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Caravanserai - Origin, Importance, and Development

A Case Study of Maranjab Caravanserai

Karawanserei – Ursprung, Bedeutung und Entwicklung

Eine Fallstudie der Maranjab Caravanserai

ausgeführt zum Zwecke der Erlangung
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Abstract

The exchange of knowledge, ideas, religion and culture in ancient times was an important part of forming our communities today. The Silk Road we know today was the most successful link connecting them. Small communities in the form of Caravanserais were built on these roads, making them hubs of these interchanges. Although all of them had the same objective, a haven for travellers where they could be protected, through time and region, they acquired additional functions. Depending on their location and background, they differed in design, spatial organisation, and function.

Iran was known as the root of these structures' construction. From the Achaemenid Period to the Qajar Period, Iran saw Caravanserais's emergence, development and fall. During the Safavid Period, the growth of Caravanserais in Iran became so significant that their influence is still evident today. It was a period of territorial expansion, establishing Twelver Shia Islam as the state religion and uni-

fying various cultures. However, new threats also emerged with the expansion of borders and the adoption of the new state religion. Thus, some of the newly erected Caravanserais during this period, in addition to their primary function, acquired defensive functions such as watchtowers, thicker walls, and strategic layout. These new functions impacted the building and planning of Safavid Caravanserais.

This research investigates if and how the dual function of Safavid Caravanserais, as both rest stop and fortress, affected their architectural design and spatial organisation. The Maranjab Caravanserais has been selected as a case study for this exploration.

Maranjab Caravanserais, situated in the middle of the Maranjab Desert in central Iran, close to the Safavid capital, Isfahan, was a territory that lacked defence. Shah Abbas I ordered the erection of Maranjab Caravanserais with the purpose of serving as a military post in addition to its primary function as a rest stop. This additional function led to changes in the architec-

tural design and spatial organization of the Caravanserais and the development of a distinct building type.

Zusammenfassung

Der Austausch von Wissen, Weltanschauungen, Religion und Kultur in der Antike ist in Hinblick auf die Formung unserer heutigen Gesellschaft von grundlegender Bedeutung. Die Seidenstraße, wie wir sie heute kennen, war der erfolgreichste Handlungsspielraum dieser Prozesse. Auf jenen Straßen wurden kleine Gemeinschaften in Form von Karawansereien errichtet, die sich zu Knotenpunkten der Interaktion entwickelten. Obwohl alle dasselbe Ziel verfolgten – ein Schutz bietender Zufluchtsort für Reisende – erhielten sie im Laufe der Zeit und je nach Region zusätzliche Funktionen. Je nach Lage und Vorgeschichte unterschieden sie sich in Design, räumlicher Organisation und Funktion.

Der Iran ist bekannt als der Ursprung des Baus solcher Strukturen. Vom Achämenidenreich bis zur Kadscharen-Dynastie erlebte das Land Aufkommen, Entwicklung und Niedergang der Karawansereien. Während der Safawidenzeit wurde das Wachstum der Kar-

awansereien im Iran so bedeutend, dass ihr Einfluss noch heute sichtbar ist. Es war eine Epoche der territorialen Expansion, der Etablierung des Zwölfer-Schismus als Staatsreligion und der Vereinigung verschiedener Kulturen. Mit der Ausweitung der Grenzen und der Einführung der neuen Staatsreligion traten jedoch auch neue Bedrohungen auf. Aus diesem Grund erhielten einige der neu errichteten Karawansereien dieser Zeit, zusätzlich zu ihrer primären Funktion, defensive Bauteile wie Wachtürme, dickere Mauern und strategische Grundrisse. Die neuen Funktionen beeinflussten den Bau und die Planung der safawidischen Karawansereien.

Diese Forschungsarbeit untersucht, ob und wie die doppelte Funktion der safawidischen Karawansereien, sowohl Raststätte als auch Festungsanlage, auf ihre architektonische Gestaltung und räumliche Organisation auswirkt. Die Maranjab-Karawanserei wurde als Fallstudie für diese Untersuchung ausgewählt. Inmitten der Maranjab-Wüste im zentralen Iran gelegen und nahe der

safawidischen Hauptstadt Isfahan, befindet sich die Maranjab-Karawanserei in einem Gebiet, das zur Zeit der Errichtung über keine Verteidigungsbauten verfügte. Shah Abbas I. befahl ihren Bau, um neben der Hauptfunktion der Raststätte auch als Militärposten zu dienen. Diese ergänzende Aufgabe führte zu Änderungen im architektonischen Design und in der räumlichen Organisation von Karawansereien und der Entwicklung eines eigenen Bautypus.

Introduction

Since ancient times, communities have naturally formed to meet the basic human need for companionship. People sought places with essential resources like water, food, and shelter to sustain these communities. Living near water became an initial choice. As societies developed, so did their needs in farming and crafts. People had to travel between territories to fulfil these needs and establish cooperation. Travelling on foot or with animals was the norm, but the journeys were long and lacked facilities, leading to the emergence of resting areas. These spots, known by various names like Caravanserai, Khan, Funduq and Katra, served as essential places for rest and trade. The most well-known rest stops along these ancient trade routes were called Caravanserais. The term “Caravanserai” originated from “caravan,” referring to a group of people travelling together, and “saray,” meaning a palace or dwelling.¹ Building these rest stops

1 Etymonline. (n.d.). Caravanserai. Retrieved January 5, 2024, from <https://www.etymonline.com/word/caravanserai>

involved thoughtful planning to meet the needs of both travellers and animals. Essential considerations included ensuring an adequate water supply for both sustenance and hygiene.

Caravanserais were a widespread structure along the Silk Road and played a crucial role along the Achaemenid Empire’s Royal Road.² However, their prominence became most notable during the era of the Silk Road. This ancient network of trade routes connecting the East and the West left an important mark in the history and culture of the world³, particularly in Iran. As a pivotal node along the Silk Road, Iran was a vital crossroads for trade and cultural interchange between Asia, Europe, and Africa. Merchants and travellers from around the globe were drawn to Iran, contributing to its economic prosperity. Caravanserais, strategically established along the Silk Road within Iran, served as essential way stations,

2 UNESCO. (n.d.). Diary of young explorers: Iran and the royal road. Retrieved January 5, 2024, from <https://en.unesco.org/silkroad/content/diary-young-explorers-iran-and-royal-road>

3 UNESCO. (n.d.). About the Silk Roads. Retrieved January 5, 2024, from <https://en.unesco.org/silkroad/about-silk-roads>

providing accommodations and facilities for merchants and their caravans.

These Caravanserais played an essential role in fostering economic growth by assisting the exchange of ideas, knowledge, goods, and culture across different regions. They were instrumental in developing trade and commerce in the ancient world, contributing significantly to the spread of civilisations.

The cultural exchange along the Silk Road profoundly impacted various aspects of Iranian life, including architecture, art, cuisine, religion and language. This influence persists today, with the lasting imprint of diverse civilisations still visible in Iran's cultural landscape. As symbols of this rich history, today the Caravanserais stand as proof of the Silk Road's enduring legacy in shaping Iran's multifaceted identity. The development and evolution of the Caravanserais in these territories were possible due to the preservation of the rich history of the people in this land. It was the Safavid Period that had a significant impact on Iran's civilisation, initi-

ating the modern Iranian history.⁴ It was a period of prosperity, cultural, artistic and architectural achievements. It was also a period where the Twelver Shia Islam religion got adopted and the borders of the lands expanded, causing conflicts with neighbouring countries. With the flourishing of art and architecture in Safavid Period, countless of Caravanserais all over the lands were erected.

These Caravanserais, shaped by historical, sociopolitical, and geographical factors, had new functions integrated into their design. This resulted in variations among them, driven by the distinct functions they served and the diverse plans and layouts developed by Safavid architects. These variations led to categorising Caravanserais in different groups, which must be examined separately.⁵

4 Encyclopaedia Iranica. (n.d.). Safavids. Retrieved January 10, 2024, from <https://www.iranicaonline.org/articles/safavids>

5 Farschchi, H., & Haji, M. (2019). بررسی کاروانسراهای ایران و بناهای وابسته به آن [Investigation of Iran's caravanserais and related buildings]. Kashan, Iran. https://www.researchgate.net/publication/372103599_brrsy_karwansrahay_ayran_w_bnahay_wabsth_bh_an

Objective and Methods

During my travels to Iran in the past few years, I encountered a few Caravanserai with distinctive features. Knowing that their primary function was a resting place, their design caught my interest, leading to a research on Caravanserais. Throughout, I learned about the external influences that impacted the different typologies and characteristics of these structures and how famous travellers in the past, like Siroux, have tried to organize the Caravanserais in various categories, regarding their ground plan, function, location, etc.

According to the State Party of Iran, most of the pre-Islamic Caravanserais in Iran have been left to their demise, leaving only a few remaining, but with little information.⁶ The Caravanserais in the Safavid Period provided the most information, a period where Caravanserais were at their peak. With many typologies and characteristics, I chose specifically to research the Safavid Caravanserai's

distinctive functions particularly. I will examine the dual functions of Caravanserais as resting places and fortresses and how these functions influenced their design and spatial organization.

For an easier approach, the Maranjab Caravanserai was chosen as a case study, analyzing its unique features and how its dual purpose affected its spatial planning and architectural design. By exploring functional, structural, and architectural aspects, I would like to uncover the distinctive characteristics and design choices that differentiate Maranjab Caravanserai from its counterparts. The thesis is divided into three parts.

The first part provides insight into the origin and development of Caravanserai and its role on the Silk Road.

The second part reveals about the influence of the Safavid Period on the construction of Caravanserais and the categorization of Caravanserais in different typologies. For this part, I relied on books, research papers and travelogues from old travellers like Chardin and Siroux. For more specific information about Caravanserais during the Safavid Period,

6 ICOMOS. (2023). The Persian caravanserai (Islamic Republic of Iran) No. 1668. <https://whc.unesco.org/document/205734>

besides books and research papers, I depended on a doctorate thesis written by Mohammad Yousef Kiani. In this part, I tried to convey why the history and sociopolitics of the Safavid Period had an influence on the different functions, architectural design and spatial planning of Caravanserais.

The last part is more specifically about the case study Maranjab Caravanserai, which has a dual function as a rest stop and a fortress. I used the research from the first two parts to categorise the Maranjab Caravanserai depending on its history, location, and climate by explaining every space in the Caravanserai, its function, and whether it was influenced by its dual functions.

For this part, in addition to Mohammad Riyani Arani's old thesis about the Maranjab Caravanserai, I had the chance to visit the Maranjab Caravanserai personally. By visiting the Maranjab Caravanserai, I could document, take measurements and photos, and talk with the manager of the Caravanserai and the locals in the surrounding city. Although the information I got from the locals was lacking,

seeing the Caravanserai personally and staying in the facility positively impacted the writing of my thesis.

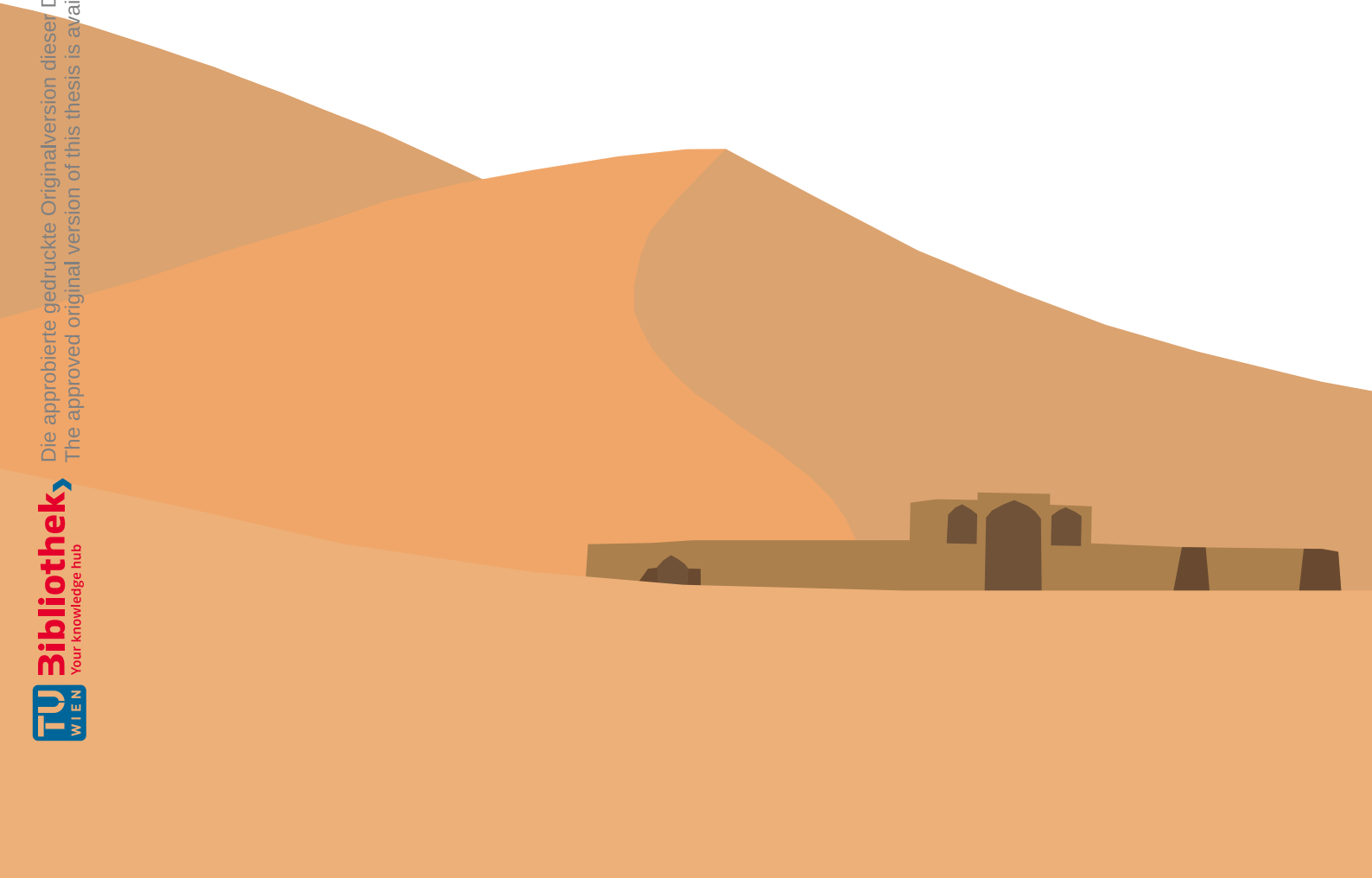
Rationale for Choosing Maranjab Caravanserai

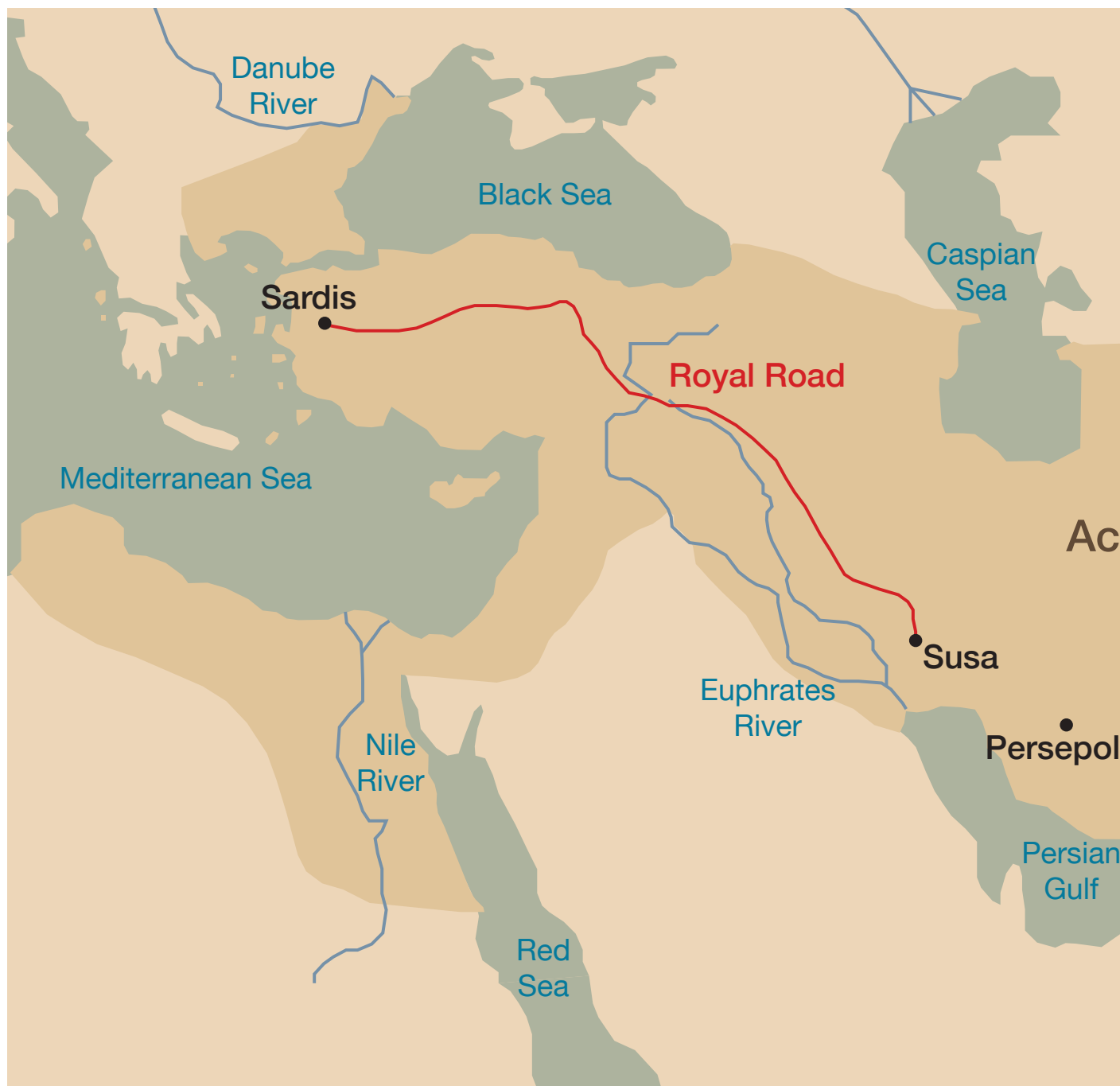
Why Maranjab Caravanserai ?

During one of my travels to Iran, I visited the Maranjab Desert, where I came across a Caravanserai 40 km from the nearest civilisation. In the middle of the desert, with no other structure in the surroundings, only a massive structure in the form of a Caravanserai stood there. I could only see the huge walls and tall towers, and there was no sight from the interior. It was evident from the towers and the archery slides that this was not the usual Caravanserai, used only as a resting place. The massive structure, the availability of towers, and the fortification of the Caravanserai could be seen from the outside.



CARAVANSERAIS AND THEIR ROLE ON THE SILK ROAD





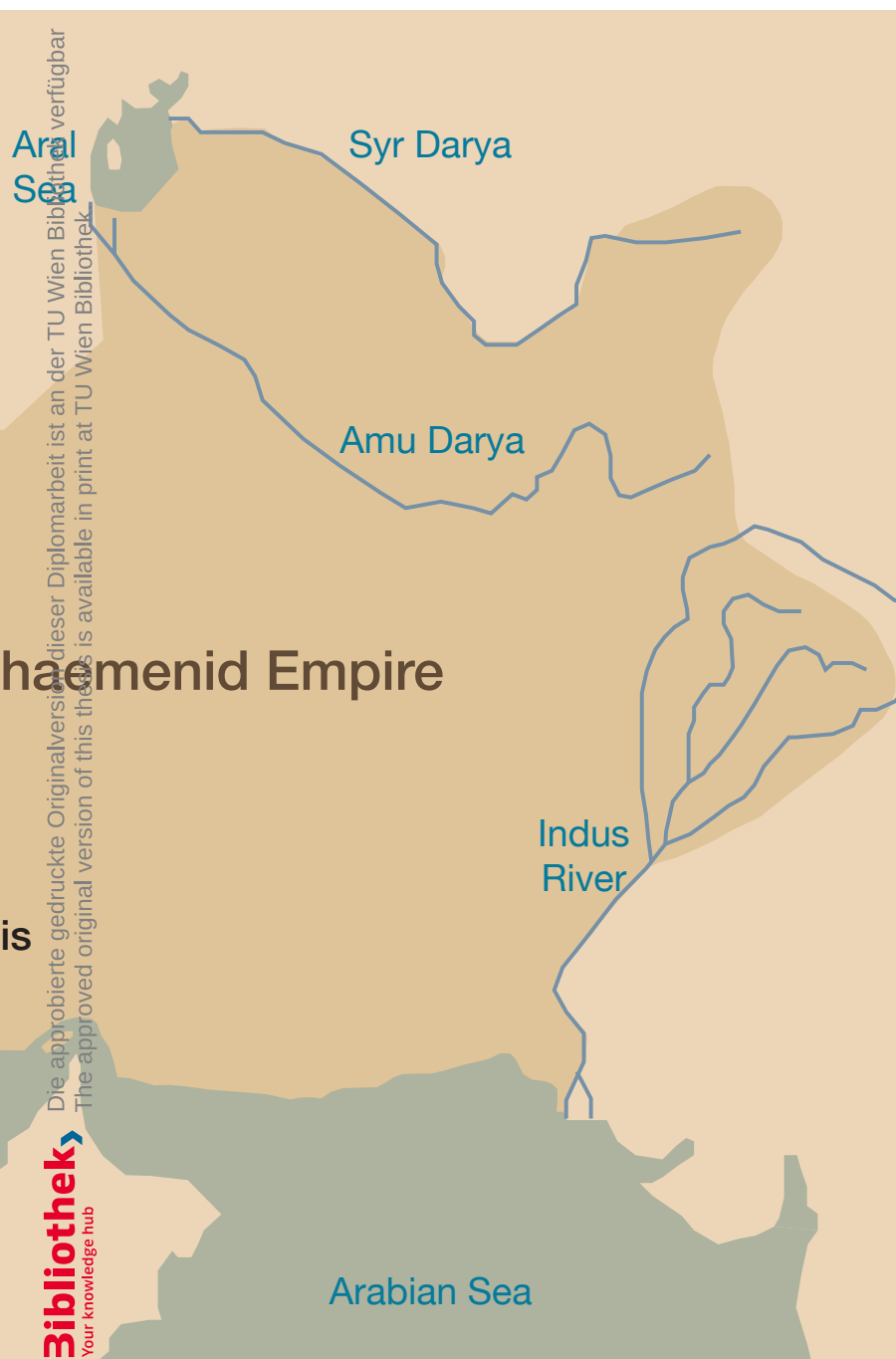


Fig.1:
map of the Royal Road
during the Achaemenid
Empire

Emergence of Caravanserais

The concept of Caravanserais dates back all the way to ancient times, primarily appearing in Persia (modern-day Iran) during the Achaemenid Empire (550-330 BCE), later evolving and becoming an important part of Persian history. The term “Caravanserai” was composed of the Persian words “*kārvān*” denoting a caravan or a group of travellers, and “*saray*”, signifying a palace or enclosed building.⁷

Just like the term, Caravanserais were roadside inns providing shelter for merchants against the perils of the roads. They were usually located on a day's journey, close to water, harsh geographical conditions or paths with security concerns. Functioning as a secure space, these establishments allowed travellers to rest, sell, and trade their goods and a refuge safeguarding them from harsh climates and from bandits, which specifically targeted the caravans transporting

valuable commodities.⁸

Although they became prominent during the trading on the Silk Road, Caravanserais were first seen on the Royal Road during the Achaemenid Empire (Fig.1). The Royal Road, built by the Persian King Darius, was a 2,500-kilometre-long ancient highway which played an important role in the connection between Susa and Sardis (present-day Anatolia).⁹

“The royal road had achieved its fame not only because it was the road of a great kings empire that had been created in the span of a single generation, nor because it was important for the kings couriers or the transit of goods for trade but because along its 1677 miles flowed the ideas and traditions of two cultures from east to west and from west to east.... We owe something to the royal route of Per-

⁷ Etymonline, “Caravanserai,” accessed January 05, 2024, <https://www.etymonline.com/word/caravanserai>

⁸ National Geographic. (n.d.). Caravanserai. Retrieved January 5, 2024, from <https://education.nationalgeographic.org/resource/caravanserai/>

⁹ Kia, M. (2016). The Persian Empire: A historical encyclopedia (Vol. 1). Empires of the World. p. 29

sian kings”¹⁰

In the past the Royal Road was used for rapid communication and information gathering throughout these lands. This was made possible due to the creation of postal stations known as “*Chapar Khanes*” (Fig.2). These “*Chapar Khanes*” were created by Cyrus the Great, which were strategically located on the Royal Road and served as a prototype for future Caravanserais.¹¹



Fig.2

Unlike Caravanserais, their purpose was primarily aimed at efficient communication and message de-

¹⁰ Kiani, M. Y. (1970). The Iranian caravanserais during the Safavid period (Doctoral dissertation, University of London, School of Oriental and African Studies). p. 25

¹¹ ICOMOS. (2023). The Persian caravanserai (Islamic Republic of Iran) No. 1668. p. 67. <https://whc.unesco.org/document/205734>

Fig.2:

Chapar Khaneh, Meybod, Iran

Glossary :

Karvan - a Persian word meaning, a group of travelers

Saray - a Persian word for palace

Chapar Khaneh - is a Persian term referring to a postal service system used during the Achaemenid Empire

Chapar - express couriers

livery. The “*Chapar*”, upon his arrival at each of these stations, would receive a fresh horse and food, without any need to wait for supplies or rest his horse.¹²

Despite the lack of information about the Caravanserais in the Achaemenid Empire, the oldest document in which they have been mentioned was in the books of the ancient Greek historian Herodotus (c.484-425 BC) known as “History” (vol. V). Here, he described the great Royal Road and the various Chapar Khanes and Caravanserais along his journey :

“There is nothing that travels faster, and yet is mortal, than these couriers; the Persians invented this system, which works as follows. It is said that there are as many horses and men posted at intervals as there are days required for the entire journey, so that one horse and one man are assigned to each day. And neither snow nor rain nor heat nor dark of night keeps them from completing their appointed course as swiftly as possible.

12 Iran Press. “Persian Caravanserai: What Iran Is Known For.” Accessed January 10, 2024. <https://iranpress.com/persian-caravanserai-what-iran-is-known-for>

*The first courier passes on the instructions to the second, the second to the third, and from there they are transmitted from one to another all the way through, just as the torchbearing relay is celebrated by the Hellenes in honor of Hephaistos. The Persians call this horse-posting system the angareion”*¹³

The Silk Road

Sections of the Royal Road, which were part of the central plateau of Iran, including the Great Khorasan Road, were connected to a main trade route known as the Silk Road. Just like the Royal Road, the Silk Road facilitated trade and exchange of information, but this time, it went beyond the borders of Iran and connected different civilizations across continents. It was a vast network of trade routes that connected China, the Far East with the Middle East and Europe and presented itself as the most famous trade network

13 Herodotus, & Strassler, R. B. (Ed.). (2007). The landmark Herodotus: The histories (Vol. V). p. 642. As cited in <https://www.historyofinformation.com/detail.php?id=131>

in human history. In the 19th century, Baron Ferdinand von Richthofen coined the name “Silk Road” or “Seidenstrasse” in the historical context of ancient trade routes. While the term became widely accepted, it was a misnomer. The term may imply a singular route, but the complex network of ancient trade routes was, in fact, diverse and interconnected, and merchants who used it carried far more than just silk.¹⁴

This network of trade routes was primarily active between the 2nd century BCE and the mid-15th century. Spanning more than 6,400 kilometres, it consisted of several routes, the most prominent being the northern, southern, and southwestern routes. Initially starting in Xi'an, China, under the Han Dynasty, the Silk Road extended to Anatolia (modern Turkey) and later expanded to Southern Eu-

rope and East Africa (Fig.3).^{15 16}

Establishing the Silk Road significantly increased the number of Caravanserais in this region and beyond. The continued trade on the Silk Road contributed to the emergence of commercial cities like the Abbasid capital of Baghdad, the Sogdian town of Samarkand and the Bactrian metropolis of Merv.¹⁷ The long path caused merchants to trade in both directions, leading their caravans only between two commercial cities and selling them to other merchants there.

The commerce along the Silk Road was driven by three primary factors: the pursuit of profit, a fascination with the exotic, and the strategic enhancement of political power for specific nations.¹⁸ Although silk was the most important

14 Tucker, J. (2019). The Silk Road: Central Asia, Afghanistan and Iran: A travel companion. p.1

15 National Geographic. (n.d.). Silk Road. Retrieved January 22, 2024, from <https://education.nationalgeographic.org/resource/silk-road/>

16 Silk Road Foundation. (n.d.). Silk Road. Retrieved January 22, 2024, from <http://www.silk-road.com/>

17 Tucker, 2019, p. 2-3

18 Tucker, 2019, p. 3





Fig.3:
Map of the Silk Road

trading commodity, it was not the only focus along the Silk Road. Beyond silk, the exchange included the transmitting of goods, knowledge, culture, ideas, and beliefs. Caravanserais not only presented a customary opportunity for merchants to dine well, rest, and prepare for their next journey in a secure environment, but also served as a hub for the exchange of goods, participation in local market trade, and interactions with fellow merchant travellers (Fig.4).

The need to communicate led them to learn different languages and become familiar with local and trade culture, food, clothing and etiquette. Through these interactions, an exchange of cultures, languages and ideas naturally developed. Therefore, they went beyond their primary function as waystations along the Silk Roads and transformed into crucibles where cultures along these trade routes mixed and intersected.

Caravanserais also served as melting pots for religions and traditions, with Islam, Buddhism, Christianity and Judaism

spreading through the travels of religious scholars. Cities where Caravanserais settled became influential intellectual and cultural centres and fostered the growth of civilizations along the Silk Roads, significantly influencing Eurasian people's history, culture and civilization. Knowledge in science, art, literature, crafts and technology spread and circulated within societies, and exchange promoted the development and mutual influence of languages, religions and cultures along these trade routes.¹⁹ All the exchange and influence led to the development of Caravanserais, and new typologies and functions emerged.

With trade in both directions the construction of multiple Caravanserais became usual and their expansion to other regions, known as "*Khan*" (Fig.5), "*Funduq*" (Fig.6), "*Ribat*", etc. Although their design and spatial organisation varied across regions, they all shared the same purpose as the Persian Caravanserais, serving as a secure resting place and

19 UNESCO. (n.d.). About the Silk Roads. Retrieved February 10, 2024, from <https://en.unesco.org/silkroad/about-silk-roads>

trading hub for merchants and travellers.

Historical documents, travelogues, paintings, and poems written during these times prove the important role the Caravanserais had. Examples of written documents are found in the travelogues of Marco Polo, Naser Khosrow, Hikayat-ha-ya Sa'di, Jean Chardin, Flandin, Jean Baptiste-Tavernier, etc.²⁰ These documents show us the different typologies of Caravanserais that have emerged in these territories and how they influenced their architecture.



Fig.4

John Baptista Tavernier, a French merchant and traveller, in his travelogue “The six voyages of John Baptista Tavernier”, compared the Caravanserai of Persia with its neighbors :

²⁰ UNESCO. (2021). The Persian caravanserai for inscription on the World Heritage List .p. 14, 19 . IMCHTH

Fig.4:

Interaction between market travelers in a caravanserai

Glossary :

Khan - a middle Persian word for “house”, (“Han” in turkish), a public inn in some middle eastern countries

Funduq - Arabic word for inn, usually found in northern Africa

Ribat - Arabic word for “base” or “hostel”, is a fortified inn and often used as a military outpost



Fig.5



Fig.6

*"As for the Persian Caravansera's, they are more commodious, and better built than those of Turkie, and at more reasonable distances, throughout almost all the Country. By which description of Inns it is easie to observe, that though these Caravansera's are not so commodious for the Rich as our European Inns, yet they are more convenient for the Poor, to whom they never refuse to give admittance: no person being oblig'd to eat or drink more than he pleases; but every one being allow'd to spend according to his Stock, without grumbling."*²¹

John Baptista Tavernier, 1677

Architectural Features of Persian Caravanserais

Persia (nowdays Iran) was a region of distinguished geographic and climatic diversity. These factors, along with socio-political influences, led to the creation of various Caravanserais, each adapted to its local environment. The functional ar-

²¹ Tavernier, J. B. (1677). The six voyages of John Baptista Tavernier. p. 45

chitectural features of these structures testify to the cultural and environmental adaptability of Persia's diverse regions.²²

The Persian Caravanserai typically featured a square or rectangular plan with a central courtyard serving as the heart of the structure.²³ This space was not only used for socializing, but also for unloading goods and watering animals, promoting a sense of community and functionality. The living chambers and stables were arranged around the courtyard, further increasing the practicality of the design (Fig.7).²⁴

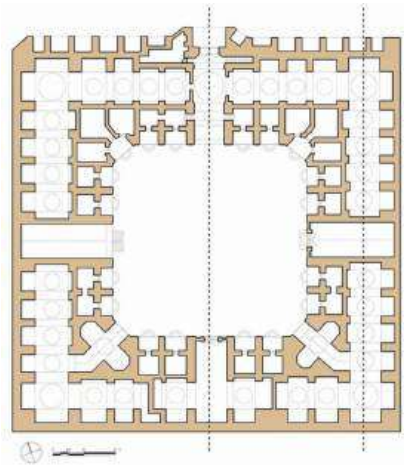


Fig.7

22 ICOMOS. (2023). The Persian caravanserai (Islamic Republic of Iran) No. 1668. p. 67. <https://whc.unesco.org/document/205734>

23 Basouli, M., & Derakhsh, S. (2021). An investigating of the functions of Iranian caravanserais with a landscape approach. MANZAR, 13(54). p. 30

24 Raffar, J., & Lorafshar, E. (2003). Anthropological study of Safavid era caravanserais. Iranian Journal of Anthropology, p. 44

Fig.5:
Khan As'ad Pasha,
Damascus, Syria

Fig.6:
Funduq al-Najjarin,
Fes, Morocco

Fig.7:
Ground Plan of a Persian
Caravanserai during the
Safavid Period

The Caravanserais were enclosed by high massive walls, providing protection from the harsh and dangerous environment, some even were fortified with corner towers (Fig.8). The materials used for the construction of Caravanserai were usually locally available.²⁵

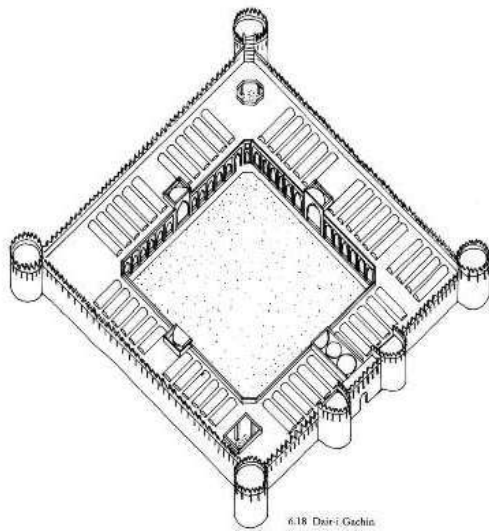


Fig.8

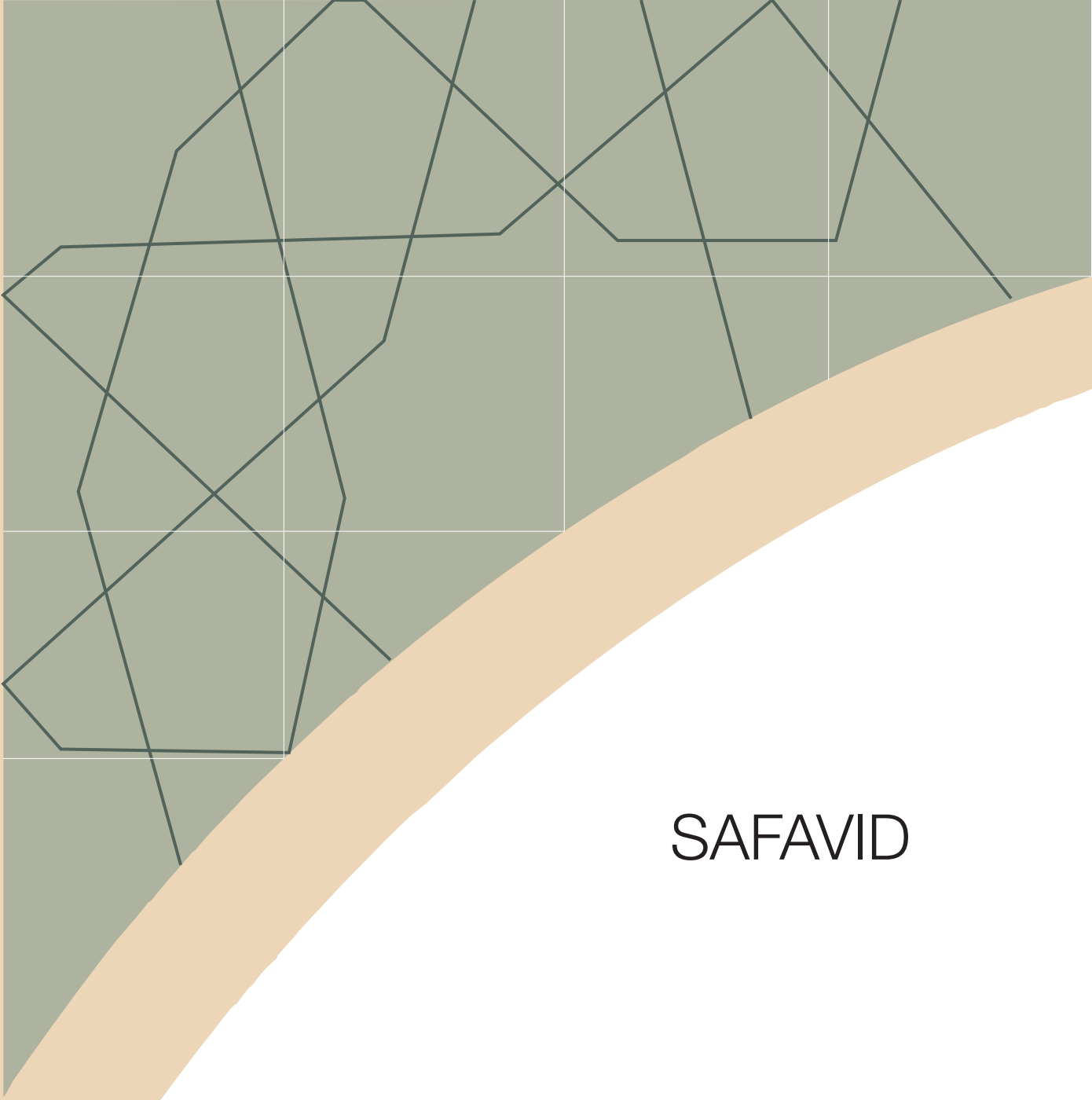
The era in which they were constructed significantly influenced the architectural design and spatial organisation of Caravanserais, shaping them to meet the

specific needs and circumstances of the society at the time. This influence led to the evolution of the traditional Persian Caravanserai, resulting in various ground plans, architectural forms, functions, and diverse materials.

The Safavid Period, known as the “*golden age*” of Caravanserais, offered many examples that can be examined, analysed, and compared. The following chapter will discuss the historical, socio-political, and cultural contexts of the Safavid Period and how these factors influenced the development of Caravanserais. It will also examine their impact on the typologies and function of Caravanserais and the shaping of their spatial organisation

²⁵ Misfits Architecture. (2017, December 9). Caravanserai. Retrieved March 22, 2024, from <https://misfitsarchitecture.com/2017/12/09/caravanserai/>

Fig.8:
Axo from a Persian Cara-
vanseraï



SAFAVID

DYNASTY

Historical background

The Safavid Dynasty was an important period for the development of Caravanserais, also known as the “*golden age*” of Caravanserai.

Founded by Shah Ismail I (1487-1524), it lasted from 1501 to 1736, becoming the most significant ruling dynasty of Iran and marking the beginning of modern Iranian history. Originally from the city Ardabil in northwest Iran, *Shah* Ismail I enthroned himself in Tabriz and proclaimed the *Twelver Shi'ism* as the official religion of his dynasty. With that he united the diverse peoples of Persia under a single religious identity and set them apart from their neighbours, the Ottomans and the Mughals, thus leading to a future conflict and wars with them. At the peak of their reign, the Safavids controlled a vast territory, including Iran, Azerbaijan, Armenia, eastern Georgia, Bahrain and parts of North Caucasus, Iraq, Kuwait, Afghanistan, Turkey, Syria, Pakistan, Turkmenistan and Uzbekistan (Fig.9).²⁶ With this

control their influence expanded and led to significant cultural and religious changes in these regions.

During their reign, the Safavids changed three capital cities, all strategically chosen and important to the empire's administration, culture and architecture. In the early Safavid Period, during Shah Ismail I's reign, Tabriz was proclaimed the capital city of the newly established empire. Its strategic location in the western part of the empire facilitated trade and military operations, converting the city into an important cultural and commercial centre by showcasing the empire's foresight and planning. Under Shah Tahmasp I's reign, the capital was relocated to Qazvin for a short period of time. Later, due to the consistent attacks from the neighbouring countries in the late Safavid period, Shah Abbas I relocated the capital to Isfahan, bringing significant innovations in architecture and urban planning.²⁷

Due to the newly proclaimed religion and the conflict with its neighbours, the Safa-

26 Encyclopaedia Iranica. (n.d.). Safavids. Retrieved May 14, 2024, from <https://www.iranicaonline.org/articles/safavids>

27 Newman, A. J. (2005). Safavid Iran: Rebirth of a Persian empire

vids felt threatened and obligated to strengthen the defence in the country. They built military structures around the country, most importantly close to the Safavid capital, Isfahan. Due to their location close to the Silk Road, some of these military structures were designed as Caravanserais, which had dual functions as a rest stop and a fortress. The Maranjab Caravanserai, which will be studied in the next chapter, is an example of this kind of structure. The dual function of these Caravanserais had an influence on the architectural design and the spatial organisation of the Caravanserais. Besides being used as a rest stop for travellers and merchants, soldiers were positioned inside the Caravanserais, protecting the travellers from bandits and, at the same time, the invasion from enemies. Due to their dual function as a rest stop and a fortress, the Caravanserais with these functions were designed to comply with the needs of travellers and, at the same time, fortified for defence.

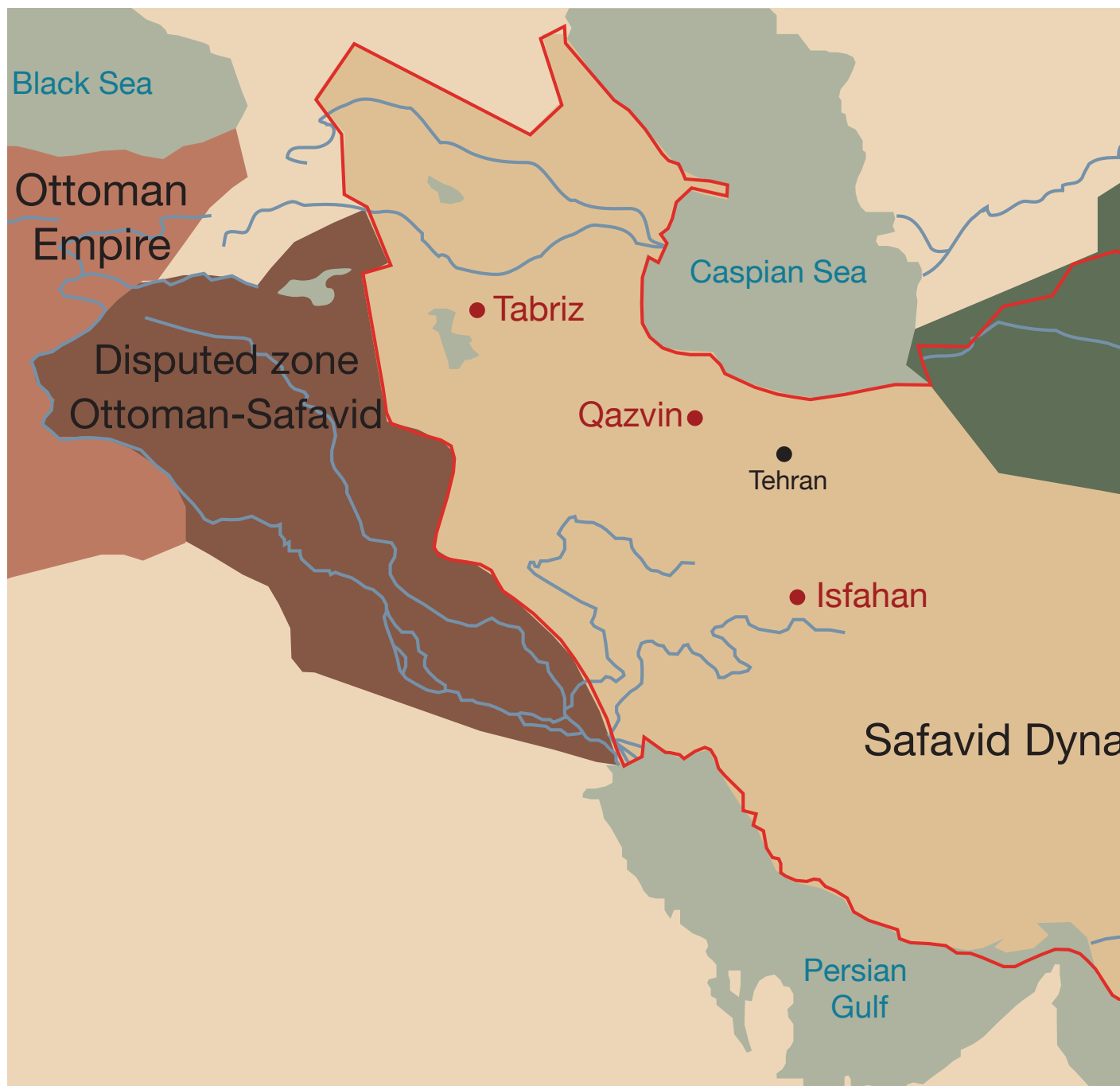
Socio-Political and Economic Conditions

The Safavids, by establishing Twelver Shiism as the state religion, created a unified national identity among Persia's diverse ethnic and linguistic groups. The rulers, particularly the Shah, held both political and religious authority in the centralized government

Glossary :

Shah - a persian word for an emperor or a king

Twelver Shi'ism - the largest branch of Shiia Islam religion



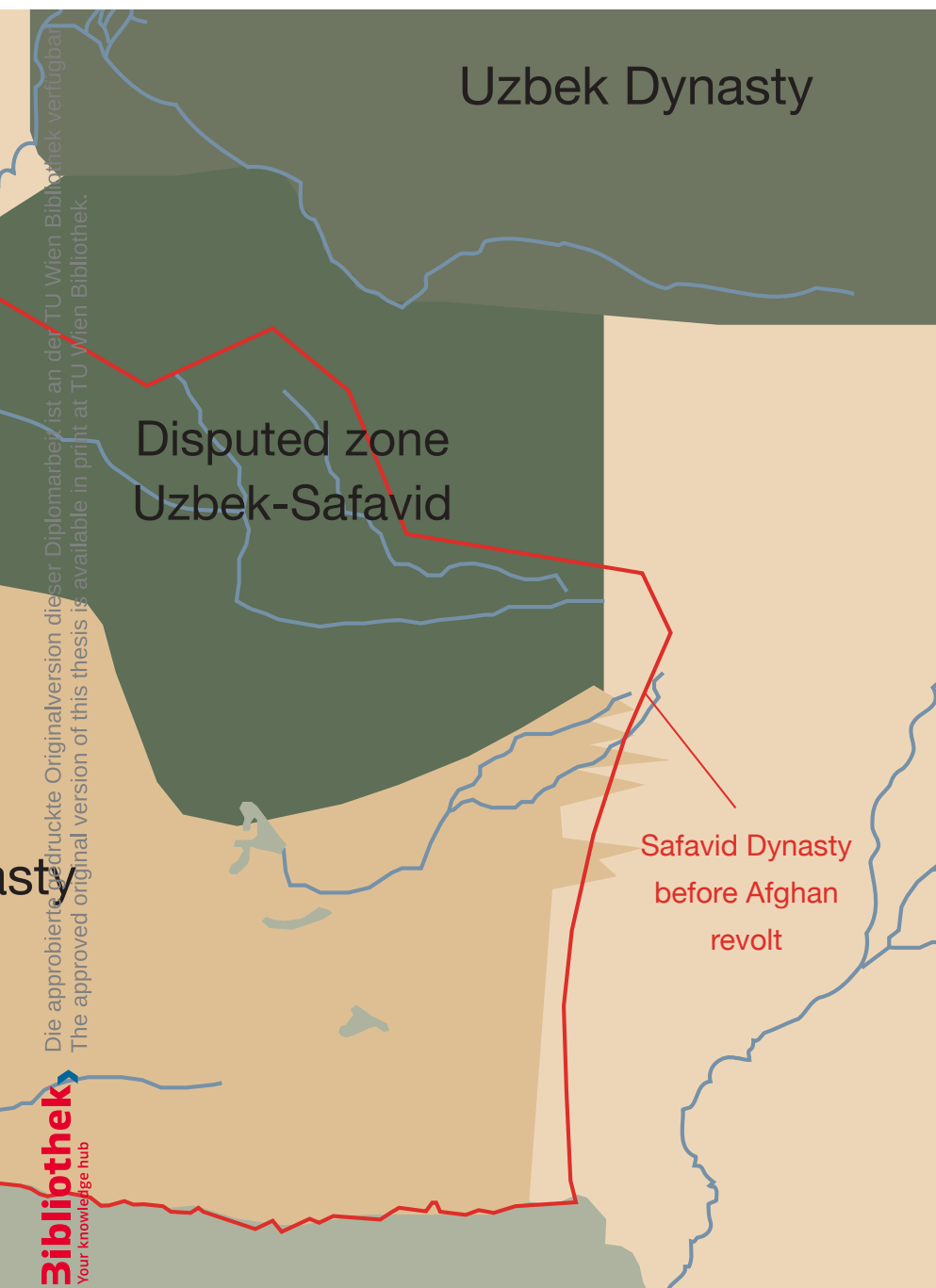


Fig.9:
Map of Safavid Dynasty

they established. This concentration of power led to more effective administration, law enforcement, and the introduction of a unified tax system. The bureaucracy, consisting of various officials and advisors, played a crucial role in administering the empire and ensuring the Shah's policies were implemented.²⁸

Shah Abbas I (1588-1629) was an important figure in the Safavid dynasty's history, leading the country to its peak. His military reforms, promotion of Silk Road trade, establishing diplomatic ties with European powers, and transforming Isfahan into a cultural hub, known as "*Nesf-e Jahan*" or 'half the world', were key to the dynasty's success.²⁹ He knew the importance of the Silk Road and how it affected his relationships with foreign countries; thus, he ordered the construction of 999 Caravanserais in urban and

rural areas.³⁰

Although the primary function of Caravanserais was a rest stop for the merchants, due to their geographical, sociopolitical, and religious influences, a secondary function emerged. Next to their primary function, the Caravanserais were also used for economic, cultural, political, military, and religious functions.³¹

Depending on their location, climate, and the needs of the Shah or the owner of the Caravanserai, Caravanserais were built with one of the above-mentioned functions in addition to their primary function, thus influencing their architectural design and spatial organisation.

The following sections will give insight into Caravanserais during the Safavid Period with the help of Siroux and Kianis' categorisation of Safavid Caravanserais.

28 Encyclopaedia Iranica. (n.d.). Administration VI: Safavid. Retrieved May 12, 2024, from <https://iranicaonline.org/articles/administration-vi-safavid>

29 Bryce, D., O'Gorman, K. D., & Baxter, I. W. F. (2013). Commerce, empire and faith in Safavid Iran: The caravanse-
rai of Isfahan. *International Journal of Contemporary Hospitality Management*, 25(2), p.209

30 Saberi, A., Talib, A., Motamedi, S., & Kariminia, S. (2016). Adaptive reuse of historical Safavid caravanserais in Iran as a sustainable development strategy. *International Journal of Multicultural and Multireligious Understanding*, vol 3(3), p.18. Malaysia, Iran

31 Basouli, M., & Derakhsh, S. (2021). An investigation of the functions of Iranian caravanserais with a landscape approach. *MANZAR*, 13(54), p.31-34

The influence on the the typology of Safavid Caravanserais

In the first half of the 17th century during the Safavid Period, Shah Abbas I was trying to strengthen the authority of his newly established dynasty. He built many Caravanserais, bridges, markets and roads to expand the Silk Road and increase commercial prosperity. The wealthy merchants benefited from the increased trade, while *rah-dars* collected road tolls in exchange ensuring the safety of travelers.

Due to the rapid growth of religion and trade, and the dangers from neighbor countries, the number of Caravanserais increased inside the cities and trade routes, leading the Safavid period during the reign of Shah Abbas to be known as the “*Golden Age*” of Caravanserais.³² His main goal was to rebuild and develop the trade and the routes of his empire, which led to the construction of a network of 999 Caravanserais, making communication and trade throughout the empire easy. The Safavid Caravanserais unlike in other countries, were also built for poorer travelers who could stay there without having to pay for accommodation. Many travelers such as Thévenot, Tavernier (Fig.10) and Chardin (Fig.11) traveled to

32 Kiani, M. Y. (1970). The Iranian caravanserais during the Safavid period (Doctoral dissertation, University of London, School of Oriental and African Studies). p. 80

Glossary :

Rahdar (راهدار)-toll collector

Persia at that time. As mentioned in their travelogues, Persian Caravanserais were far better built, cleaner and more common than their neighboring countries, the Ottomans and Mughals.³³



Fig.10

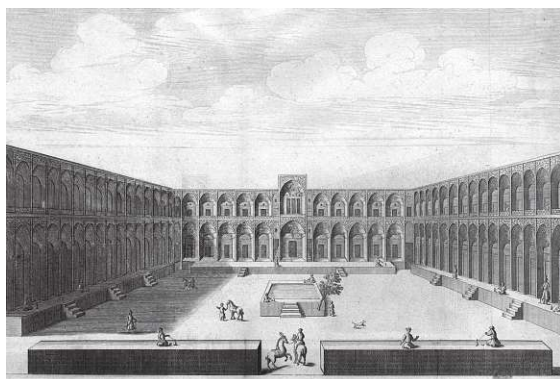


Fig.11

³³ Lumen Learning. (n.d.). Safavid Empire. In History of World Civilization II-2. Retrieved May 16, 2024, from [https://human.libretexts.org/Courses/Lumen_Learning/Book%3A_History_of_World_Civilization_II-2_\(Lumen\)/05%3A_3%3A_Islamic_World/05.2%3A_Safavid_Empire](https://human.libretexts.org/Courses/Lumen_Learning/Book%3A_History_of_World_Civilization_II-2_(Lumen)/05%3A_3%3A_Islamic_World/05.2%3A_Safavid_Empire)

Throughout their long history, Persian Caravanserais have been influenced by the local environment and global factors, introduced through trade and the exchange of cultures and religions. In Addition architectural style, location, climate, materials, and access to water had significantly impacted the construction of these structures, leading to various types of Caravanserais.

The large diversity of Caravanserais has created an important challenge in their classification. Respected figures in the field, such as Kiani, Siroux, and Kleiss, have tried to examine and classify these structures into distinct categories. The following sections will deal with the detailed classification of Kiani and Siroux, clarify the complexity and depth of this architectural form, and explain how they influenced its diverse functions.

In his doctorate thesis “The Iranian Caravanserais during the Safavid Period”, Mohammad Yousef Kiani, an Iranian archaeologist, explained that the standard building plan of Safavid Caravanserais

in the central part of the country was based on traditional “*iwan*” design, often using a conventional “*four-iwan*” arrangement. These Caravanserais were octagonal, square, or rectangular, varying in size and form but sharing several key features. They were typically symmetrical, with a massive outer wall that provided security and allowed access through a single easily defended door. The central courtyard was surrounded by open porches, similar to those found in mosques or madrasas, and each side often had a larger arch or vault to show the symmetry and grandeur of the building.³⁴

In addition, he categorised the Persian Caravanserais based on their ground plan. These categories highlight the structures’ different architectural and functional aspects. The four emerging types according to Kiani were the Rectangular -, the Octagonal -, the Mountain Type -, and the Miscellaneous Caravanserai.³⁵ In the following paragraphs, the above-mentioned types of ground plans will be explained, along with their impact on the functions of Safavid Caravanserais.

As previously mentioned, the most common Caravanserai in Persia was the rectangular/square type of

34 Kiani, M. Y. (1970). The Iranian caravanserais during the Safavid period (Doctoral dissertation, University of London, School of Oriental and African Studies). p. 81

35 Kiani, 1970, p. 86

Fig.10:

drawing by Jean-Baptiste Tavernier from his travelogue “*Les Six Voyages de Jean-Baptiste Tavernier*”

Fig.11:

drawing by Jean Chardin “*Caravanserai in Kashan*” from his travelogue “*Voyages de Mr. le chevalier Chardin, en Perse, et autres lieux de l’Orient*”

Glossary :

iwan - a rectangular vaulted space found in islamic architecture, walled on three sides, with one side open

Caravanserai found in most parts of the country. This type of Caravanserai was built on a square or rectangular ground plan, with four “*iwans*” and a central courtyard, a reminiscent of pre-Islamic architectural features. The architectural features, such as the “*iwans*” and the central courtyard, served specific functional purposes, not just aesthetic elements. The central courtyard was meeting space surrounded by chambers and provided shade and natural ventilation during the hot summers.

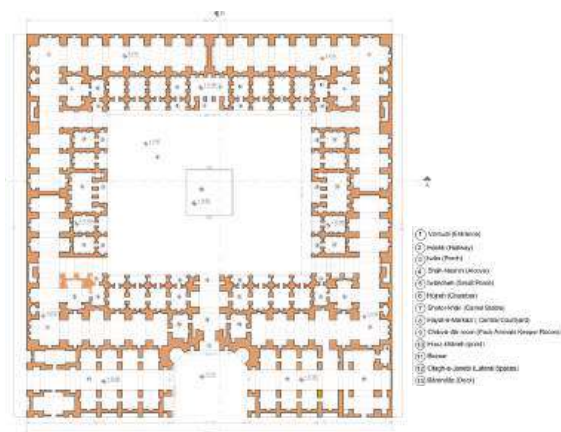


Fig.12

Although most of the Safavid Caravanserais were similar in form, what differed were their internal and external features, like towers, stable arrangements, en-

trances, etc.³⁶

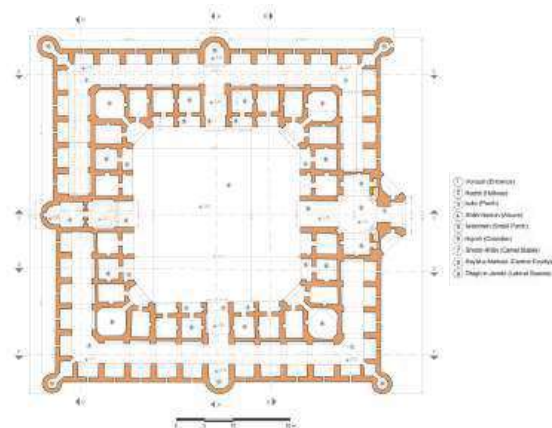


Fig.13

Notable Caravanserais with this type of ground plan are Mahyar Caravanserai in Isfahan, (Fig.12) and Maranjab Caravanserai in Maranjab Desert (Fig.13). As seen in their ground plans, their secondary functions influenced their distinct architectural features and spatial organization.

Next is the Octagonal Caravanserai that emerged during the Safavid Period, and according to Müller's statement in Kianis' dissertation, it is seen solely in Persia, never in other countries, stating that there is no evidence of these type

36 Kiani, 1970, p. 93

of Caravanserais before the Safavids. According to Kiani there were totally three Octagonal Caravanserais that have survived till today. The Amin-Abad Caravanserai (Fig.14), the Khaiv-Kkurr Caravanserai and the Deh-Bid Caravanserai, all located in central plateau of the country, between Isfahan and Shiraz, significant for their historical and architectural value. Due to the location and the architectural features of these Caravanserais, Kiani stated that the purpose for constructing these octagonal Caravanserais was military rather than commercial.³⁷

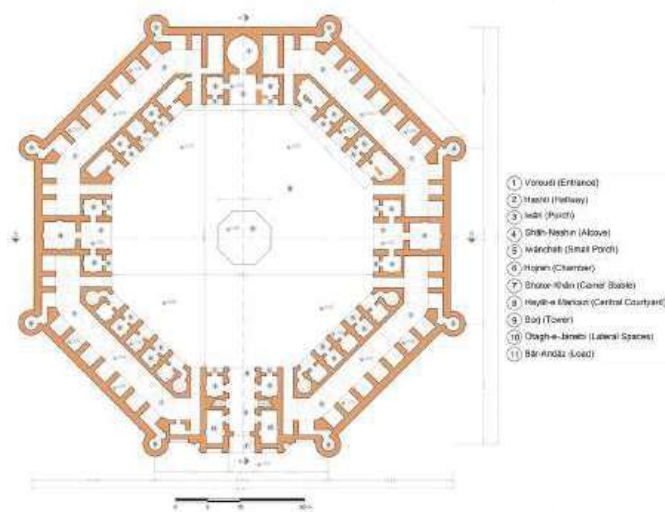


Fig.14

The Mountain type of Caravanserais were mainly found in the western part of the country and were built only in mountain passes. Due to their location

³⁷ Kiani, 1970, p. 151-152

Fig.12:

Rectangular type: ground plan of Mahyar Caravanserai, Isfahan

Fig.13:

Rectangular type: ground plan of Maranjab Caravanserai, Maranjab Desert

Fig.14:

Octagonal type : ground plan of Amin-Abad Caravanserai, located between Shahreza and Abadeh

solely in the mountain area, they functioned as a shelter from the severe cold climate in the region.

That led the mountain-type Caravanserais to have a different architectural design and spatial organisation from the Caravanserais mentioned above. These Caravanserais rarely had a courtyard and were mostly roofed and vaulted; some were even half buried in the earth. The Shebli Caravanserai (Fig.15) is an example of a mountain-type of Caravanserai, located close to Tabriz in East Azerbaijan province, an area known for its cold climate.³⁸

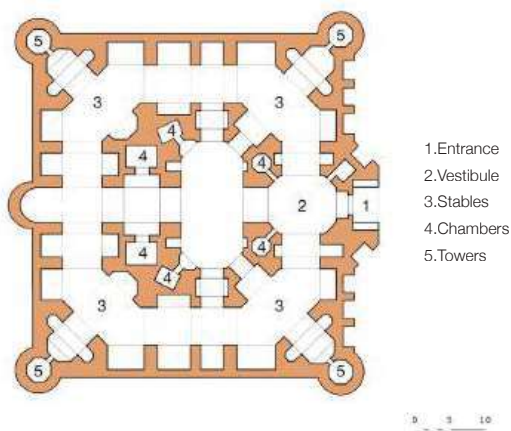


Fig.15

38 Kiani, 1970, p. 159

The last type was the Miscellaneous Caravanserais, built during the Safavid Period. These stand out due to their unique architectural elements and practical functions. Found throughout the country, these types of Caravanserais defied the usual categorization and demonstrated the diversity of Persian architecture. Their distinct features were influenced by external factors like the builder's personal taste, geographical reasons, or economic factors, making them notable examples of Persian architectural diversity. Notable examples include the Sabzevar Caravanserai, Vinar Caravanserai, and Moshiri Caravanserai (Fig.16).³⁹

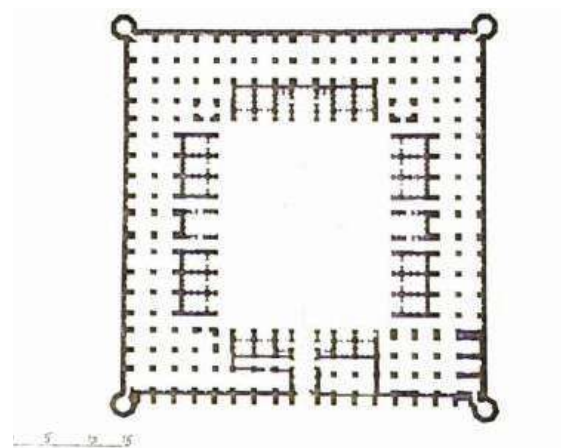


Fig.16

39 Kiani, 1970, p. 171-173

Maxime Siroux, who was a French architect and archaeologist, in his book “Caravansérails d’Iran et petites constructions routières”, classified the Persian Caravanserais based on geographical context and did a classification related to the construction and financing of these structures. The first classification provides insights into how these structures were adapted to suit different environments and fulfil different functions across diverse landscapes. He organised the Caravanserais into different categories based on factors such as urbanisation, proximity to population centres, and climatic conditions, leading to the emergence of two types of Caravanserais: urban and sub-urban Caravanserais.

The Urban Caravanserais were strategically located in densely populated cities next to markets, commercial areas, and transportation centres, playing an essential role in facilitating trade and travel. These types of Caravanserais, in addition to their primary function as accommodation for merchants, also had commercial, religious, educational, etc. The commercial ones were mainly used by travellers and traders conducting business. Some were even located in the bazaars (Fig.17), reserved for trade, and at nightfall, they closed the doors with a guard designed to guard the Caravanserai. Other independent Caravanserais tended to be larger, with multiple courtyards,

Fig.15:

Mountain type : ground plan of Shebli Caravanserai, Tabriz

Fig.16:

Miscellaneous type : ground plan of Moshiri Caravanserai

halls, and rooms to accommodate more guests and facilitate commercial activities. Due to their location in dense areas, they were smaller than the suburban ones. Thus, some urban Caravanserais had two storeys, and their functions and spatial organisation were influenced by their urban location.⁴⁰



Fig.17

The sub-urban Caravanserais, located outside the urban areas, were divided into two types: plain and mountain. These structures were primarily designed to provide accommodation for travellers seeking refuge from the harsh environment, whether in a cold mountain (Fig.18) or a windy and hot desert

40 Siroux, M. (1949). Caravanserais d'Iran et petites constructions routières. p. 117-118

(Fig.19). Additionally, in the plain areas, due to their open landscape and closeness to trade routes, some sub-urban Caravanserais served additional functions, such as providing defence.



Fig.18



Fig.19

Compared to urban Caravanserais, the sub-urban ones featured less decorative elements, mostly preferring functionality

over ornamentation. They had more outdoor areas than urban ones, providing a natural environment for travellers.⁴¹ Urbanisation was an important factor in building these structures, as the function of the Caravanserais depended on them. Sub-urban Caravanserais tended to have more defensive features than the urban ones due to their vast landscape and lack of environmental defence.

Another classification made by Siroux was the construction and financing of Caravanserais. He divided them into three categories: Royal Caravanserais, Private Caravanserais, and *Waqfi*. This classification provide insight into the different sources of funding and the individuals involved in the construction and designing, thus influencing the functions of Caravanserais.⁴²

The Royal Caravanserais were exclusively overseen by the Shah. They were related to the government and fulfilled the needs of the Shah. The Royal Caravanserais, primarily used as accommodation for travellers and the Shah himself, had in addition,

41 Siroux, 1949, p.35-98

42 Siroux, 1949, p.23-29

Fig.17:

Urban Caravanserai located inside Kashan bazaar

Fig.18:

Sub-urban Caravanserai, located in the mountain area, Nir Caravanserai, Nir

Fig.19:

Sub-urban Caravanserai, located in a plain area, Maranjab Caravanserai, Maranjab Desert

Glossary :

Waqf - Islamic endowment where property is entrusted and designated for use in charitable or religious purposes

commercial, security, political, or military functions.⁴³ As the Royal Caravanserais were tied to the Shah, his interests in security, trade routes, and defence were considered when building these structures. The income generated by these Caravan establishments ultimately flowed into the Royal coffers, highlighting the Shah's central role in their construction and operation.

The Private Caravanserais were owned by the private sector, built by benefactors, and used as shelters, cisterns, etc. They brought profit to the individuals owning them and were a good investment; their design and functions depended on the owner.

Lastly, the Waqfi Caravanserais, built by charitable individuals, provided services to ordinary people without payment. They were funded by wealthy benefactors and maintained by charity. The founders of Private Caravanserai and Waiqfi dealt

with the construction of these structures as they saw fit by recruiting a "*memar*" who did all the work for them.⁴⁴

Kiani and Siroux's classifications significantly impacted the categorization of Caravanserais, encouraging other architects and researchers to explore Caravanserais from various additional perspectives. One of those researchers were Mehdi Basouli and Saeedeh Derakhsh, which in their article "*An investigation of the functions of Iranian caravanserais with a landscape approach*" highlights the evolution of Caravanserais' functions. In their research article, they mention the various functions that the Caravanserais served. While their primary role was to provide accommodation for travellers, their long history and the significant influence of external factors, such as location, climate, and sociopolitical influence, led to an evolution in their functions, including economic, cultural, political, security, and military roles, lead-

43 Basouli, M., & Derakhsh, S. (2021). An investigation of the functions of Iranian caravanserais with a landscape approach. MANZAR, 13(54), p.30–33

44 Siroux, 1949, p.23-29

ing them to serve dual functions.⁴⁵

As Caravanserais were primarily built with the thought of a rest stop, additional functions like those mentioned above were added. That led to some Caravanserais serving dual functions. These functions, along with their geographical location and urbanisation and who financed them, affected the architectural design and spatial organisation of the Caravanserais.

The following chapter will examine the importance and impact of these dual functions as a rest stop and fortress, considering the historical, socio-political, and economic situation during the Safavid Period, with Maranjab Caravanserai as a case study.

It will examine the dual role of the Maranjab Caravanserai (Fig.19) as a rest stop and a fortress, the influence on its architectural design and spatial organisation, and compare it with other Safavid Caravanserais.

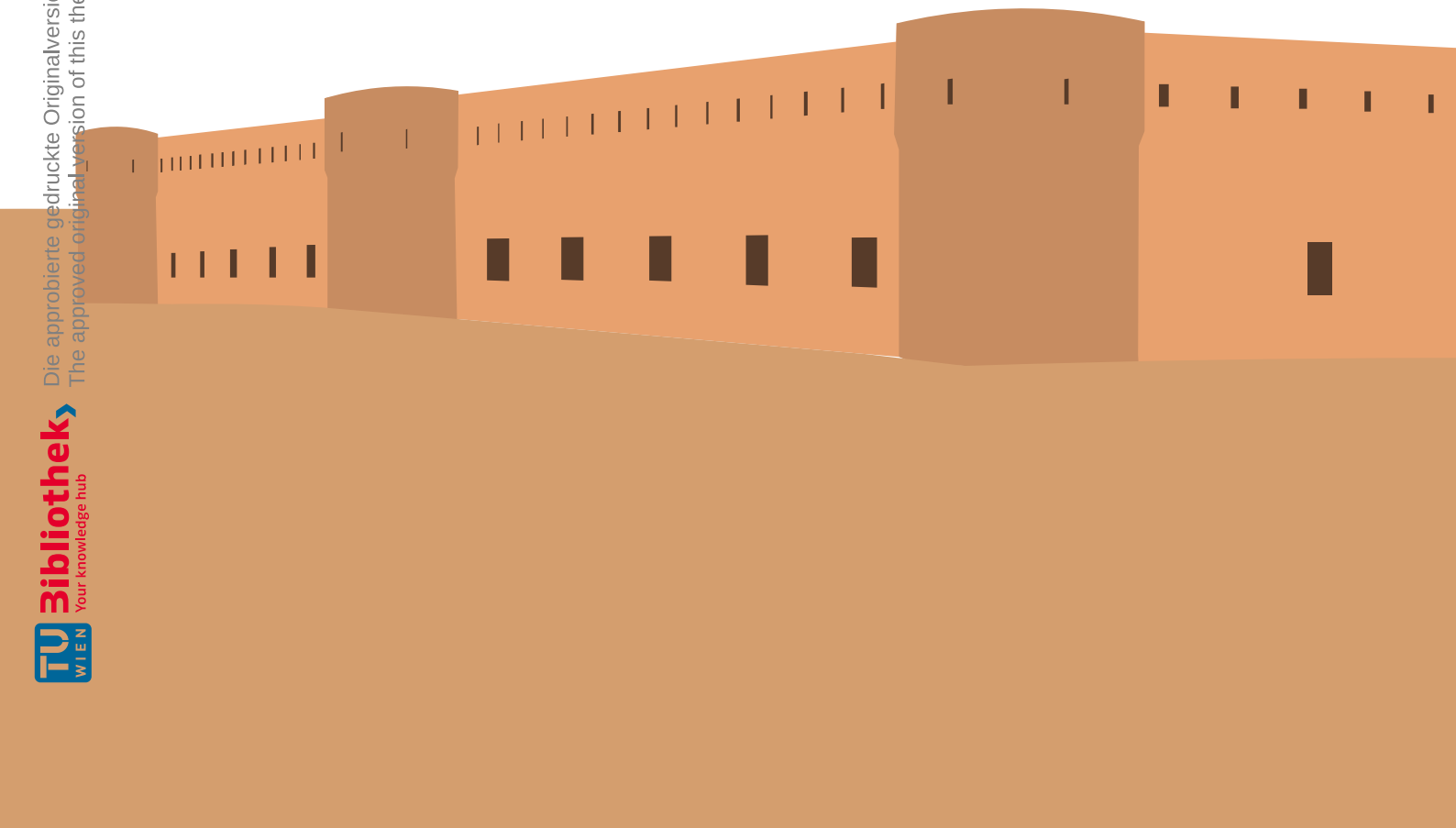
45 Basouli & Derakhsh, 2021, p. 31-34

Glossary :

Memar - a term of Persian origin that refers to an architect or master builder

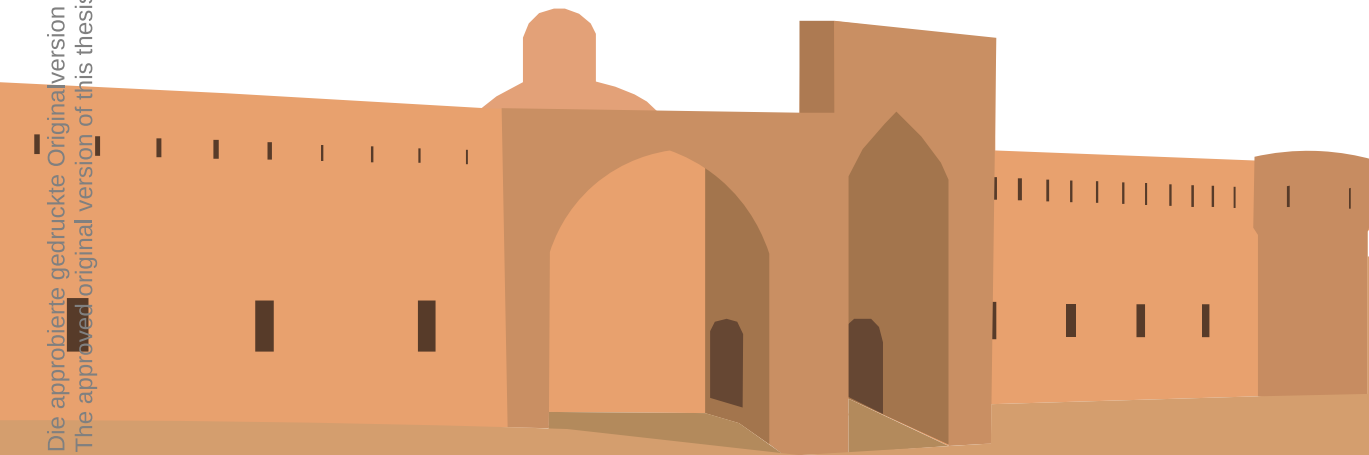
THE IMPACT OF DUAL FUNCTION ON THE DESIGN AND ORGANIZATION OF CARAVANSERAIS

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CASE STUDY

MARANJAB CARAVANSERAI



Maranjab Caravanserai

The previous chapter examined the Safavid period's historical, sociopolitical, and economic context. These factors, along with climatic and geographic conditions, influenced the functions of Caravanserais, leading to their classification based on different factors.



Fig.20

The different typologies of the Caravanserais had an impact on the architectural design and spatial organisation. Maranjab Caravanserai (Fig.20) built by the order of Shah Abbas I in 1604 is an example of a Safavid Caravanserais. This Caravanserai is located in the Maranjab Desert, where one of the routes of the

Silk Road was passing.⁴⁶

Using the Maranjab Caravanserai as an example, this chapter will explore how the previous mentioned factors influenced its dual functions and how these functions, in turn, impacted the architectural design and spatial organization of the Caravanserai.

Influence on the Dual Functions

Historical and Political context

During Shah Abbas I's reign, major military reforms took place. He went on a quest to strengthen the authority of his newly ascended power. He reconstructed the military and administrative systems, initiating the development of advanced trade routes and the strategic construction of Caravanserais. A large number of Caravanserais were built on trade routes.

46 Bakhtiari, S., & Allahyari, F. (2018). Investigation and analysis of the experience of Isfahan in the re-functionalization of caravanserais as tourist facilities. *International Journal of Architecture and Urban Development*, 8. Retrieved from https://www.academia.edu/38057105/Investigation_and_Analysis_of_the_Experience_of_Isfahan_in_the_Re_Functionalization_of_Caravanserais_as_Tourist_Facilities

However, due to the conflicts with the Ottomans and the persistent attacks from Afghans and Uzbeks, Shah Abbas, I felt obligated to build Caravanserais with military functions to protect the vulnerable areas close to the capital. These structures also functioned as a fortresses and were strategically positioned in regions vulnerable to attacks, enhancing defensive capabilities in most compromised areas.⁴⁷



Fig.21

Maranjab Caravanserai was one of the 999 Caravanserais which, which were built by orders of the Shah on the trade routes of Maranjab Desert (Fig.21), close to the capital Isfahan. It had dual functions, responsible for the accommodation of travellers and the security

⁴⁷ Tishineh. (n.d.). Maranjab caravanserai. Retrieved Juni 2, 2024, from <https://tishineh.com/touritem/1314-12/1>

Fig.20:
Maranjab Caravanserai
from a distance

Fig.21:
Maranjab Desert dunes

of the road and the region.⁴⁸ The Maranjab Desert has a long history thanks to its location as a secondary road connection to the Silk Road, a route caravans used to travel to Khorasan, Isfahan, and Ray, making it an essential stop for them to rest and renew their strength. In the Safavid period, the Maranjab route became a crucial connection between the capital, Isfahan, and Mashad, which Shah Abbas I used frequently. Due to the increased attacks from the neighbouring countries, Shah Abbas I, decided to build a fortress in this territory. This fortress-Caravanserai, was used not only by travellers but also, Shah Abbas I personally used this path and lodged in the Caravanserai. This Caravanserai was known as the Maranjab Caravanserai, built by Agha Khizr Nahavandi, the governor of Kashan on orders from the Shah,⁴⁹ with 500 soldiers safeguarding travellers from bandits and

potential military threats.⁵⁰

Geographical context

The Maranjab Caravanserai is positioned in the Maranjab Desert next to the Silk Road, located 50 kilometres northeast of Aran and Bidgol and the southern shore of the Namak Lake in Isfahan Province (Fig.22). This location, with both fresh and saltwater sources, provides the ideal conditions for supporting a Caravanserai.⁵¹

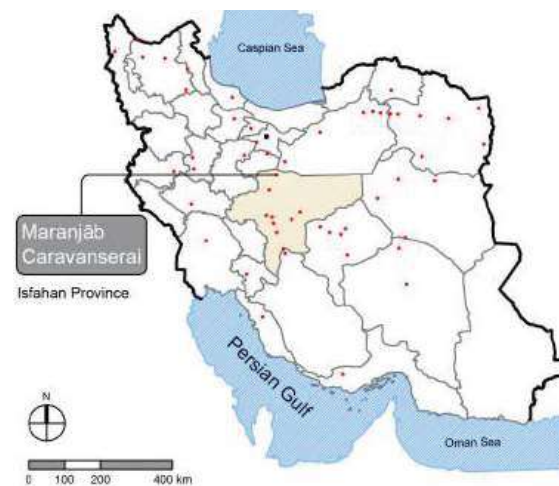


Fig.22

50 ArchiLearn. (n.d.). کاروانسرای مرنجاب (Maranjab Caravanserai). Retrieved April 22, 2024, from <https://archilearn.net/blog/کاروانسرای-مرنجاب-کاروانسرای-مرنجاب>

51 ArchiLearn. (n.d.). کاروانسرای مرنجاب (Maranjab Caravanserai). Retrieved April 22, 2024, from <https://archilearn.net/blog/کاروانسرای-مرنجاب-کاروانسرای-مرنجاب>

48 Maranjab Castle. (n.d.). Maranjab caravanserai. Retrieved May 3, 2024, from <https://maranjabcastle.com/>

49 Maranjab Caravanserai. (n.d.). Retrieved May 3, 2024, from <http://maranjabcaravanserai.com/>

The Maranjab Desert is part of the Band Rig desert, located in the north, with an average height of 850m above sea level. This desert extends north to Mesila Salt Lake, west to Mesila desert and the freshwater desert, east to Pusht Rig Desert and the Desert National Park, and lastly to the south with the Bandrig Desert, known for its dunes.⁵²

There are two theories for the naming of the Maranjab desert, with the first one being the combination of two words, “Maranj” and “Ab”, meaning “don’t worry, there is water”. Due to the presence of “*qanats*” within the Maranjab Desert water is not as scarce as other deserts. The second theory, on the other hand, is that the name “Maranj” is derived from the name “Meranj”, which is a plant that grows in this area. Although it is not known which theory is correct, both have evidence and can be part of the naming of this desert.⁵³

The weather in the Maranjab desert is usually hot and dry, with a significant difference in temperature between night and day. Like any typical desert climate, the summers are extremely hot, often exceeding a

Fig.22:

Map of Iran, with the location of Maranjab Caravan-serai in Isfahan Province

52 Iran Deserts. (n.d.). کویر مرنجاب (Maranjab Desert). Retrieved April 22, 2024, from <https://www.irandeserts.com/article/کویر-مرنجاب/>

53 Kojachetor. (n.d.). Maranjab Desert. Retrieved April 24, 2024, from <https://kojachetor.com/maranjab-desert/>



Fig.23

temperature of 40 degrees Celsius, and the winters are relatively cold. Despite the weather, a significant variation of vegetation and animals can be found here. Mainly salt-friendly vegetation like gaz, tag, arteh, skanbil, kich, etc. are grown here, restored by natural resources to prevent soil erosion and desertification. However, in the past this area was rich with dense vegetation, and taq forests, which were cut for domestic use and building materials. All of that was possible due to the presence of “*qanats*” in this region that supplied water to the vegetation, animals and the caravans. The “*qanat*” (Fig.23) located in this desert is known as the Dastkan well, a freshwa-

ter source situated 4km away from the Maranjab Caravanserai. The freshwater is due provided through giant sand filters that purify the underground water, resulting in a water with low salt content.⁵⁴

Taking the historical, political, and geographical factors into account, the Maranjab Caravanserai was built on a strategic route, close to fresh water, serving as a rest stop for travellers and a fortress defending the area from threats. The above-mentioned factors affected the functions of the Caravanserai, thus influencing the structure’s architectural features and spatial organisation.

Typology

Considering the classification of Caravanserais made by Mohammad Yousef Kian and Maxime Siroux, the typology of the Maranjab Caravanserai can be concluded as follows. Due to historical

Iran Deserts. (n.d.). کویر مرنجاب (Maranjab Desert). Retrieved April 24, 2024, from <https://www.irandeserts.com/article/-کویر-مرنجاب/>

and political factors, the Maranjab Caravanserai was used as a rest stop and a fortress. Built by the orders of the Shah, this type of Caravanserai falls in the group of Royal Caravanserais. As mentioned before, the Royal Caravanserais were tied to the Shah and his interests. The reason for the construction of the Maranjab Caravanserai was commercial and security due to its proximity to the Silk Road, the capital and the political situation of that period. Situated on one of the branches of the Silk Road, far from the urban area, the Maranjab Caravanserai, with its rectangular form, belonged to the sub-urban type of Caravanserai in the country's central plateau. As mentioned in the previous chapter, these types of Caravanserais were built with a large central courtyard surrounded by chambers where travellers could rest. Due to the large space, the Maranjab Caravanserai could accommodate hundreds of travellers and guards and possessed more outdoor space than the urban Caravanserai type.

The next section will delve into the Maranjab Caravanserai, detailing each space and investigating how, or whether, the functions of the Caravanserai influenced its architectural design and spatial organization.

Fig.23:

Dastkan Qanat close to
Maranjab Caravanserai

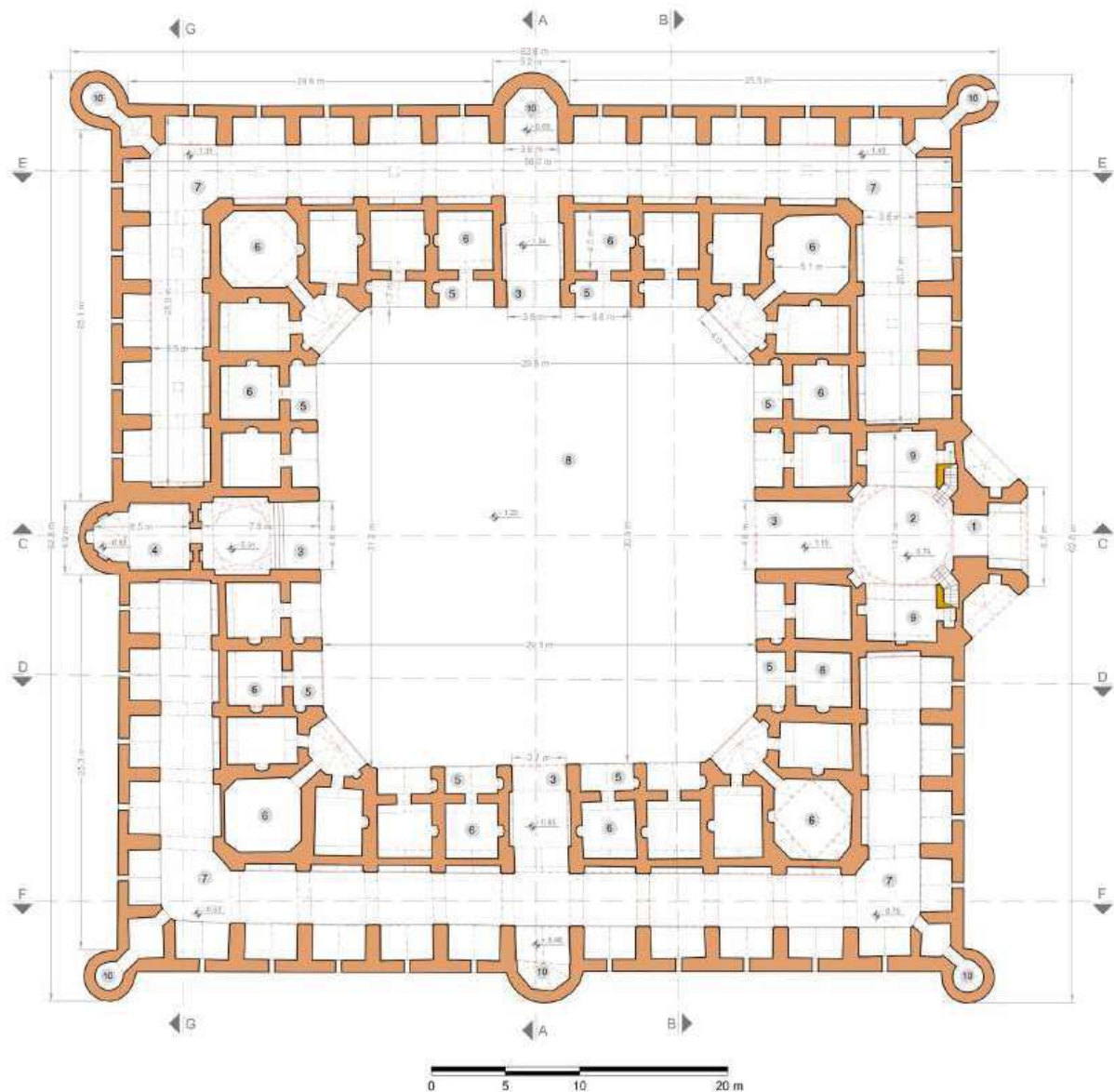


Fig.24

Spatial Structure

Built on an area of 3,600 square meters, the Maranjab Caravanserai's ground plan centred around a central courtyard, surrounded by chambers and camel stables on the north and south sides, all enclosed by massive high walls for protection and six towers for monitoring and defending (Fig.24).⁵⁵ In the following paragraphs, a detailed breakdown on the spatial elements of the Maranjab Caravanserai and how, or whether, the dual function has influenced them will be provided. Like most Safavid Caravanserais located in the central plateau, the Maranjab Caravanserai consists of the following areas: entrance, iwan, central courtyard, chambers, stables.⁵⁶ In addition due to its defensive function, the caravanserai features towers and guard rooms.

Entrance

The entrance (Fig. 24 (1 & 2)) is a spatial complex that links the outside and inside of any compound, be it a city, a garden, a caravanserai or a house. It has been an essential part of Caravanserais' archi-

⁵⁵ Maranjab Castle. (n.d.). About us. Retrieved February 15, 2024, from <https://maranjabcastle.com/دربار-دما/>

⁵⁶ Islamic Republic of Iran, Iranian Ministry of Cultural Heritage, Tourism & Handicrafts (IMCHTH). (2021). Nomination of the Persian caravanserai for inscription on the World Heritage List: Maps. Tehran

Fig.24:

Ground Plan of Maranjab
Caravanserai

ture from its origin until today. Like other Caravanserais with a similar functions, the Maranjab Caravanserai, for defensive reasons, had only one entrance located approximately on the east side of the compound, enabling better management and defence against intruders. The entrance of the Caravanserai was the most prominent feature of the building, showcasing the importance of the compound to the travellers (Fig.24). For security reasons and flow, the entrance of th Maranjab Caravanserai consisted of few components: “*pishtaq*”, “*jalukhan*”, “*dargah*” and “*hasti*”.

“*Pishtaq*” (پیش تاق), meaning “*arch in front*“, is the arched entrance of the Caravanserai that serves as a transitional space between the exterior and the interior of the building.⁵⁷ It is usually beautifully decorated and higher than any other part of the facade and helps create a sense of hierarchy, showing the importance of the entrance of the Caravanserai (Fig.25).

The “*pishtaq*” in urban areas is usually decorated with designs, tiles, sculptures

or patterns, making it visually striking and prominent.⁵⁸



Fig.26

Considering the location and functions of the Maranjab Caravanserai as both a rest stop and a fortress, the ‘*pishtaq*’ appeared simple and undecorated, in contrast to those in urban areas with commercial functions.

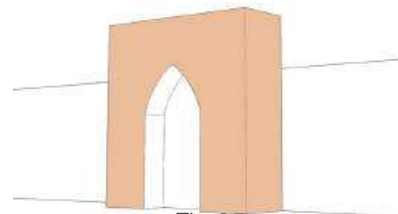


Fig.25

57 J. Caskey, Adam S. Cohen, and L. Safran, Art and Architecture of the Middle Ages: Exploring a Connected World, 2022

58 Memarsaz. (n.d.). پیشخوان پیشتاق در معماری ایرانی (Precedent of the Iranian architecture). Retrieved May 10, 2024, from <https://memarsaz.com/پیشخوان-پشتاق-در-معماری-ایرانی/>

It was rectangular, with a centrally located archway serving as the entrance to the caravanserai (Fig. 26).

“*Jalukhan*” (جلوخان), an element found usually in desert Caravanserais, is the space border between the outside and inside (Fig.27), found in front of the entrance door “*dargah*”. It is a small rectangular space used as a buffer zone for entry, pause and gathering.

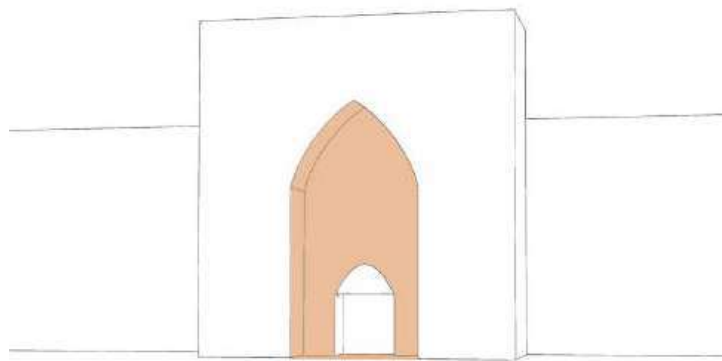


Fig.27

In Maranjab Caravanserai, the “*jalukhan*” was enclosed from several sides and, due to its fortress-like function, helped maintain and control the flow of travellers and animals and ensure that only authorised people can enter the Caravanserai.⁵⁹

“*Dargah*” (درگاه) is the small space where the front entrance is placed. From an architectural point of view,

59 “*Jelukhān* in Architecture: What is Jelukhān?”
ArchiLearn, accessed May 22, 2024, <https://archilearn.net/blog/-جلخان-در-معماری-جلخان-چیست/>

Fig.25:
Illustration of “*pishtaq*”

Fig.26:
The entrance to Maranjab Caravanserai: a view of the façade “*pishtaq*”

Fig.27:
Illustration of “*jalukhan*”

Glossary :

“*Pishtaq*” (پیش تاق) - tall arch frame of an iwan

“*Jalukhan*” (جلوخان) - space border between outside and inside

“*Dargah*” (درگاه) - entrance space where the door is located

“*Hasti*” (هشتی) - space between entrance and iwan

the “dargah” is usually walled on both sides where the entrance door frame is installed. The arch of the doorway, known as the “*nail arch*”, can be either arched or horizontal, with Maranjabs’ being arched (Fig.28).⁶⁰



Fig.28

The arched doorway was built from brick approximately with a height of 3.2 m. Unlike in other buildings, the “*dargah*” in

Caravanserais were taller, allowing for animal movement. The entrance door was made of durable wood, strong enough to endure unavoidable attacks and defend the ones inside.

“*Hasti*” (هشتی) is an essential element in the Caravanserai, usually found in the Caravanserais with a courtyard connecting the entrance with the central courtyard.⁶¹ In Maranjab Caravanserai, the “*hasti*” had an octagonal shape with a domed roof and a small opening, helping reduce the heat from outside (Fig.29). Some “*hasti*” areas, like in Maranjab Caravanserai, have guard rooms on both sides, controlling the entrance. The right and left sides of the entrance in the “*hasti*” area contained stairways leading to the roof where the towers and the observation points were located. Due to the frequent foot and animal traffic and their weight, bricks or stones were laid down vertically to increase the floor’s durability.

60 ArchiLearn. (n.d.). کاروانسرا و معماری کاروانسراهای ایران (Caravanserai and the architecture of Iranian caravanserais). Retrieved May 22, 2024, from <https://archilearn.net/blog/کاروانسرا-و-معماری-کاروانسراهای-ایران>

61 ArchiLearn. (n.d.). کاروانسرا و معماری کاروانسراهای ایران (Caravanserai and the architecture of Iranian caravanserais). Retrieved May 22, 2024, from <https://archilearn.net/blog/کاروانسرا-و-معماری-کاروانسراهای-ایران>

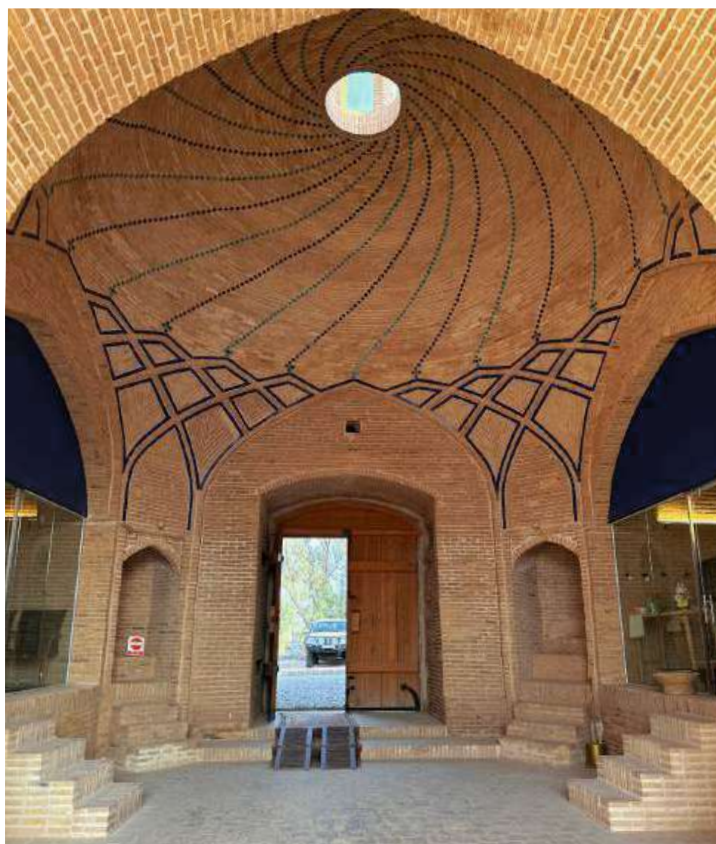


Fig.29

Iwan

“Iwans” (ایوان) were and still are important features in Persian architecture, found not only in Caravanserai but also in mosques, schools and other important buildings. They are large rectangular vaulted spaces walled on three sides, with one side entirely open (Fig.31). Used as a cooling element, they can be mostly seen in Islamic traditional architecture, although their origin is pre-Islamic all the way to the

Fig.28:

A view from “dargah”

Fig.29:

A view from “hastī”, guard rooms and two stairway leading to the towers



Parthian Period, the third century CE. The depth and orientation of “*iwans*” are the key factors influencing their cooling performance. Deeper “*iwans*” (1-3 meters) are more effective at shading and cooling the interior spaces compared to shallower “*iwan-s*”.⁶² Most of the Caravanserais in Safavid Period are built with two-iwans or four-iwans.⁶³

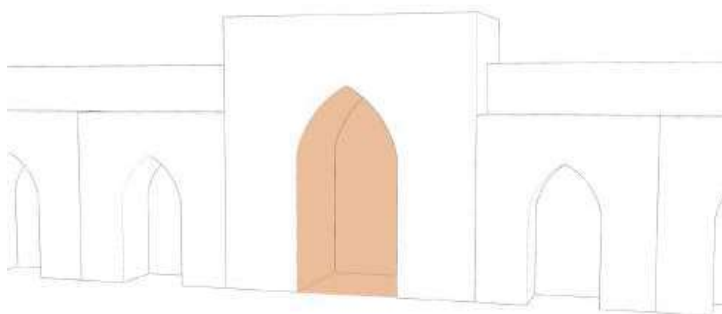


Fig.31

The Maranjab Caravanserai was a “*four-iwan*” Caravanserai (Fig.24), where the “*iwans*” were located on each side of the central courtyard, aligned with the central axes, serving as a connecting space or en-

⁶² Kamyab, A., Mahmoodi Zarandi, M., & Nikpour, M. (2023). Investigating the effect of different proportions of iwan and window area of adjacent room on cooling/heating load and energy consumption in central courtyard model in Yazd. Iranian (Iranica) Journal of Energy and Environment, 14(2), p.118-126

⁶³ Bakhtiari, S., & Allahyari, F. (2018). Investigation and analysis of the experience of Isfahan in the re-functionalization of caravanserais as tourist facilities. International Journal of Architecture and Urban Development, 8. Retrieved from https://www.academia.edu/38057105/Investigation_and_Analysis_of_the_Experience_of_Isfahan_in_the_Re_Functionalization_of_Caravanserais_as_Tourist_Facilities

Fig.30:

A section through the courtyard of Maranjab Caravanserai



Fig.31:

Illustration of “*iwan*”

trance to other areas. The main “*iwan*”, which was located at the entrance of the building, connected the “*hasti*” with the central courtyard. Two “*iwans*” were used to connect to the stables, and the last one, opposite the main “*iwan*”, connected to Shah Abbas I s` personal chamber (Fig.30).

“*Iwancheh*” is a smaller version of “*iwan*” located in front of the chambers of Caravanserais. Similar to “*iwan*” it works as a transition from an open space to a closed one, usually used for sitting, talking, etc (Fig.33). Their placement in front of the chambers adds shade and helps cool them.

Central Courtyard

The central courtyard, also known as “*hayate markazi*”, is the heart of the Caravanseraï, playing an essential role in its overall design and function. Unlike its outer layer, the courtyard of Maranjab Caravanseraï had a large and spacious rectangular form, with a size of 20 x 30 meters, allowing maximum air circulation (Fig.32). The courtyard’s design

facilitated natural ventilation. The surrounding structures’ high walls and the courtyard’s open space worked together to create a cooler environment, utilising the natural breeze and providing a break from the harsh outside temperatures. It also served as a space for assembling the caravans and unloading the goods. The courtyard was surrounded by four “*iwans*” and a series of “*iwancheh*” where the chambers are located. The central courtyard served as a gathering place for travelers, providing an opportunity for interaction and socialization.



Fig.32

Chambers

The sleeping chambers, also known as “*hojreh*” (حجره), were situated around the central courtyard on a raised platform (Fig.33), approximately 70 and 80 cm from the ground. They were connected

to the courtyard through the “iwanches”, providing easy access to the communal area and other facilities.



Fig.33

The chambers of Maranjab Caravanserai, like in most Caravanserais, were strategically designed to meet the needs of the travellers, offering rest and shelter. There were 29 chambers in Maranjab Caravanserai, which were used by the travellers. One large chamber was situated on the opposite side of the main entrance and was only occupied by the Shah (Fig.34) when he stayed in the Caravanserai. The chambers of the Caravanserai were symmetrically arranged along the central axis. Most of them were rectangular, except the ones at the corners, which were octagonal. There was only one opening leading to the chambers and a curtain which was separating it from the outside.

Fig.32:

View from the central courtyard

Fig.33:

View from the chambers

Glossary :

“Hayate markazi”

(حيات مرکزی)- persian word
for central courtyard

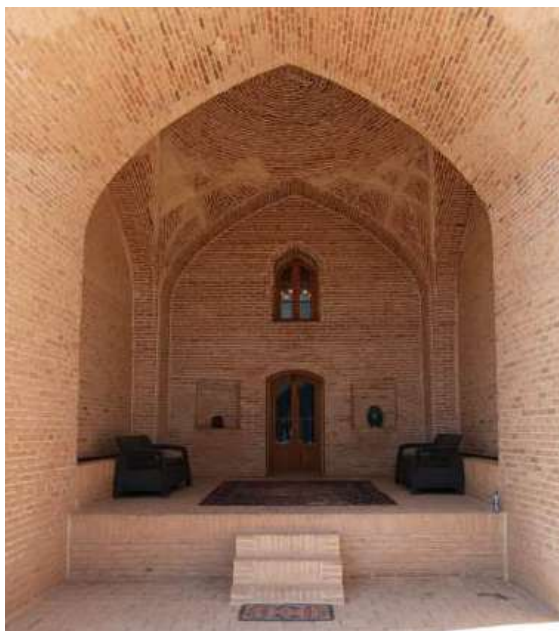


Fig.34

The rooms were relatively empty, with only a semi-circular niche used as a place for the chimney (Fig.35). Behind each chamber was the “shotorkhane,” where the travellers’ animals were kept.



Fig.35

In some Caravanserais, a small opening was between the chamber and the stable so guests could check on their animals. However, such an opening could not be seen in Maranajab Caravanserai. The chambers, where travellers or the Shah stayed, were the most protected spaces in the entire caravanserai. They were secured from the rear, where the shotorkhane was located, and the front, facing the courtyard.

Guard rooms

Like most Caravanserais with a defensive function, the need for guards was



Fig.36

essential. As mentioned before, the Maranjab Caravanserai was guarded by 500 guards, protecting the structure and the area from threats. The guard rooms were located in the entrance area (Fig.36), on both sides of the “*hashti*”, next to the stairways which led to the towers. Being located at the entrance, the guards were able to control the flow of the incoming traveller and secure the Caravanserai.

Shotorkhane

The stables were known as “*shotorkhane*” (شترخانه). They were an essential space in the Caravanserai, as animals’ needs and well-being were vital in supporting travellers’ and merchants’ transportation and trade activities.



Fig.37

Fig.34:

View from the Shah Abbas chamber

Fig.35:

Inside the chamber

Fig.36:

Guard rooms located in the entrance

Fig.37:

View from the hall within the “*shotorkhane*”

In Maranjab Caravanserai, they were located on both the right and left side of the main entrance, directly connected to the central courtyard through the “*iwans*”. The large hall accommodated horses, camels, donkeys and mules, providing them shelter and water (Fig.37). Parallel to them were the guests’ chambers (Fig.38).

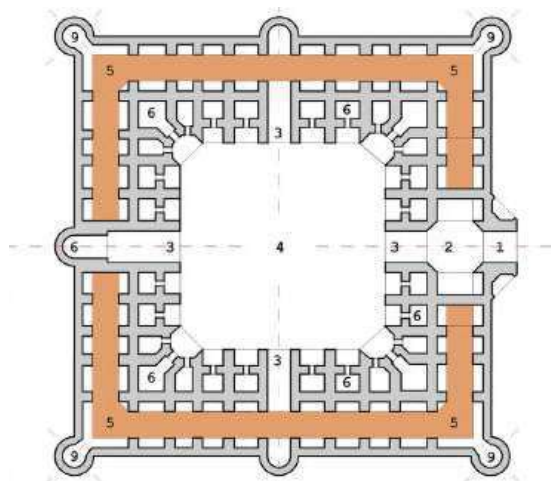


Fig.38

Garden

In some Caravanserai in addition to the central courtyard inside the Caravanserai, there was also an adjacent garden outside of the structure.⁶⁴

In Maranjab Caravanserai, the garden contained a large pond and vegetation (Fig.39). The pond with an area of 50 x 15 meters was connected to the *qanat* that supplied water to the pond and the Caravanserai. Apart from the pond, the garden was filled with salt- friendly plants and bushes, such as the Tamarisk tree.

A study by Mohsen Tabassi and Hasan Naseri Azghand concludes that certain physical factors in Caravanserais contribute to security. The single entrance, along with the guard rooms located there, controls the flow of the Caravanserais’ depth of the entrance at the Maranjab Caravanserai. By passing through several spaces, including the iwans and courtyard, before reaching the private chambers, enhances the level of secu-

⁶⁴ Mashbaki Esfahani, A. (2018). Comparative analysis of the architectural space of Safavid caravanserais with a physical approach. Tehran, Iran. p. 16

rity through this prolonged pathway. Even the stables' "*shotorkhane*" location behind the chambers is a manner of defence, protecting the chambers from both sides.⁶⁵



Fig.39

Materials

Using suitable materials for construction of a Caravanserai was very important. It all depended on the climate and the location, as the structure's durability in harsh environments was an essential part of the Caravanserai. Due to its distance from the urban area, transporting materials for the construction of Maranjab Caravanserai was difficult. This led to establishing a brick factory on the west side of the Car-

65 Tabassi, M., & Naseri Azghandi, H. (2020). Recognition of the architecture of Safavid caravanserais from the view of passive defense. In Proceedings of the 54th International Conference of the Architectural Science Association (ANZAScA) (p. 910). Islamic Azad University, Mashhad, Iran

Fig.38:

Ground plan of the Maranjab Caravanserai showing the placement of the "*shotorkhane*" (orange)

Fig.39:

Aerial view of the Maranjab Caravanserai surrounded by a pond and trees

avanserai, the remains of which are now buried in the sand.⁶⁶ Materials like bricks and stones were used in the construction and foundation of the Caravanserai. Bricks, which were baked clay, were used as the primary construction materials. They were laid in patterns for structural strength and aesthetics (Fig.40). On the other hand, the stones were used in the foundation of the Caravanserai. Each measuring 24x24x5 cm, the bricks were joined with clay or a clay-lime mortar.⁶⁷



Fig.40

⁶⁶ Bakhtiari, S., & Allahyari, F. (2018). Investigation and analysis of the experience of Isfahan in the re-functionalization of caravanserais as tourist facilities. *International Journal of Architecture and Urban Development*, 8. Retrieved from https://www.academia.edu/38057105/Investigation_and_Analysis_of_the_Experience_of_Isfahan_in_the_Re_Functionalization_of_Caravanserais_as_Tourist_Facilities

⁶⁷ Reyhani Arani, M. (2000). Bargi az Daftar Kovir (برگی از دفتر کویر) (Master's thesis, Faculty of Architecture and Urban Planning, Iran), pp. 250–258

Structural Elements

Foundation

The foundation of Maranjab Caravanserai was made of stones. Based on their size, two types of stones were used in the construction of the structure: large stones, which were usually uneven, and small stones, which were usually used between the larger ones, filling the space between. These stones were used for the foundation under the walls and “iwans,” carrying the roof's weight.⁶⁸



Fig.41

⁶⁸ Reyhani Arani, 2000, p. 250

Floors

The flooring in Maranjab Caravanserai could be divided into three parts : First was the flooring located in “*shotorkhane*” and the hall; due to the constant use by animals these floorings were from broken small stones and were worn out. Second was the platforms’ flooring, which was made of bricks with simple patterns (Fig.41). Lastly, the flooring inside the “*hojreh*”, which was made entirely out of bricks, and mud or lime-mud was used for the mortar in-between.⁶⁹

Platforms

The platforms were found in the courtyard before entering the chambers (Fig.41), before the main entrance (Fig.42) and in the “*shotorkhane*” (Fig.43)



Fig.42

69 Reyhani Arani, 2000, p.258

Fig.40:

The brick pattern on the wall

Fig.41:

Platform flooring

Fig.42:

Entrance platform

where the stables were located. What was different between the platforms in Maranjab Caravanserai was the form of the platforms; the one located by the entrance had a rectangular form, and the ones in “*shotorkhane*” had a rectangular form in the front and a quadrilateral on the back. In the platform of “*shotorkhane*”, due to the high height, there was also a small opening in the size of a brick which was probably used as a stepping for the workers who needed to clean the stables.⁷⁰



Fig.43



Fig.44

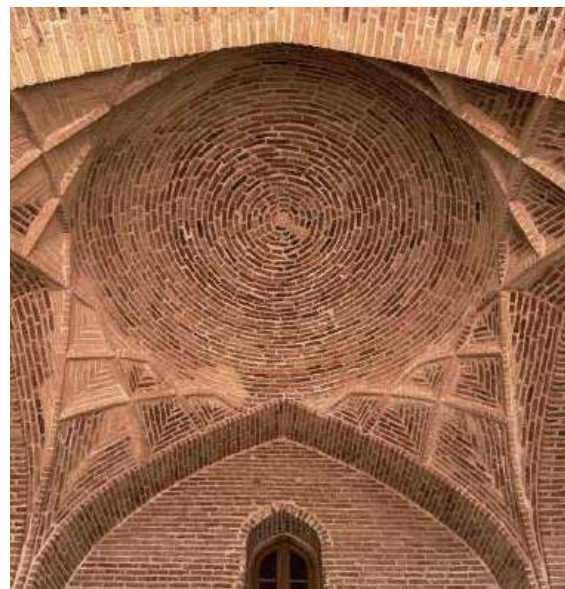


Fig.45

⁷⁰ Reyhani Arani, 2000, p. 255

Roof

The entrance to the roof was through narrow, low-ceiling stairways, two of which were located in the entrance where the “*hasti*” was and two others on the corner of the Caravanserai where the “*shotorkhane*” was located.

Two types of roofs could be found in the Maranjab Caravanserai: cylindrical (Fig.44) and spherical (Fig.45). Both types were constructed with bricks and designed to transfer the weight downwards to the walls, piers, and foundation (Fig.46).

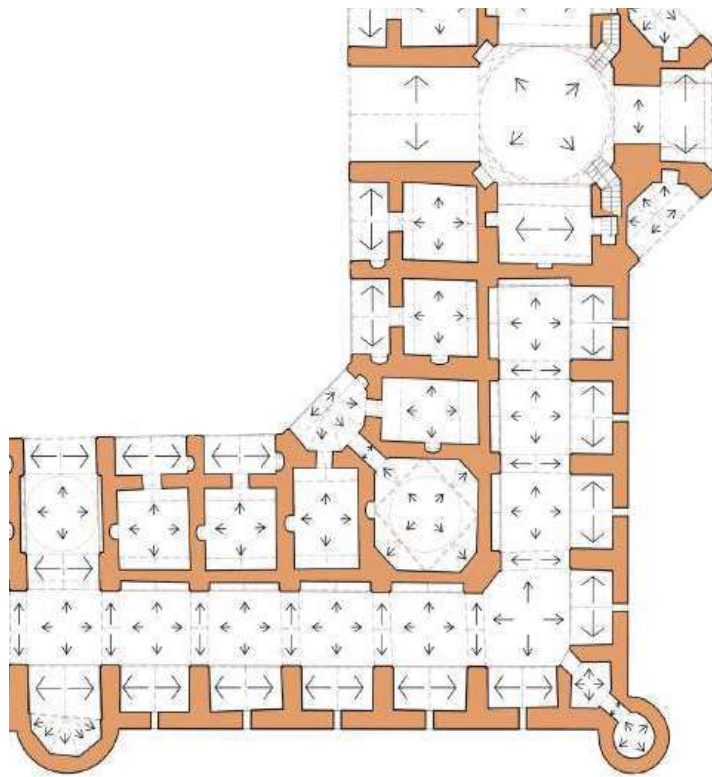


Fig.46

Fig.43:

The “*shotorkhane*” platform, featuring an opening below, was used as a step

Fig.44:

Cylindrical roof located in “*shotorkhane*”

Fig.45:

Spherical roof located in the “*ivan*”, connected to Shah Abba’s Chamber

Fig.46:

Illustration of the Maranjab Caravanserai roof: type and weight distribution

Piers

The piers of Maranjab Caravanserai varied in thickness between two and three and half-brick, with two half-brick recesses on the side. They transmitted the weight to the foundation by supporting the load from the roof, platforms, and vaulted spaces. In Maranjab Caravanserai three different forms of piers could be found: The Vertical Piers were found in the “*iwans*” and platforms in the courtyard (Fig.47), the platforms in the stable (Fig.43) and the piers of the exterior wall of the Caravanserai (Fig.48).



Fig.47



Fig.48

The Chamfered Piers (convex and concave shape) were found next to the entrance of the Caravanserai (Fig.49) in front of the entrance of the stables and within the stables. Lastly, there were the Curved Piers which were found in the towers and the outer wall of the central space.⁷¹



Fig.49

⁷¹ Reyhani Arani, 2000, p. 251

Stairways

Overall, four main stairways were found in the Caravanserai which led to the roof. Made from bricks, these stairways were narrow with a low ceiling. The width of the stair was four-bricks (96cm), and the depth one-brick (24cm). The height between the first step and the rest was different, the first having 80cm in height and the rest between 20 and 25 cm (Fig.42). Other small stairways were located in the towers where the arrow slits were located, which consisted of two to three steps but with an imposing height, used only when using the arrow slits.

Defensive Features

Defence played a crucial role in the function of the Caravanserai. Massive walls, archery spaces, defensive towers, towers and hundreds of soldiers were key components of its fortification. Rectangular arrow slits, with a height equivalent to five or six bricks, a width of approximately one brick, and a depth of two to two and a half bricks, were present on the towers and the external wall, which was 70-80 cm thick (Fig. 50). They were primarily created to allow archers to shoot arrows at attackers from within the safety of the walls while minimising exposure to incoming attacks. The interior of these openings was often designed to widen towards the inside, allowing

Fig.47:

Vertical Piers in "*iwans*" and platforms

Fig.48:

Vertical Piers exterior wall

Fig.49:

Chamfered Piers in the entrance

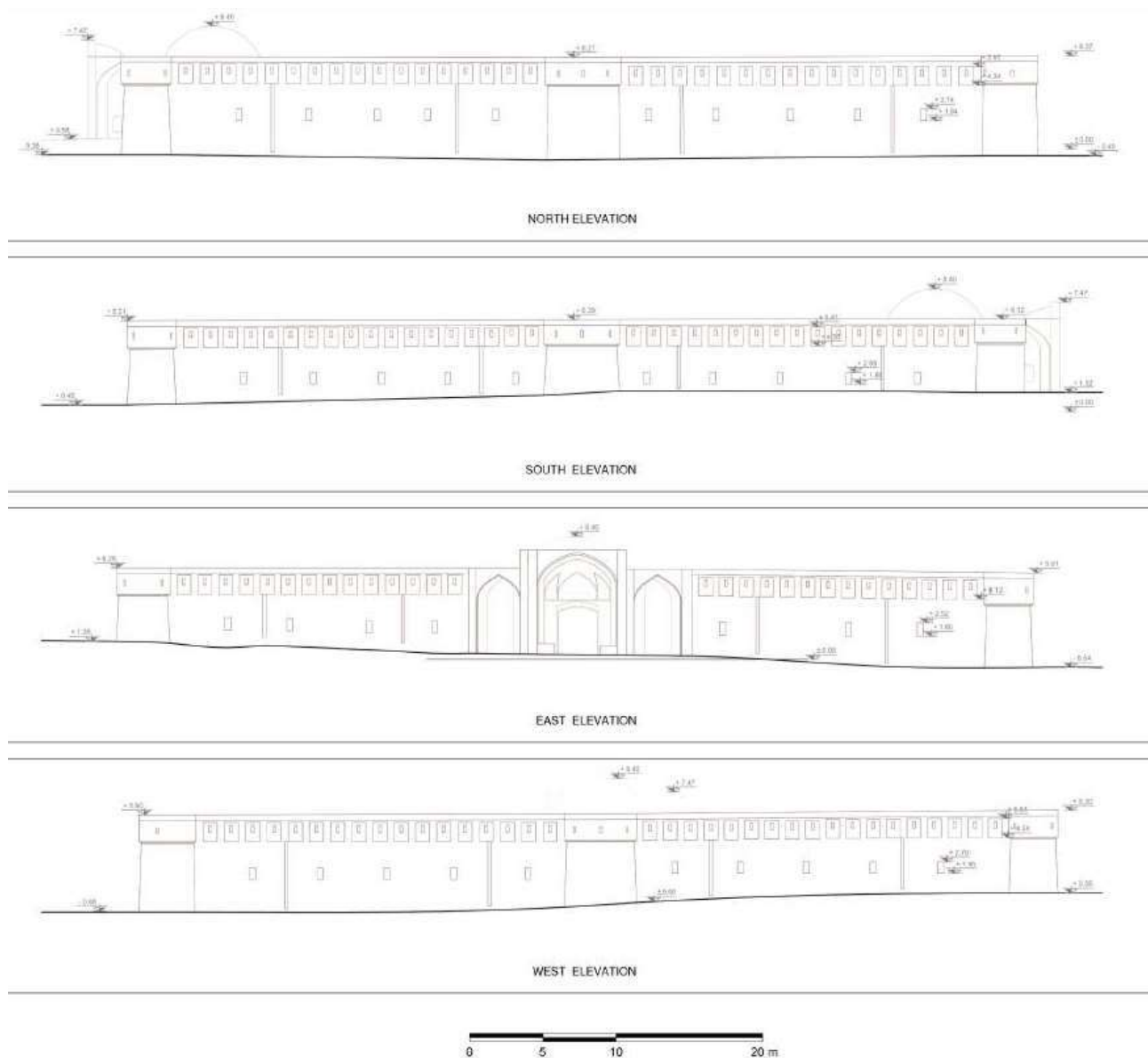


Fig.50

the defender a more comprehensive range of movement for aiming while maintaining a small external opening to limit vulnerability from the outside. They were located on the upper part of the Caravanserais' wall (Fig.51), and in the towers which could be reached from stairways leading to the roof. Other arrow slits could also be found behind the stables with a height of eleven-bricks, width of one-brick and depth of three and half to four-bricks.⁷²



Fig.51

Towers

As a Caravanserai with a defence function, the Maranjab Caravanserai contained six observation tow-

Fig.50:

Elevation of the Maranjab Caravanserai, showing the towers and arrow slits

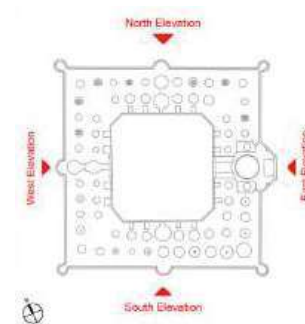


Fig.51:

Exterior wall of the Maranjab Caravanserai with arrow slits at the top and bottom

⁷² Reyhani Arani, 2000, p.267-269

ers on the roof. Four were located on the corners of the Caravanserai, and two more facing each other were located in the middle of the two side walls, with arrow slits in the walls of the towers (Fig.50). The six towers provided a wide field of vision over the surrounding area.

Architectural Elements

Heating

Although the Maranjab Caravanserai was located in the middle of the desert, the nights were known to be cold. The heaters in the Caravanserai were placed in two places: in the courtyard and inside the chambers.



Fig.52

The heaters inside the chambers featured a semi-circular plan with a semi-oval arch (Fig.52). The chimneys extended to the roof in a semi-circular shape but had a square opening at the roof level (Fig.53).

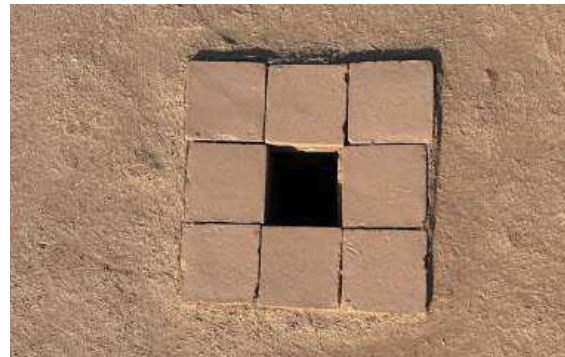


Fig.53

Lighting

The lighting of the Caravanserai during the day was provided by the openings found on the roof (Fig.54), whereas candles were used at night. In the platforms of the stables, there were openings in the size of 1/16 of a brick, which were used as candle spaces. In the courtyard, no opening could be seen, which could be due to the usage of fuel materials such as oil in devices called “fanus”.⁷³

⁷³ Reyhani Arani, 2000, p. 250



Fig.54

Gutters

The gutters were visibly positioned on the exterior wall of the Caravanserai (Fig.55), running vertically from the roof downwards, ending three bricks before the ground (72 cm), with a width of one brick and a depth of half a brick.



Fig.55

Fig.52:
Heater inside a chamber

Fig.53:
A chimney opening in the
roof

Fig.54:
A rooflight opening

Fig.55:
Gutters on the exterior wall

Decoration

Like many structures in the Safavid time, Caravanserais were also decorated, especially with tiles. They were usually used at the entrances, “*iwans*”, and chambers of Caravanserais (Fig.56). Urban caravanserais were often more decorated than rural ones due to their different functions: urban caravanserais were more commercial, while rural ones were primarily for protection.



Fig.56

Maranjab Caravanserai had the minimal decoration needed in a Caravanserai due to its military background; only the entrance was ornamented with tile work. Simple tile work with arabesque motifs was used at the entrance of the Caravanserai, especially on the ceilings of “*ja-lukhan*” and “*hast*” (Fig.57).



Fig.57

Niche

The niches in the Maranjab Caravanserai had a width of 80-90 cm, and one brick

was about 25cm in depth. The height was different depending on the location that was placed. Formally, two types of niches could be found in the Caravan



Fig.58

serai. A niche with a vaulted shape, that was located on the side walls of the platforms adjacent to the chambers, was used for storage. Then, there were the ones with a rectangular shape without a vault, symmetrically placed on the sides of the “iwans” (Fig.58).⁷⁴

⁷⁴ Reyhani Arani, 2000, p. 259

Fig.56:
Decoration at the entrance,
“jalukhan” area

Fig.57:
Decoration on the ceiling of
“hashti”

Fig.58:
Niche at the “iwan” en-
trance

Comparative Analysis with Other Caravanserais

The Maranjab Caravanserai serves as both a rest stop and a fortress. In this section, a two-part comparison will be made between the Maranjab Caravanserai and other Safavid Caravanserais. The first part will focus on Caravanserais that shared the same dual functions as the Maranjab Caravanserai, while the second part will focus on Caravanserais with different functions. This analysis will show how these functions influenced Caravanserais's architectural design and spatial organization with the help of Kianis' and Siroux's classification.

Same Dual Functions

For the comparison of Caravanserais with the same dual function as Maranjab Caravanserai, two Caravanserais will be examined, the Gabr Abad Caravanserai and the Amin Abad Caravanserai.

The Gabr Abad Caravanserai (Fig.59) is situated along the Qamsar-Kashan

Road, 2 km from the city of Qamsar. Like the Maranjab Caravanserai, it falls in rectangular/square type of Caravanserais, located in the central plateau of the country. It has a four-iwan pattern, facing each other across the central courtyard: one located in the main entrance, while the other three lead to the royal chambers. The Gabr Abad Caravanserai contains thirty-one rooms, including twenty summer chambers, four winter chambers, three royal chambers, two guard rooms, and two multifunctional external guard rooms. Four defensive towers are strategically placed at the corners, enhancing the structure's security. Two stairways are located at the entrance in the "hashti" area, leading to the roof, where the towers and a second floor are situated. This upper level which is located above the entrance, includes two guard rooms, allowing the guards a better view of the surrounding area, which was advantageous given the proximity to ur-

ban area and mountainous terrain.⁷⁵

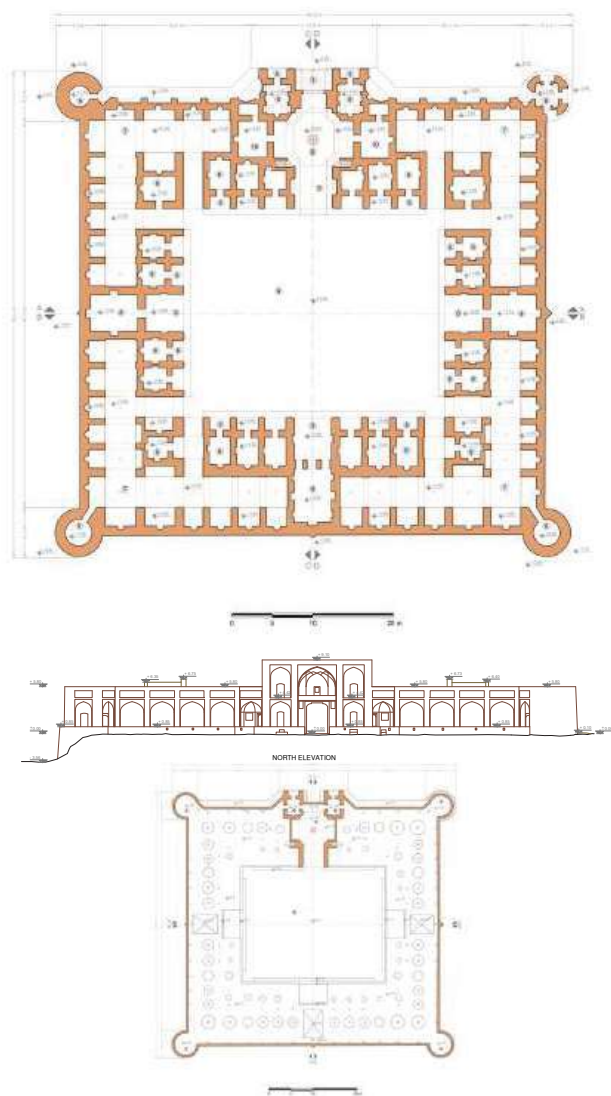


Fig.59

75 Mehr News. (2024). کاروانسرای گبرآباد؛ الگوی منحصر به فرد با ۳۱ اتاق (Gabrabad Caravanserai: A unique model with 31 rooms). Retrieved September 02, 2024, from <https://www.mehrnews.com/news/5896804/-کاروانسرای-گبرآباد-الگوی-منحصر-به-فرد-با-۳۱-اتاق>

Fig.59:

Ground plan of first and second floor, and frontal view of Gabr Abad Caravanserai

- ① Voroudi (Entrance)
- ② Hashti (Hallway)
- ③ Iwān (Porch)
- ④ Shāh-Neshin (Alcove)
- ⑤ Iwāncheh (Small Porch)
- ⑥ Hojreh (Chamber)
- ⑦ Shotor-Khān (Carnel Stable)
- ⑧ Hayāt-e Markazi (Central Courtyard)
- ⑨ Otagh-e-Janebi (Lateral Spaces)
- ⑩ Lateral Spaces

Another Caravanserai that shares the same function as the Maranjab Caravanserai is the Amin Abad. The Amin Abad Caravanserai (Fig.60) is located between the cities of Shahreza and Abadeh in a small village with the same name as the Caravanserai. Given the strategic location and defensive architectural features of the Amin Abad Caravanserai, its construction was likely intended for military purposes. According to Kiani's classification, the Caravanserai belongs to the octagonal type, distinct from the Maranjab Caravanserai. However, like Maranjab, it is located on the central plateau and features a central courtyard, iwans, chambers, and stables. The Caravanserais' external form mirrors the internal courtyard, with a four-ivan pattern and eight towers at each corner. The entrance to the stables is situated on both sides of the ivan, summing to eight entrances. Like the Gabr Abad Caravanserai, there are four iwans: one at the entrance and the other three leading to the royal chambers. It also features an

upper floor above the entrance, likely due to its proximity to an urban area, providing a vantage point for better surveillance and security.⁷⁶

All three Caravanserais, the Maranjab, Gabr Abad, and Amin Abad, share the same function as a rest stop and a fortress. Due to their functions, they were all built by the orders of the Shah, categorising them in the Royal Caravanserai group. Although they share the same functions, differences in architectural design and spatial organisation are seen, influenced by other factors such as location, defensive needs, and environmental conditions.

76 Reyhani Arani, M. (2000). A leaf from the desert diary (Master's thesis, Faculty of Architecture and Urban Planning, Iran). p.152-155

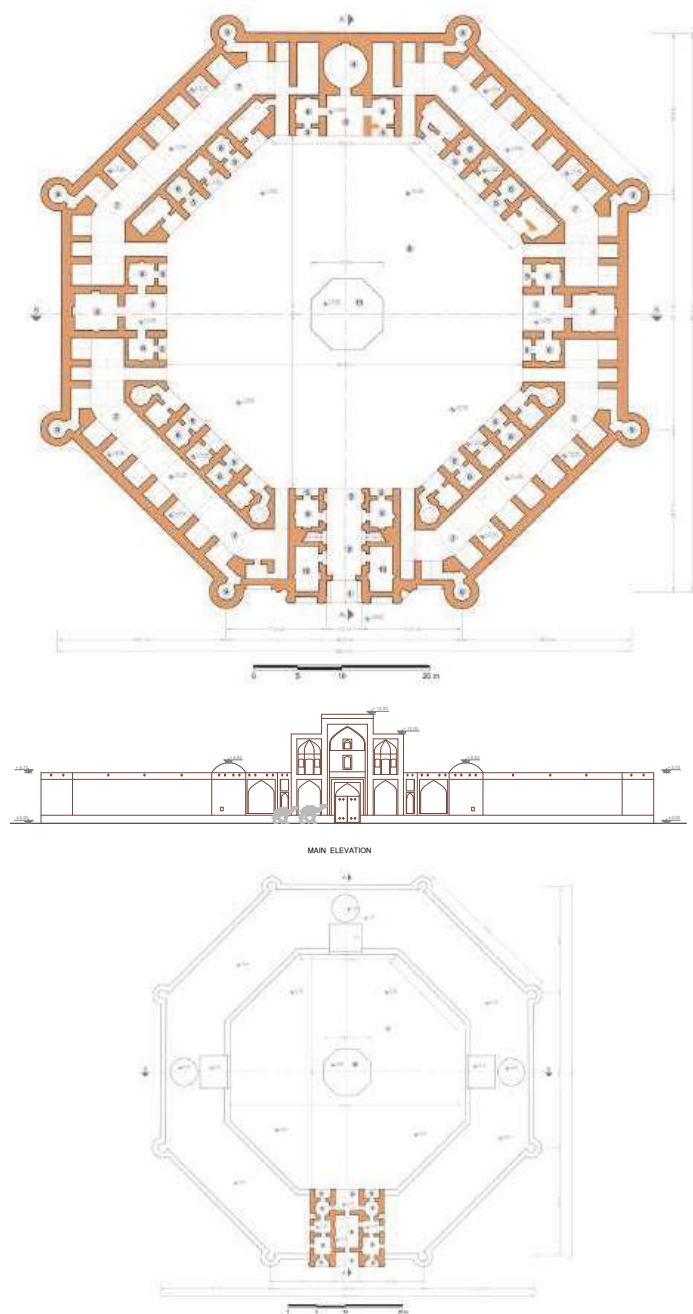


Fig.60

Fig.60:

Ground plan of first and second floor, and frontal view of Amin Abad Caravanserai

- ① Voroudi (Entrance)
- ② Hashti (Hallway)
- ③ Iwān (Porch)
- ④ Shāh-Neshin (Alcove)
- ⑤ Iwāncheh (Small Porch)
- ⑥ Hojreh (Chamber)
- ⑦ Shotor-Khān (Camel Stable)
- ⑧ Hayāt-e Markazi (Central Courtyard)
- ⑨ Borj (Tower)
- ⑩ Otagh-e-Janebi (Lateral Spaces)
- ⑪ Bār-Andāz (Load)

Different Dual Functions

This part will analyse comparative analyses with a Caravanserai with different dual functions. The Mahyar Caravanserai belongs to the same category as the Maranjab Caravanserai, a rectangular type of Caravanserai. Unlike the Maranjab Caravanserai, which served both as a rest stop and a defensive fortress, the Mahyar Caravanserai (Fig.61) had a distinct dual function as a rest stop and a commercial hub. The Caravanserai is located in Mahyar, which was known as a commercial centre during the Safavid Period. The Mahyar Caravanserai, in addition to chambers, stables, and iwans, has a bazaar, mosque, tea house, and bakery in front of the Caravanserai. The front part of the Caravanserai is independent of the main building, with its own entrance. Inside is a large rectangular courtyard surrounded by four iwans and chambers, and behind the chambers, the stables are located. There are four entrances to the stables situated in the corners of the courtyard and an upper

floor on the entrance with rooms for supervision.⁷⁷

In comparison to the Maranjab Caravanserai, the Mahyar Caravanserai lacks defensive features, such as towers, guard rooms or arrow slits, due to its function as a commercial centre rather than a fortress. Instead of towers and guard rooms, it features new spaces such as a bazaar, bakery, tea house, and mosque, reflecting its commercial background. Upon analyzing the ground plan, it is evident that, in addition to the main entrance, there is a small entrance to the stables accessible through the bazaar, indicating a lack of defensive measures. Although both belong to the same category as the rectangular type with a courtyard, their architectural design and spatial organisation differ from each other.

77 Reyhani Arani, M. (2000). A leaf from the desert diary (Master's thesis, Faculty of Architecture and Urban Planning, Iran). p.95-98

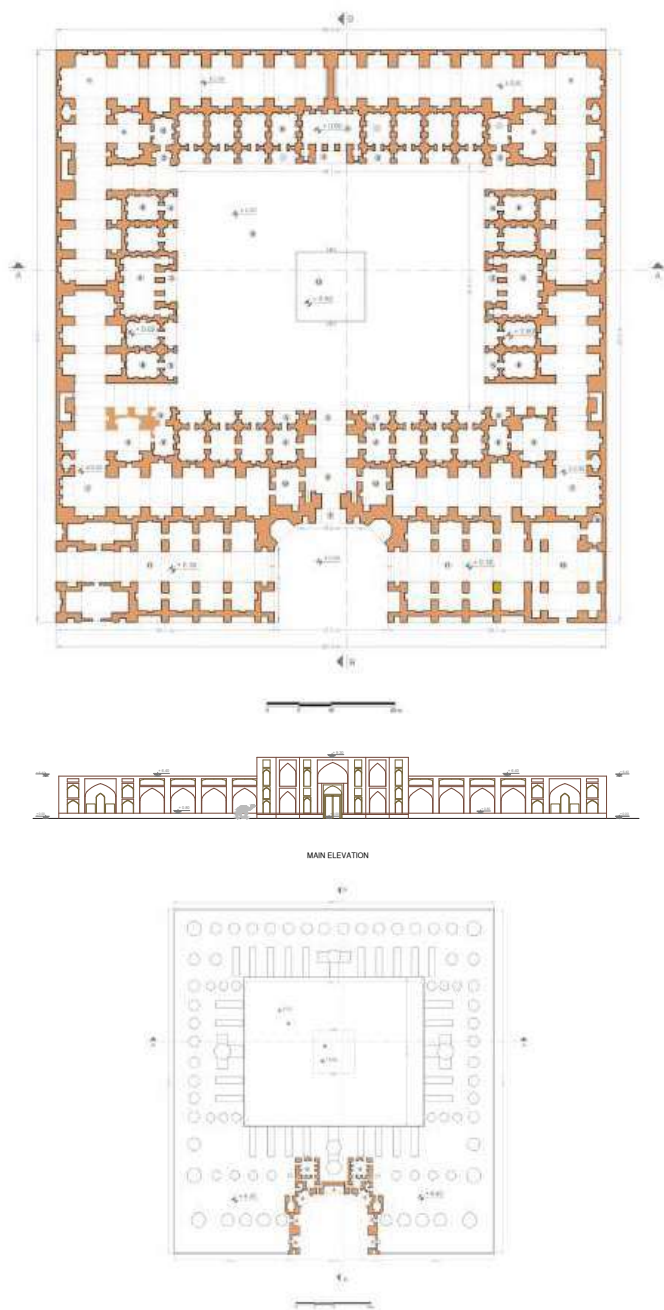


Fig.61

Fig.61:

Ground plan of first and second floor, and frontal view of Mahyar Caravan-serai

- ① Voroudi (Entrance)
- ② Hashti (Hallway)
- ③ Iwān (Porch)
- ④ Shāh-Neshin (Alcove)
- ⑤ Iwāncheh (Small Porch)
- ⑥ Hojreh (Chamber)
- ⑦ Shotor-khān (Camel Stable)
- ⑧ Hayāt-e-Markazi (Central Courtyard)
- ⑨ Chārvā-dār room (Pack Animals Keeper Rooms)
- ⑩ Houz-khāneh (pond)
- ⑪ Bazaar
- ⑫ Otagh-e-Janebi (Lateral Spaces)
- ⑬ Bārāndāz (Dock)

Site Visit

The site visit to Maranjab Caravanserai took place in February. Due to Iran's vast territory, the weather varied across regions, with some areas being cold and others warm. Located in the central part of Iran in a desert area, Maranjab Caravanserai was approximately 18°C.

The day before arriving at the Caravanserai, a day was spent in the city of Kashan, which was located 50 km away from the Maranjab Caravanserai. While there, a visit to the Kashan bazaar was taken, where other types of Caravanserais inside the Bazaar were located (Fig.62). These Caravanserais were known to have commercial functions as secondary functions.



Fig.62

While going through the Bazaar, there was a chance to encounter old handlers who had their shops there (Fig.63), where information about the Maranjab Caravanserai was asked. Unfortunately, although most locals had heard about the Maranjab Caravanserai, none knew much information or had visited the structure. This can be attributed to the rough roads and the structures being abandoned for numerous years.



Fig.63

As explained in the previous chapter, this desert remained largely untouched, with

no structures built, due to its inaccessibility and the numerous dangers it posed. However, the desert posed a vulnerable entry point into the capital, so Shah Abbas I decided to establish a defence in the region to protect against the persistent attacks by the Afghans and Uzbeks during the Safavid Period.



Fig.64

The trip started from Kashan the following day and lasted almost three to four hours due to the rough and bumpy road (Fig.64). The only way to reach the Maranjab Caravanserai was by tour or personal vehicle. The road there was sandy and mixed with salt because of the proximity to Salt Lake, which could be seen from far away (Fig.65).

Fig.62:

Commercial Caravanserai
inside the Kashan Bazaar

Fig.63:

Handlers inside the Bazaar

Fig.64:

The desert road to Maran-
jab Caravanserai



Fig.65

Although there wasn't an actual road, bars were put on the side for security reasons to guide the way to the Caravanserai. Plants and a few animals, like camels, were noticed on the way (Fig.66).



Fig.66

Reaching closer to the destination, the Maranjab Caravanserai could be seen, standing alone in the desert with its massive structure and towers ready to de-

fend against any attack (Fig.67).

Coming closer to the Caravanserai, the external garden with a water pond and vegetation outside the structure can be seen first.



Fig.67

There the "*pishtaq*" of the Caravanserai stood taller than the entire structure, guiding the way to the entrance (Fig.68). Standing before the Caravanserai, the massiveness of this structure, which was made of bricks and tall walls, could be felt. Entering the first area was the "*hast*"; right and left from it, a reception and a small shop were seen, which in the past was used as chambers for the soldiers. There were also two stairways on both sides of the entrance leading to the roof where the towers and arrow slits were located.



Fig.68

Standing in the “*hasti*” area, at the back view, was the massive wooden entrance door (Fig.69), and in the front view, the courtyard and Shah Abbas’s chamber (Fig.70).



Fig.69

Fig.65:
Salt Lake

Fig.66:
Animals and vegetation in
the desert

Fig.67
Maranjab Caravansera
from far

Fig.68:
Entrance of Maranjab Car-
avansera

Fig.69:
Inside the “*hashti*” area,
view from the entrance

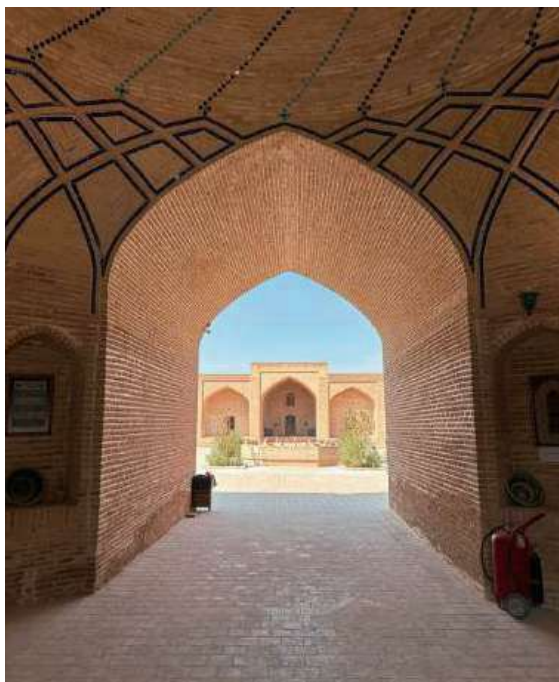


Fig.70

Entering the courtyard, it was surrounded by chambers and “iwans”. Although the chambers were divided by a curtain in the past, wooden doors have now been installed. There were 29 chambers, some containing beds, some just pillows and bed covers for sleeping on the floor. The chamber’s platform was located four steps from the courtyard floor. On the platform on the left side wall, there was a niche. Every “iwancheh” possessed one chamber except the ones located on the corner of the Caravanserai, where three



Fig.71

chambers were built (Fig.71).

The chamber given to us was in the corner, on the left, one of the three chambers, and could accommodate a maximum of four people. In the middle of the chamber was a small table, and under it was a “kursi”, a traditional Persian heater. Unlike in the past, the floor was covered with a tepich, and an extra electric heater was added due to the cold nights (Fig.72).



Fig.72



Fig.73

Returning to the courtyard, the two “*iwans*” opposite each other led to the “*shotorkhane*”, which today is used as a restaurant and cafe (Fig.73).

The restroom was on the corner of the hall where the restaurant was located (Fig.74). Unfortunately, it is unknown if that was its initial spot or if it was installed later during the renovation. But compared with other Caravanserais with similar layout, it is possible that was the initial spot of the restroom. Going back to the courtyard, opposite the entrance, was the chamber of Shah Abbas I, but unlike other chambers, it was closed to the public and unable to be documented. However, seeing it from the outside, one had to go through an “*iwan*” and a “*hashti*” to enter the chamber. The entrance to the chamber was grandiose, with a wooden door and a window on top of it, revealing

Fig.70:

Inside the “*hashti*” area, view from the Shah Abbas's chamber

Fig.71:

View from the “*iwancheh*” and chambers

Fig.72:

Inside the renovated chambers

Fig.73:

Inside the “*shotorkhane*”, now a restaurant

“*kursi*” - traditional persian heater

the height of the chamber to be approximately as high as the “*iwan*” (Fig.75).



Fig.74

After documenting the first floor of the Caravanseraï and asking the manager questions, the roof was the next destination. To go to the roof, the stairway located at the entrance, next to the reception, was taken. Compared with previous analyses, it could be noticed that the height of the first steps on the stairway was reduced during the renovation.



Fig.75

The stairway to the roof was narrow and had a low ceiling. From the roof, it could be seen that most of the walls had been renovated. On the walls and the towers were small openings which were used as arrow slits, and on the bottom were the openings for the gutter (Fig.76). On the roof deck, where the chambers were located underneath, were rectangular openings used for the chimneys. However, as they are of no use anymore, they were all closed with a



Fig.76

lid. Standing on the roof, the vaulted roofs of the chambers and the entire courtyard could be seen (Fig.77). However, looking outside the defence walls, it was impossible to see outside of the structure due to the high height of the walls.



Fig.77

Fig.74:
Restroom

Fig.75:
View from Shah Abbas's
chamber from outside

Fig.76:
Roof defense wall with ar-
row slits and gutter open-
ings

Fig.77:
View from the roof

After finishing the documentation inside the Caravanserai, it was the turn to see the garden with the pond located outside the structure. Although located in the middle of the desert, the garden, in addition to a water pond, contained various vegetation (Fig.78).



Fig.78

This pond is an essential element for the Caravanserai, as it is connected to the “*qanat*” that contains drinking water. The “*qanat*” was and still is a crucial element for the Caravanserai’s survival. Following the openings used to obtain water from the “*qanat*” led us away from the Caravanserai’s terrain. A gradual landscape rise was felt after one “*qanat*” opening to another (Fig.79). Some openings were closed (Fig.80), but few were open and



Fig.79

tained water. Looking at the Caravanse-
rai from a distance, a vast land was seen,
possessing a salt sea, sand dunes, and
the routes of the Silk Roads passing next
to the Caravanserai.



Fig.80

Fig.78:

Pond located in the garden, outside the defense walls

Fig.79:

"Qanat" openings

Fig.80

Closed "*qanat*"

Conclusion

The Silk Road played an important role in the exchange of culture and knowledge, and Caravanserais served as central hubs where diverse civilizations blended. This research aimed to highlight the fact that hundreds of Caravanserais, different from one another, have been overlooked and are deteriorating. While many share similar appearances, unseen influences have shaped each one. No Caravanserai is a replica of another, a distinction that requires further investigation.

An essential characteristic that needs to be explored is the varying additional functions of Caravanserais. While their primary purpose was to provide shelter, some Caravanserais evolved to serve additional roles influenced by their environment. One such function was defence; over the years, their architecture incorporated defensive features, such as towers and arrow slits, along with specific spatial configurations designed

to enhance their protective capabilities. From the comparison above, it is evident that Caravanserais with military functions can often be identified by their defensive features, such as towers, massive walls, or arrow slits. In contrast, those with commercial functions are less apparent without entering the structure to observe the interior spaces. For instance, while the Maranjab and Mahyar Caravanserais share similar rectangular forms, towers on the Maranjab Caravanserai clearly indicate its defensive purpose. When comparing Caravanserais with the same functions, it becomes evident that they possess similar spaces; however, small changes in their spatial organization are influenced by various external factors.

Over time, the opportunity to study these structures is reduced, causing the loss of their physical form and identity. The only written records from the far past are travelogues from travellers who documented their journeys through their travels. Some travellers studied and classified the Caravanserais based on layout, location, or function. Their efforts indicate that while

Caravanserais hold a wealth of information about the structures, the people, and the knowledge that once passed through them, the studies remain incomplete, leaving many questions unanswered.

Maranjab Caravanserai is proof of identity revival. After years of neglect, restoration brought to light critical historical elements and allowed us to study its past and restore its identity. Unfortunately, hundreds of other Caravanserais remain undiscovered, and their potential for revival is slowly lost. Many of the Caravanserais of earlier eras, including the pre-Islamic period, have all been destroyed, leaving almost no proof of their existence. The Safavid Period, the closest period to our time, has many structures for us to study. Their revival and study are essential for future generations to ensure we do not lose these significant historical artefacts.

Although the functions of Caravanserais have significantly influenced their architectural design and spatial organization, they are not the only factors driving these changes. The visibility of these transfor-

mations varies across different Caravanserais, raising questions about why specific changes are more apparent in some structures than others. This discrepancy may be attributed to various reasons, including the influence of architects or the specific historical and cultural contexts in which these Caravanserais were built. Therefore, further research is essential to fully understand the complexities involved in the architectural evolution of these significant structures.



Interior of Caravansary on Road to



“... Before dark, after a long and arduous march, we arrived at the remains of the old Maranjab caravan. Where we were safe from severe wind pressure... The ruins of Maranjab caravan were located on a hill ... ».

Memoirs of Alfons Gabriel (1894 - 1975)⁷⁸

78 @maranjabcastle. (2021, November 19). Description or caption from the post [Instagram post]. Instagram. https://www.instagram.com/p/CVLrM-lInAE/?utm_source=ig_web_copy_link&igsh=MzRlODBiNWFiZA==

Fig.81:

Photograph of Interior Courtyard of Caravanserai, by photographer Antoin Sevruguin

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