes the highest pressure of the arch.
7. *Shaneh:* is the space between 5 and 6.
8. *Kenaaleh:* is the space between *Shekargaah*

(Table 3: Classification arch in terms of diversity (Ic, but Bey, 2012)

<table>
<thead>
<tr>
<th>In terms of morphology</th>
<th>In terms of curvature</th>
<th>In terms of points</th>
<th>In terms of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shamrock</td>
<td>1. steep</td>
<td>1. leaning</td>
<td>Equal .1</td>
</tr>
<tr>
<td>Three part</td>
<td>2. sharp</td>
<td>2. pointed</td>
<td>Non-practical .2</td>
</tr>
<tr>
<td>Panj-o-Haft</td>
<td>3. slow</td>
<td>3. mix of both</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. racky</td>
<td></td>
</tr>
</tbody>
</table>

The pressure on arches is carried to the ground through the bases. The balance of the arch is maintained through the continuum which is transferred from shoulders of the arch. Any malfunctioning in this pressure system can deprive the arch from the desired balance. The defective arches are usually cracked in the axis and Shekargaah.

**Bow arches**

Bow arches are crescent in shape and have a deeper curve. This is less curved than the shoe horse type. This kind of arch is more resistant against pressure.

How to draw a bow arch:
1. The vertical and axial vectors are drawn first
2. The height is defined by the pressure imposed on the arch and the distance between H to C is the determinant here.
3. The height of the arc is here. To define the center, O is located on the vertical vector.
   R is the radius and O is the bow which crosses A, B and C:
Panj-o-Haft arches (the most Iranian most famous arch)

The term Panj-o-Haft consists of the words Panj which means “hole” and Haft which means “to cover”. This made architects to mistakenly base the designs on five and seven Suits which cause fragility in arches under pressure.

How to draw a Panj-o-Haft arch
1. The vectors are drawn.
2. O2 and O3 are drawn
3. The lines with 45 degrees are drawn to form the stretch between O1 and O4
4. The O2a and O3B as radiuses and O2 and O3 as centers form the bow of the arch until O2O4 and O1O3 interrupt each other at K point.
5. The stretch of bow with the center of O1 and O4 and the radius of O4K until H point form the vertical vectors.
How to draw a sharp Panj-o-Haft arch

1. Vectors are drawn horizontally and vertically along the columns.
2. The horizontal one is divided into seven units and centers O1 and O2 are determined with a distance from the two columns along the vector.
3. From O1 and O2 two lines parts at 45 degrees are drawn to the horizontal vector to cross the vertical vector at O3.
4. With a distance from along the two columns, an auxiliary line, perpendicular to the horizontal vector is extracted.
5. At O1 and O2 radius and O1A and O2B centers, primary arc of the arch from points A, B and M and the intersection of the arc and along O1O3 and O3O2 is drawn.
6. At radius O3M and the center O3, the next part of the arch from M to K and the intersection with the vertical lines is drawn.

Figure 9 How to draw a sharp Panj-o-Haft arch (Source: Zomarshidi)
7. At center O4 and O5 (crossing point of the lines) and radius O5K, the third part of the arch’s arc from K is drawn.

![Diagram showing the drawing process of a Panj-o-Haft arch](image)

**Figure 10: How to draw a gentle Panj-o-Haft arch (Source: Zomarshidi)**

**The structural analysis of arches in Younesi and Fakhrabaad caravanserais**

In this section, forces and their impact on each other and their transfer from arches to the ground will be discussed.

Also in this section, this analysis is conducted on figures that held specific features. Definition of force transfer to the ground is the main aim here. With loads are imposed, pressure is laid on exterior curves and then is carried to the next curve. Thus, the confrontation of arches and curves...
can lead to the neutralization of forces. This is also the same current of forces which is design in the base of arches in structures.

**Structural analysis of Yunusi caravanserai**

Figure 11: Yunus Caravanserai plan (Source: Tourism Organization of Khorasan Razavi)

![Yunus Caravanserai plan](image1)

Figure 12: see point 1 inn Younesi
Type of arch Panj-o-Haft arch (Source: authors)
Figure 13: see point 2 in Younesi
Type of arch: Panj-o-Haft arch (Source: authors)

Figure 14: see point 3 in Younesi
Type of arch: Panj-o-Haft arch (Source: authors)

Figure 15: see point 4 in Younesi
Type of arch: Panj-o-Haft arch (Source: authors)

The structural analysis of Fakhrabaad caravanserai

Fakhrabad Caravanserai plan (Source: Cultural Heritage Organization of Khorasan Razavi)

Figure 16: see point 1 inn Fakhrabad
Type of arch: Panj-o-Haft arch (Source: authors)

Figure 17: see point 2 inn Fakhrabad

Type of arch: Panj-o-Haft arch (Source: authors)

Figure 18: see point 3 inn Fakhrabad

Type of arch: Panj-o-Haft arch (Source: authors)

Figure 19: see point 4 inn Fakhrabad (Source: authors)
In the picture, the transfer of forces between the roof and column and finally to the ground is being analyzed. Also, overlapping of porches and the neutralization of forces on column are represented. The directions showed express the current of forces to the columns. Thus, stronger bases are required to maintain these forces.

Conclusion

According to the experts, existence of caravanserais in Iran dates back to hundreds of years ago and as Arthur Pup puts it, Iran is the birthplace of these structures. A majority of researchers maintain that Safavid and Ghajar Dynasties were the golden ages of road constructions and erection of hundreds of caravanserais all across the country. In spite of all the categories and varieties, caravanserais with a yard built on deserts are the best and most exquisite forms of such structures. The two caravanserais of choice in this paper belong to Bajestan area in Khorasan province which are both desert style caravanserais with yards. As historians believe, the old routes and pathways leading to Khorasan used pass Bajistan area. During the Safavid and qafar eras, important cities of Kerman, Yazd and Tabas were linked to Mashhad through this region. Thus, given the significance of these roads and the specific climatic features of these areas, numerous caravanserais were constructed and renovated, accounts of which are generously available in historical literature.

As mentioned above, valuable studies have been conducted on the classification of caravanserais in Iran and several experts have analyzed different aspects of these structures. Nevertheless, there has been no account of structural analysis of these structures which is the key factor in their durability.

In this paper, it is possible to realize that no significant changes have been made to the architectural and construction of caravanserais in Bajistan area. The use of local material adapted with the local environment in addition to suitable loading arches has led to the stability of these structures for hundreds of years.

The two aforementioned caravanserais are examples of dozens of other caravanserais in the area mentioned in Tables 1 and 2, which have been logged and documented in this paper.

In the end, the findings in this article may be summarized as follows:

A general study of the two buildings indicates that both have a broad and summer design. They are formed in rectangular form with four porches. The Younesi caravanserai belongs to Safavid era and the one in Fakhrabaad belongs to Ghajar dynasty. The caravanserai in Younesi used to be the cross point of routes to Mashhad from Kerman and from Yazd. These caravanserais were built mainly by public donors with spiritual incentives and shared a handful of features and properties. For instance, Fakhrabaad caravanserai is uniquely similar to Qasemabaad caravanserai which is located in the same area.

Having evaluated the general properties of these structures in terms of architecture, it has been established that despite the differences in construction dates, the climatic and environmental conditions have made no changes leading to the same plan of rectangular forms and four-porch
designs. In this respect, Ciro asserts that the general approach of these structures have made no significant changes since old days and still one might witness the same luggage rooms and chamber all around a yard in the middle.

In the caravanserai example of Younesi, very little ornamentation can be seen which is different from the caravanserai in Fakhrabaad which had private developers. Halin Brand believes a central office in the court of Saffavid kings might have been responsible for the construction of several caravanserais. This theory brings us to the fact that these caravanserais are uniquely similar to one another. “The lack of ornamentations indicates a central supervision on these structures since heavy ornamentations are considered to be a showoff for private developers.”

In terms of structural analysis, any curved or circular construction depends heavily on the arches used. A study on arches indicated that specific types of arches have been used here. Zomorshidi shows that during Safavid and Ghajar eras, sharp arches a.k.a. square arches, pentagon arches and Shah Abbas arches were all utilized. As suggested by Table 5, the main arches used in the openings of Younesi caravanserai are sharp pentagonal and the ones in Fakhrabaad are dull pentagonal.

**Table 4: the analysis of the two caravanserais**

<table>
<thead>
<tr>
<th>home name</th>
<th>the period</th>
<th>Type of caravanserais</th>
<th>Kind of communication</th>
<th>Bonnie Dimen</th>
<th>Decorations</th>
<th>The number of chambers</th>
<th>Construction materials</th>
<th>Side facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younesi</td>
<td>Safavi</td>
<td>Open roof Square d shape Four sides Ayvan *</td>
<td>Yunus set up the monk goes to the Yazd and Kerman way to the Gener al</td>
<td>Total * 60 50 Yard * 26 34</td>
<td>Not only decorated the sides with covered porch decorated brick facade dormant orders</td>
<td>16</td>
<td>Brick Plaster Sand</td>
<td>Stable or dock</td>
</tr>
<tr>
<td>Fakhrabad</td>
<td>Qajar</td>
<td>Open roof Square d shape Four sides Ayvan *</td>
<td>Along an axis of the salt desert that passed</td>
<td>Haji Hassa n businesma n Tabas si</td>
<td>Total * 38 52 Yard 28*20</td>
<td>Considerable detail</td>
<td>14</td>
<td>Brick Plaster Sand</td>
</tr>
</tbody>
</table>
Table 5: analysis of arches used in the interior and exterior façade of the two caravanserais

<table>
<thead>
<tr>
<th>House name</th>
<th>Type of chamber</th>
<th>Type of arch</th>
<th>Steep Panj-o-Haft arch</th>
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