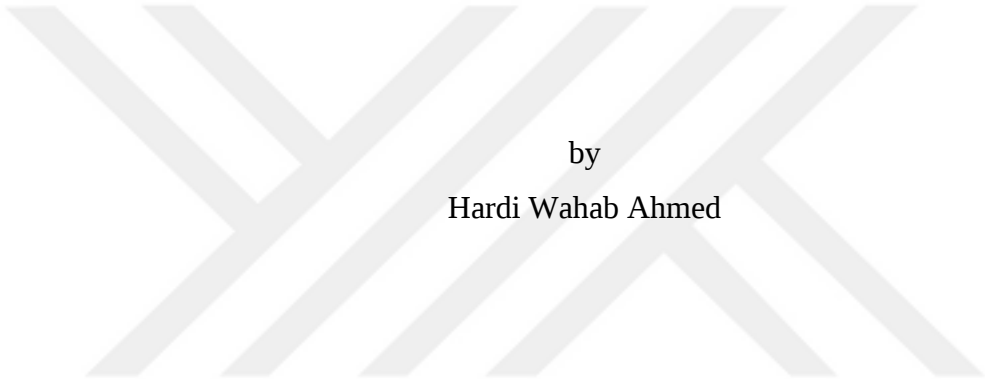


CONSERVATION OF OTTOMAN ERA BUILDINGS IN SULAYMANIYAH, IRAQ



by

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Submitted to Graduate School of Natural and Applied Sciences
in Partial Fulfillment of the Requirements
for the Degree of Master of Science in
Architecture

Yeditepe University

2021

CONSERVATION OF OTTOMAN ERA BUILDINGS IN SULAYMANIYAH, IRAQ

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ACKNOWLEDGEMENTS

It is with immense gratitude that I acknowledge the support and help of my Super Advisor Professor Ayşe Gülçin Küçükkaya. Pursuing my thesis under her supervision has been an experience which broadens the mind and presents an unlimited source of learning.

Also I would like to specially thank Professor Nahedh Al Qemaqchi for being helpful in the thesis process.

Finally, I would like to thank my fiancée for their endless love and support during my study, which made everything more beautiful.

ABSTRACT

CONSERVATION OF OTTOMAN ERA BUILDINGS IN SULAYMANIYAH, IRAQ

Historical centers, which contain many periods together or overlap, have lived in historical periods, and if their cultural value is not known, the danger of losing these values shows a potential that may increase day by day. In a region like Mesopotamia, which has been home to many civilizations, Sulaymaniyah is an important center that should be investigated by making historical research.

The aim of this thesis is to examine the conservation for the Ottoman Era buildings in Sulaymaniyah city (Arabic: السليمانية , As Sulaimaniyah) which is locally called Slemani, It is located in the North-East of Iraq close to the Iranian border, consists of several layers of historical remains, with the oldest one dating back to about 10,000 years ago. Initially, the city was utilized as a location for the Assyrians, and later on as an area of the Safavid Empire and Ottoman Empire. The historical civil architecture of the region consists of mostly plain materials and buildings usually considered part of the vernacular architectural heritage of the region.

In recent years, the architectural heritage of the historic city center has been continually being destroyed. Historical center with new shopping centers is losing its historical values one by one with some unconscious interventions.

The aim of this thesis is to examine the historical city center of the old city of Sulaymaniyah in Iraq, during the Ottoman Empire's period (16-19 Centuries), with all its richness, to raise awareness in conservation and to transfer the conservation values that have survived to the present day and are not noticed today to future generations. Therefore, in the study; Ottoman period constructions throughout Iraq will be examined first, and then the Ottoman period architecture in the historical center of Sulaymaniyah will be scanned in the Ottoman and Iraqi literature and foreign sources and the existing structures will be examined on site; The conservation status of the architectural heritage will be examined.

ÖZET

SÜLEYMANİYE’DE (IRAK) OSMANLI DÖNEMİ MİMARİSİNİN KORUNMASI

Tarihte birçok dönemi bir arada veya üst üste binmiş olarak günümüze gelmiş, tarihi merkezlerin kültürel değerleri bilinmiyorsa bu değerleri kaybetme tehlikesi gün geçtikçe artabilecek bir potansiyel göstermektedir. Mezopotamya gibi pek çok medeniyete ev sahipliği yapmış bir bölgede “Süleymaniye” tarihsel araştırması yapılarak, incelenmesi gereken önemli bir merkezdir.

Süleymaniye (Arapça: السليمانية, Sulaymāniyyah), Slemani olarak da adlandırılır, Irak'ın doğusunda, İran sınırına yakın, birçok tarihi tabakadan oluşan eski bir şehirdir. En eskisi son yıllarda bulunmuş (10.000) yaşında olan yerleşimdir ve bir ara Süryaniler için merkez olarak kullanılmıştır, daha sonra da Safevi İmparatorluğu ve Osmanlı İmparatorluğu'nun yerleşim yeri olmuştur. Bölgenin tarihi sivil mimarisi, yerel mimari miras olarak kabul edilebilecek basit malzemeler ve binalardan oluşmaktadır.

Son yıllarda, tarihi şehir merkezinin mimari mirası sürekli olarak yok edilmektedir. Tarihi merkez; yeni alışveriş merkezleri bazı bilinçsiz müdahalelerle tarihi değerlerini tek tek kaybetmektedir.

Bu tezin amacı, Irak'ın eski Süleymaniye kentinin tarihi şehir merkezinin Osmanlı İmparatorluğunun hakim olduğu dönemi (16-19 Yüzyıllar) tüm zenginlikleriyle incelemek, korumada farkındalık yaratmak ve günümüze gelebilmiş, bugün fark edilmeyen koruma değerlerini gelecek nesillere aktarmaktır. Bu nedenle çalışmada; Irak genelinde Osmanlı dönemi yapılaşmaları öncelikle incelenecek ve daha sonra Süleymaniye tarihsel merkezindeki Osmanlı dönemi mimarisi Osmanlı ve Irak literatürlerinde ve yabancı kaynaklar da taranarak ve mevcut yapılar yerinde incelenerek; mimari mirasının koruma durumu irdelenecektir.

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1. INTRODUCTION

Iraq is one of the countries, which is located in western Asia (Figure 1.1). Iraq is bordered by several different countries, which are known as Middle Eastern Countries including (Turkey, Iran, Syria, Kuwait, Jordan, Saudi Arabia), Sulaymaniyah known as one of the major North Cities in Iraq Lands. The city is 385 km far from Baghdad, the Capital of Iraq, and 198 Km north east of Erbil city (Figure 1.1). North of Iraq contain several mountain chains and Sulaymaniyah is located between two well-known mountain chains which are named Goyzha Mountain and Glazarda Mountains. Also, longitude (44.50- 46.16) East and latitude (35.04 - 36.30) North. Sulaymaniyah is established by the Pasha of Baban known as “Ibrahim Pasha¹” around 1784. So, the city is urbanized or developed in most modern life aspects [1] (Figure 1.1). The city of Sulaymaniyah, regarded as the cultural center of life in the North [1].

In 18 & 19th Century, in the Ottoman era, the people of Sulaymaniyah were generally engaged in trade, tailoring, blacksmithing, carpentry, architecture, grocery, butchery, baths and farming goods such as, gum and tobacco were obtained from the lands of Sulaymaniyah and grains such as wheat, barley, rice, millet, sesame, chickpea, lentil or fruits such as grapes, pears, apples, plums, melons were essential for the needs of Sulaymaniyah. In addition, while clothing items were brought in from Baghdad, Kirkuk and Mosul, fabrics, rugs, shawls and some furnishings were imported from Iran. Contrary, some of the regional products, such as cattle, sheep, tobacco, gum, fleece and felt were exported to Baghdad, Kirkuk and Mosul [2].

The name of the city comes from (Sulaimani Pasha) who was the first Pasha of Baban and was father of Ibrahim Pasha,

The climate of Sulaymaniyah is famous for its huge difference of temperature, which in the winter riches (-5) and in the summer rises to (+47) degrees, the high mountain besides the city makes a huge wind circulation which creates a famous wind called (Rashaba) [3].

¹ Ibrahim Pasha in Baban Emirate is the son of Emir Sulaiman Pasha of Baban, his biggest achievement is creating Sulaimaniyah City. He was intelligent in managing the Emirate. He spent most of his life in Baghdad and he was trusted there for his politeness and intelligence. In 1789 he and his army went to Sinjar, close to Mosul City, for helping the Ottoman army, where he died there because of sickness. He buried there next to Yousif Prophet tomb.



Figure 1.1. Map of Iraq and location of the City of Sulaymaniyah [4].

Today, most of the location in Sulaymaniyah is provided for residential building and the second most used area is provided for mixed used including shops, car parking, etc. Based on academic researches, Sulaymaniyah has an old history, it could be proved through reviewing its Archaeological locations, which goes back to the beginning of human settlement and Medieval Stone period as well. Historically, Hazarmerd cave (See figure 3.1.2) located in Sulaymaniyah region and depending on American expedition of excavations several tools like stone tools found that has been made by Neanderthal man [5].

The city was found by Baban Emirate, which was managing the region during Ottoman rule. More clearly, the center of Babani Emirate was a Castle house and it was ruled by Mahmoud Pasha of Baban Emirate in (1781 AD). And then he started to build some other houses in Malakandi Street. it was expanded by Ibrahim Pasha in order to strengthen and support the affairs of his property in Ottoman Era [5].

In this research, the architecture and the building design of Sulaymaniyah will be discussed clearly for achieving two different outcomes, the first one belongs to the historical background of the city in which old buildings of Sulaymaniyah. It will be evaluating regarding conservation of historical buildings in Sulaymaniyah City which were built during 16th century to 19thcenturies. As well as the other purpose is collecting proper information about the current problems of conservation of the Ottoman era buildings inside the city as well as predict the future generation's architectural values.

1.1. AIM OF THE STUDY

The Ottoman Empire, which became a successful empire that dominated three Continents (Asia-Europe-Africa) in the 16thCentury. It has also dominated Iraq and its surroundings for centuries. In this period, Near East countries such as Iraq, Syria and Iran developed and expanded better than the past, in terms of population and urbanization. In this context, it would be a great achievement to clarify the urbanization and architectural planning and examine the building stock of this period to show the influence of the Ottoman Empire on building design in this region.

The mean aim of this study:

1. Evaluating the Architecture of Sulaymaniyah during the Ottoman Empire Era and associating many buildings with the Ottoman building design will be successful for understanding the old Sulaymaniyah architecture and today's architectural design.
2. The collection of original characteristics of old buildings will be an important data for the new city planning for the conservation of the current old city architectural values of Sulaymaniyah.
3. Collecting original data and documents on Iraqi architecture and comparing them with Ottoman architectural design will be beneficial in terms of preserving Ottoman-

era structures as well as historical structures bearing traces of the past for future generations.

1.2. SCOPE OF THE STUDY

This study focuses on examination of the conservation values of Ottoman Era buildings in the city of Sulaymaniyah of Iraq. The renovation and reconstruction of the historical buildings in the historical center of Sulaymaniyah need deep studies including architectural, historical analyzes for the understanding of the old city conservaton issues.

In the context of this thesis, at the beginning, a brief history of the architecture in Iraq have been taken into consideration for the understanding of the origine of the currant cultural values of Suleymaniya. Because of that, important Ottoman historical monuments in Musul and Bagdat will be examined with their plain characheristics.

At the third stage, before the examination of the Ottoman Era historical buildings in Sulaymaniyah, 16th-19th Century Ottoman Rule will be examined. And at the forth stace selected will be examinng the 7 important monumental constructions (Greate Mosque, Khanaqa Mosque, Farah Hotel, Saiwan Bath, Qaysari Building, Saray Building, Osman Chawas House) of the city was analyzed and documented through the field survey and investigation with the old documents and pictures. In this chapter conservation problems and successful conservation studies will becompared in the frame of the Iraqi conservation rules with it's issues and Venice Charter.

In the fifth Section the successful conservation ways in the world will be investigated.

In the last section will be the conclusion for the study on the conservation of Ottoman era buildings in Suleymaniye.

2. ARCHITECTURE OF IRAQ

Iraq has many historical remains, however in the 20th century, there were not many efforts to study about this cultural heritage. Many studies about international architecture have been studied, which didn't give a chance to study about the historical architecture of this area and to use it in the development projects in Iraq.

Without knowing the past and analyzing what we were, the future cannot be built. It is possible that the Ottoman Empire, which dominated 3 continents in the 16th Century and left a rich architectural heritage in Baghdad, Mosul and Kirkuk, also shaped the architecture of Sulaymaniyah. In order to understand the influence of Ottoman Empire on the design of Architecture in Iraq, it is very significant to understand the starting point of Ottoman Empire related to their building technology and other aspects of Architectural designs.

2.1. HISTORY OF ARCHITECTURE IN IRAQ

Iraq has a very rich ancient architectural history. The History of Iraq architecture goes through several times including Mesopotamian Period, Islamic Period (Early Caliphate, Umayyad Architecture, Abbasid Architecture, and Ottoman Architecture) as well as modern period (Kingdom of Iraq and Post 1958). Moreover, starting from three thousand years ago Christmas 'Proto-Literate' which is mentioned as one of the villages in Iraq were developed and several urban settlements were established in southern Mesopotamia [6].

This was trailed by the 'Early Dynastic' period (2700-2400 BC) which saw the creation of composing by the Sumerians and the improvement of various free City-States, like Ur (Figure 2.1), Lagash and Uruk. The Sumerian civilization was hindered by progressive intrusions from the Akkadians and the Gutis, by c. 2100 BC, they had the option to resuscitate their previous force, arriving at their social top in the city of Lagash under the renowned ruler, By 2000 BC, the Third Dynasty of Ur was toppled by a union between the Semitic Amorites and the Persian Elamites [6].



Figure 2.1. Location of Ur city compared with Tigris and Euphrates [7].

Also, belong to the mentioned time, Amorites create their own region which was cover several places like Ism, Larsa, Ashur, Manand Babylon. Mentioned area run by Hammurabi² (1792-1750 BC). Also, the first family who united the region under their role was First Babylonian Family. In addition, death of Hammurabi lead to break down the region and his kingdom as well. due to that, mentioned region were controlled by Hittites. And then, after falling Assyria in their region a new confidence and comes back for Babylon. It can be said that, Under Nebuchad-Nazzar II (605-562 BC) Babylon developed again and became a great capital of the region in Iraq (Figure 2.2). Babylon was not only developed, but also expanded due to defeating Karkamish in 605 BC which was an Egyptians leader. The Abbasid Caliphate was heartlessly ended in 1258 by the savage Mongolian armed forces. Baghdad was obliterated by Hulagu and was diminished to an immaterial town. Iraq got governed by a progression of opponent nearby traditions - the Ilkhanids and Jalairids. This competition was misused by the Persian Safavids who, under Shah Ismail (1502-24), conquered Iraq in 1509, however were immediately challenged by the Ottomans in protracted conflicts [6].

² Hammurabi is a famous name in history, he ruled the Babylonian dynasty from 1810 to 1750 BC. He got famous after winning several battles with Persian Empire, and also creating the Code of Hammurabi which was important for organizing the state, he mentions that Babylonian god of Justice (Shamash) had sent him the code.

Moreover, during 1638 Ottoman Empire were defeated by Persians and ruled Iraq repeatedly until 1917. And then, the heard of Islam and Caliph Turkish Sultans was transferred to Istanbul from Baghdad. Due to that, Iraq region were divided into three different parts including Baghdad and Mosul, and was ruled by appointed governor with having direct contact with Ottoman Sultans [6].

It can be said that, a number of governors including Sulaiman Pasha (1780-1802), Davud Pasha (1816-1831) and Midhat Pasha (1869-1872) are selected as the best governors in the region due to their positive influence to the country. Thus, most of the mosques that available, belong to Ottoman role in the region, which show the influence of Turkish architectural plan characteristics.

After this period, British Administration was selected in 1921, but it was continuously ruled by British Mandate until 1932. And then Iraq became republic in 1958 since today.



Figure 2.2. Map of Mesopotamia in Iraq and its surrounding, today [Anonym].

As mentioned before, Iraq considered as a region with having very old civilization. And the remaining historical places in Iraq evaluated to be around 10000 historical places in which the history of some of them are more than 5000 years old (See figure 2.1). Most notable

historical places in Iraq including Akkadian's remains, Babylonian, Assyrian, Persian Empire and Ottoman Empire.

Historical articles mentioned Baghdad as a main center of civilization which contains several important historical buildings, but unconsciously some of them are destroyed and demolished due to the conflicts the proceed in the region and even the rest of the old buildings are under the risk of destroying [5].

2.1.1. Architecture in Ancient Mesopotamia

Mesopotamia is known as a historical place which is cover several placed in the Western Asia including Iraq region totally with several other places like (Kuwait, Syria-eastern part), South-eastern Turkey, as well as the whole region between Iraq-Turkey and Iraq- Iran border. (Figure 2.2)

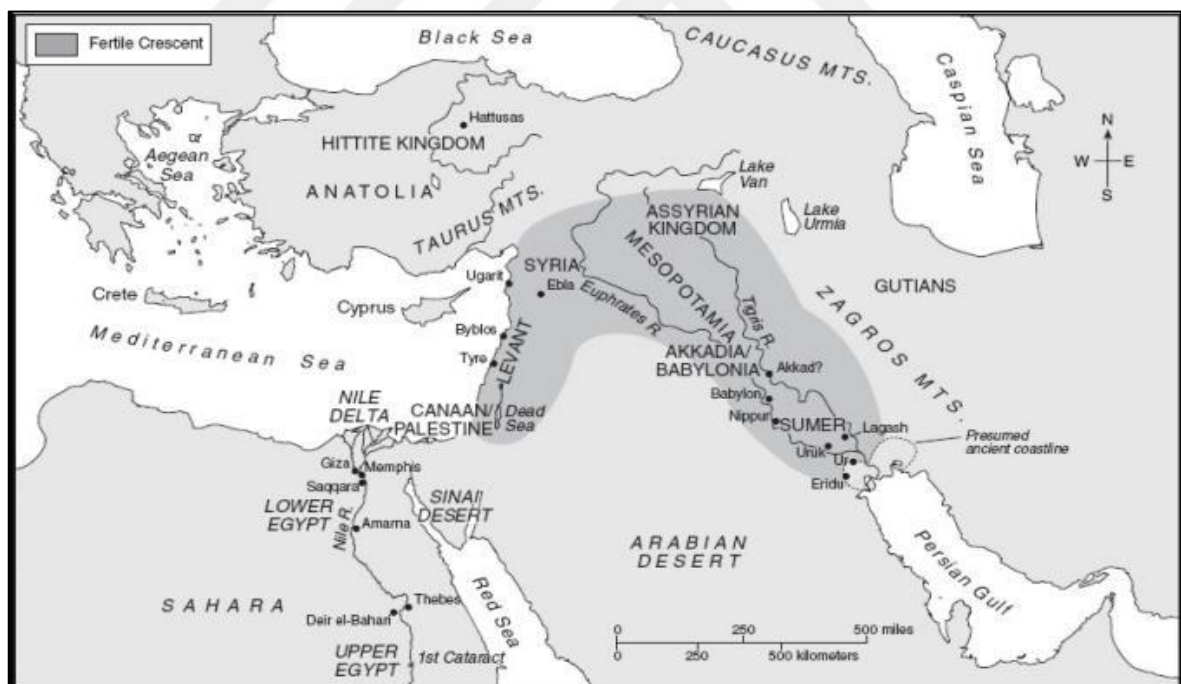


Figure 2.3. Map of Ancient Mesopotamia location [Anonym].

Mesopotamia called as the four riverine civilizations and for the first time writing developed, In parallel with Egypt, Indian and China. Mesopotamian area cover several important historical places including Assur and Babylon, also a number of states such as Akkadian, Ur dynasty, Assyrian Empire.

Historical articles shows that during 3100 years BC until 539 years BC Mesopotamia region was controlled by two huge power in the region including Assyrians and Babylonians or Sumerians and Akkadians and after this period, mentioned region was occupied by Achaemenid Empire. Related to its architecture during the period of time, Mesopotamia known as a first and earliest growths of the Neolithic Revolution. And it have inspired most of the new inventions and developments through history, such as inventing Wheel, cereal crops planting, continuous inventions in science and agriculture [5].

The Lower Paleolithic period was the time which is known as a starting point of ancient Near East area. In that, composing arose with writing in the Uruk state period (4000 BC), and the reported record of genuine chronicled 25+ occasions — and the antiquated time of lower parts in Mesopotamia — started in 3000 BC. History of this area goes with the rise of Achaemenid Empire in the 6th century BC, and then the Muslim Appearance with the rise of Caliphate in the 7th century AD, after that comes an age which the area is called Iraq. Between this large period of history, Most of the worlds developed civilizations and complex social states have been living [5].

2.1.2. Classical Antiquity (Achaemenid, Parthian, Sassanid)

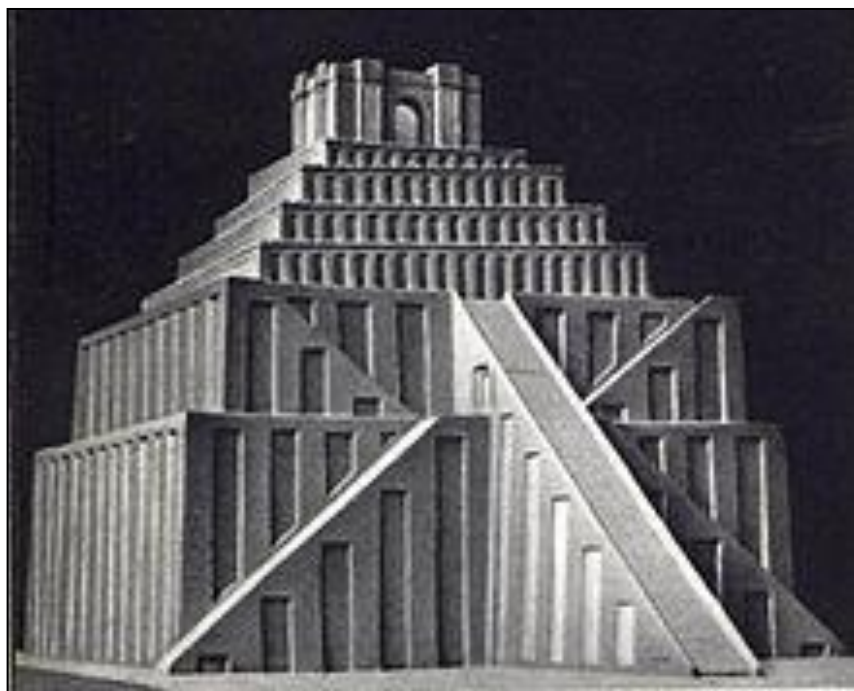


Figure 2.4. A Restitution Figure for the Sumerian Ziggurats [Anonym].

Archaeological evidences the main source to analyze architecture of Mesopotamia. Most of the researches that done to evaluate architecture, they analyze several points including temples, palaces, city walls and gates, and etc. Based on this, determining Archaeological remains from Mesopotamia will lead to collect proper information about their architecture, and their history of development. As its well known, reused building stone to build houses and other places were not easy at that time, so most of the buildings were built with the brick which is known as dominant available material. As an example, through evaluating Ishtar Gate which located in Neo-Babylonian Babylon (Figure 2.5), in mentioned archeological place beasts in polychrome brick has been utilized for designing it's decorated, and it's kept in Berlin Museum, today.

Ziggurats (Figure 2.4), according to Cambridge Dictionary, is a large rectangular structure which has several levels of different sizes and steps which leads upwards, it was built in ancient times, especially in what it is now Iraq, and usually formally part of a temple (Religious building).



Figure 2.5. Map of Achaemenid Empire 96 BC [Anonym].

Also, temple complexes considered as another significant remains from Mesopotamia which was located in historical place (Uruk) since the 4th century BC. There are some of them

including Tell Asmar, Ur dynastyat Nippur , Alalakh, Aleppo, Kultepe and etc. in addition, the majority of old houses considered as Ancient Babylonian were in the Nippur and Ur area. Within the building development together with related ceremonies, there is Gudea's chambers in the 3rd thousand years they are prominent, similar to the Babylonian & Assyrian imperial engravings which was in the Iron Age.

2.1.3. Turkish Ottoman Architecture in Iraq

The Ottoman Empire captured Byzantine in 1299 and created near Bursa, and later on, by the lead of Mehmed the Conqueror, they captured Constantinople and renamed it to Istanbul in 1453 (Figure 2.6), this led the empire to expand furthermore into Europe and Middle East and Iraq. The aim of the empire was to create a centralized state of administration, and the sultan had complete control over the empire [8].

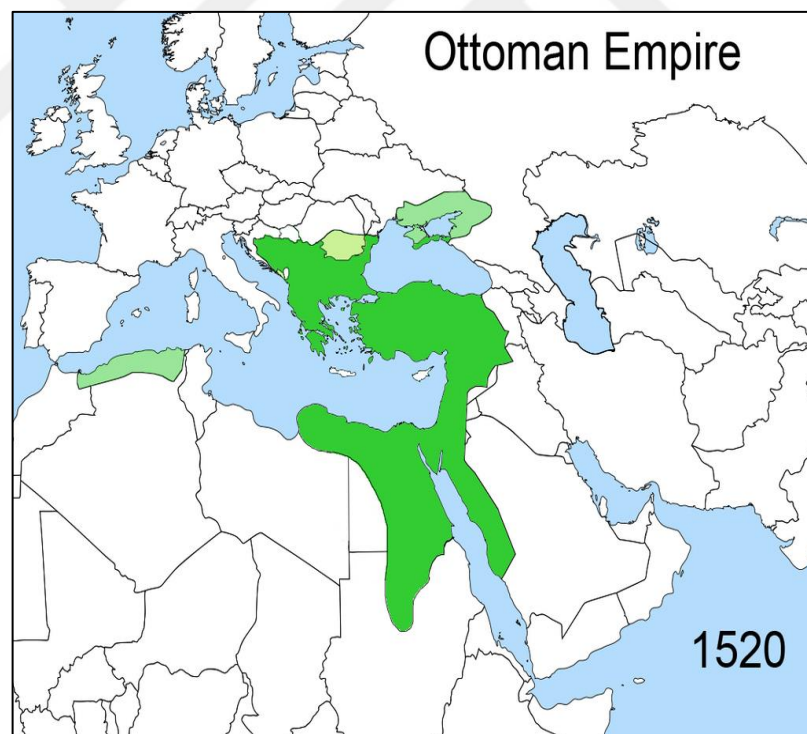


Figure 2.6. Map of Ottoman Empire 1520 [Anonym].

At the beginning the Ottoman Empire, the governors focused on the new constructions of the mosques and religious schools. In the first stage, the Ottoman State started to change and rebuild the mosques in Iraq, at the same time several different mosques were built depending on the new style reflecting the Ottoman architectural features. At the beginning, the

architectural character of the houses was characterized by the same with the life style of Ottoman population, using local materials (Figure 2.7)



Figure 2.7. The Altunköprü Nâhiye – The oldest photograph of the Great Bridge in Kerkuk pointed arches can be seen in this old photo [Anonym].

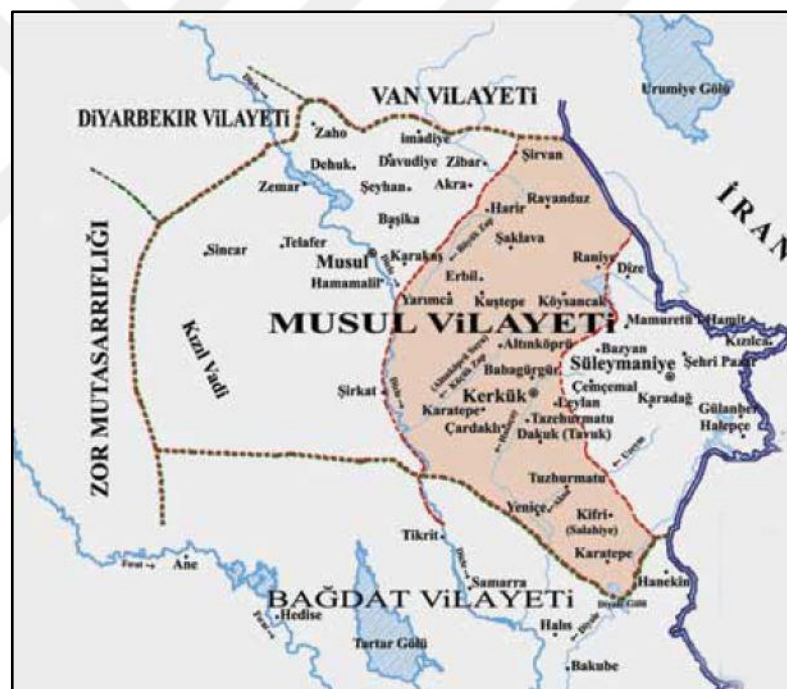


Figure 2.8. Ottoman turkish cities (Vilayet) in northern Iraq, Mosul, Kerkuk and Diyarbakir [Anonym].

Houses were built depending on the experiences of the builders. For this reason, the houses became irregular and expanded randomly. The roads were narrow and streets were in the irregular form, building typology was not changed significantly and their buildings were same as before as a traditional shape or design³. Houses was located inside of the courtyard

³ This typology can be seen in the old plan of Sulaymaniyah (Figure 3.12.).

with having rooms in the surrounding area. With creating trade road for business purposes and creating houses to develop a town around social center which is known as Khan (Figure 2.8.). It can be said that, there was not any specific city planning to build and design houses, but it was only rely on the owner and house builder [9].

At the beginning of the 17th century the style of buildings of the Ottoman Architecture changed and it was reflecting European Renaissance influences such as the government campus known as “Qishla” (Figure 2.1.) Another important type of the building is Khan (Han in Turkish) Buildings. "Khan" in Arabic means a traveler's hotel or inn. The Khan represents the social or big market which was used as a market and also hostel. They were multifunction buildings relation with the location. The Khans of Mahmoudia and Yusefayah were built in Bagdad in Ottoman Era.



Figure 2.9. The Arch in Persian Order at the Entrance of Murjan Khan in Bagdad [10].

Murjan Khan (Figure 2.9), the older inn in Baghdad, was built by Aminuddin Murjan in 1358, a century after the end of the Abbasid Period in Iraq. It was built for the merchants. As an educational center, in the origin the building was built for the students of Murjaneyya School in 1357.

Today you can call as “Murjan Mosque”. Because of the lack of maintenance and good protection, it was damaged by a flood of River Tigris when many of the rooms were under waist high water.

It was renovated and reconstructed in the 1930s and adapted into a museum of Arab Antiquities. But it didn't remain a museum since transfer into a restaurant where Iraqi food is served and live folklore music performed in the evenings [10].

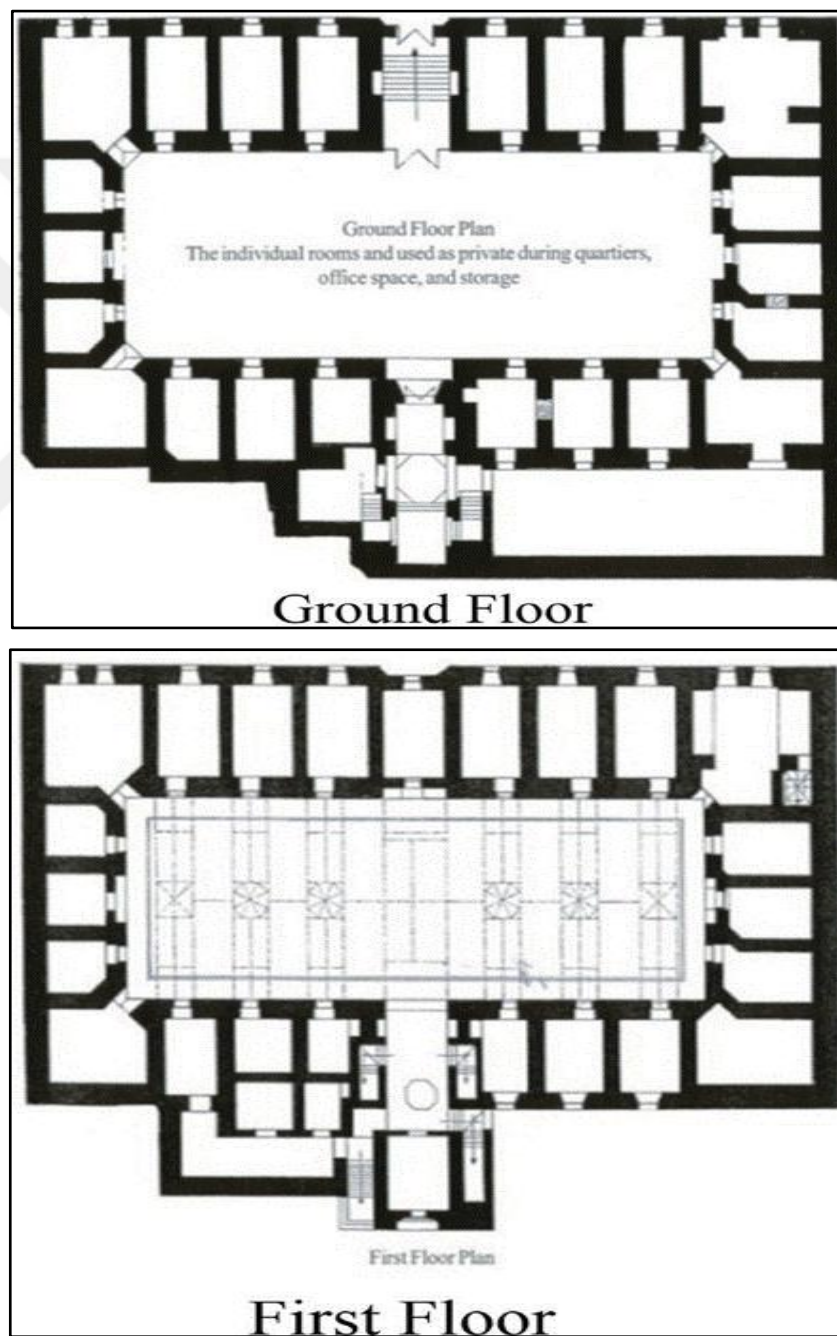


Figure 2.10. Khan Murjan plan [10].

The administration of Ottoman Empire was controlled by two types of rules. 1. Formal System, 2. Annual System. There are also privileged provinces except for these. Formal Regime is a classic system of the State. Officials who are the users of national sources, are also responsible for executing of the national service. In this way, State can recruit soldiers, collect taxes and substitute the dominant culture in these provinces. As for the provinces directed with the Annual Systems there is no census and recruiting soldiers.

According to these information, The Formal System's borders; Damascus, Raqqa, Baghdad, Tabriz in the South, Revan and Batum in the North.

Under the condition that Danube River is a natural border, Bulgaria, Macedonia, Bosnia and Herzegovina, Albania, Northern Greece, Dodecanese, Rhodes in Saros Bay and Cyprus in Rumelia. Our subject is especially the Northern parts of Syria and Iraq, that is Damascus, Aleppo, Raqqa, Deyr-I Zor, all parts of Mosul provinces including Mosul, Kirkuk, Sulaymaniyah, Erbil Dohuk (Figure 2.8).

These administrative and economic system ensured the integration of local community with the State throughout the centuries. This socio-economic order, continued for centuries, resulted in the support of the local people after The First World War in favor of the Ottoman State.

Eventually, this togetherness gave the National Oath a ground without practicing any favoritism as Turks, Kurds, and Arabs.

The religious problem led to occupation of Iraq several times by the two empires, The Ottomans were Sunni Muslims and the Safavids were Shia Islam, because the holy Shia places was in Iraq, the Safavid Empire occupied Baghdad in 1509 (Figure 2.10), however later on, the Sunni Iraqi did an uprising on the empire and it came in Ottoman control again in 1514 [8].

This situation has continuously made Iraq an area of challenging between the two empires, several times the Safavid Empire lead explorations into Iraq and failed, this lead to create a political situation in the area, by trying to influence the tribes to support the empires.

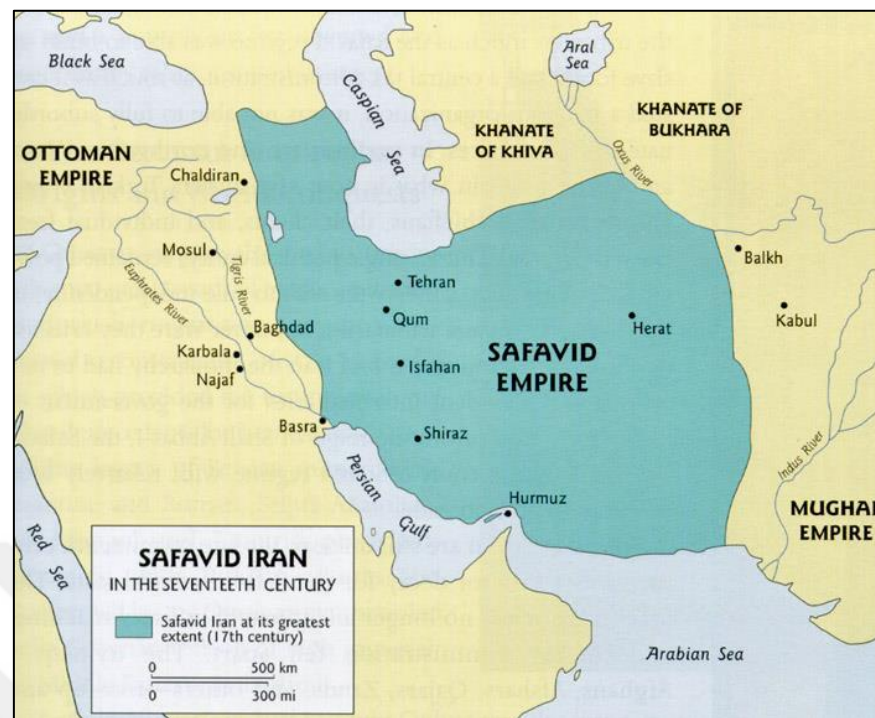


Figure 2.11. The zone between Ottoman and Safavid Empire in 17th century [Anonym].

Implementation of the Mîrî Regime in Iraq After the annexation of Mosul in 1523, Baghdad in 1534 and then the annexation of all Iraq to the Ottoman State, Iraq was consisted of 3 state provinces, Baghdad, Basra and Mosul. Basra, Baghdad were included in the regime, sometimes with Mîrî. But Mosul province was included in the mîrî regime from the very beginning. Mosul in the destruction made in 1523; the central sub-district was divided into Mosul, Ayn-Safna. The sanjaks of Mosul, which was turned into a state in 1587, were: Mosul (Pasha sanjak), Arbil, Nusaybin, Sinjar, Bâcvân, AğcaKal'a, Zaho and Eski Mosul.

In 1653 the administrative division was made on the basis of starboard. According to this; sanjak beys were of military nature, all the implementations of the Ottoman tax system were valid, mîrî mukataas were operated by (Iltizam) or trust method. In this state, soldiers were removed from Mosul, taxes were collected and the central dominant culture was substituted. In short, the province of Mosul, which includes Northern Iraq, was fully included in the Ottoman heritage system, The power of Ottomans in Iraq consists of 3 central states, which was Basra, Baghdad and Mosul [11].

Tribute funds were sent on to the empire irregularly. In return the emirates did use Ottoman administrative practices to rule their territories. The northern Ottoman province of Mosul was effectively ruled by a local dynasty, the Jalili, and there were semi-independent areas in the Kurdish settlements [8].

2.2. COURTYARD HOUSE TYPOLOGY OF IRAQ

Courtyard is an open area inside a house which is surrounded by the building and its open to the sky for creating a natural sense of space, courtyard have been created by many civilizations in Asia, Europe and Africa. The purpose of creating courtyard was for protection against wars and wild animals. This feature have gradually increased in construction of houses, which later have been seen in construction of public buildings such as schools and inn [12].

House typology of Iraq represents Islamic characteristics which functions as a shelter for the family and creates a privacy for them. However, the new architecture of Iraq has neglected these spiritual features and the traditional building style is almost forgotten. Investigating those features could help bring new pathway for the new architecture of Iraq and its studies [13].

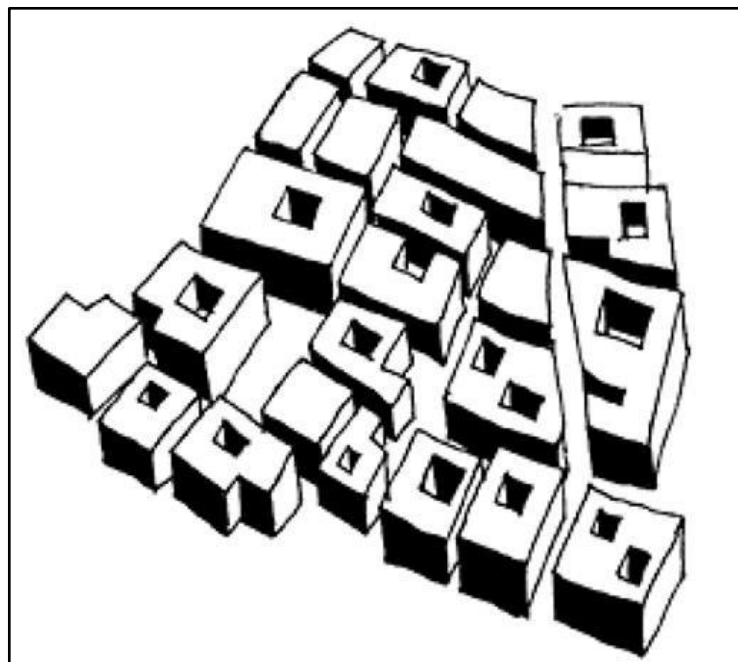


Figure 2.12. Courtyard houses in a neighbor [12].

Courtyard house in Iraq have been existed in Mesopotamia since the early Islamic period, the courtyard is a space which is open to the sky and contains central activities for the house such as sitting and cooking, it's surrounded by the living rooms and bedrooms.

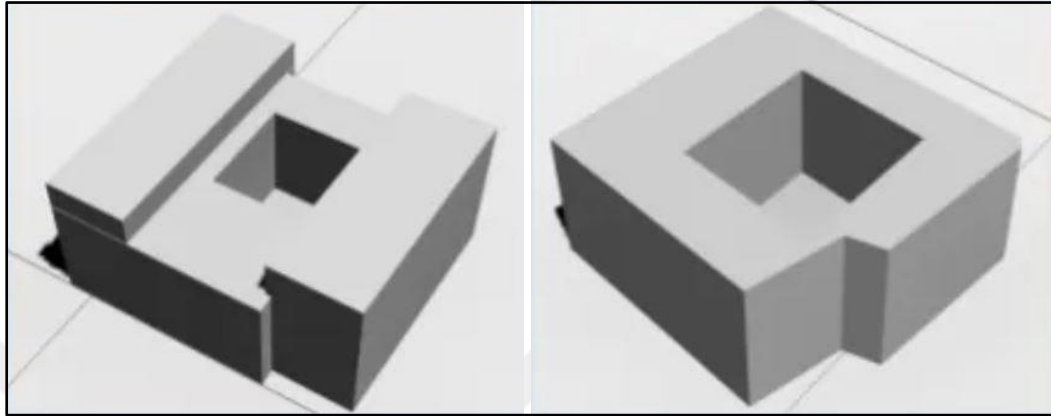


Figure 2.13. Different application of courtyard house [13].

The general characteristics of the house is influenced by the environmental factor and religious factor, because the overall hot climate of the area, it's necessary to create a zone of comfort and shade in the houses which the air can circulate easily from in to out, also to support the privacy of the house members which is an impact of Islamic culture, the courtyard houses were constructed until the 20th century, due to the rapid globalization of Iraq and also because of the wars that appeared, modern buildings have replaced the traditional building style, the new houses is open to the street and has large openings, which neglects the privacy and the environmental factor of the area [13].

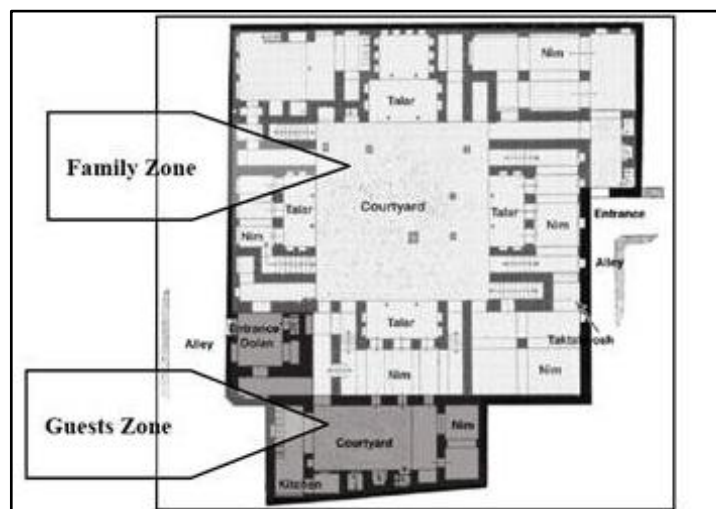


Figure 2.14. Public and private zone of Courtyard house [13].

The Iraqi houses were simple in design and form, the facades are empty from any decoration, spiritual materials were used such as mud brick. the entrance of the house was not open directly to the street and it had a privacy. The geometrical of the houses is rectangle or square, which does not exceed 1 or 2 stories. Sometimes in the upper floors, (Shanasheel) was used for covering the windows and also to protect the privacy of the rooms, also it provides air entering the rooms [13].

In this example, the plan has separated zone for guests and family space (public and private), with a central courtyard which connects the spaces together.

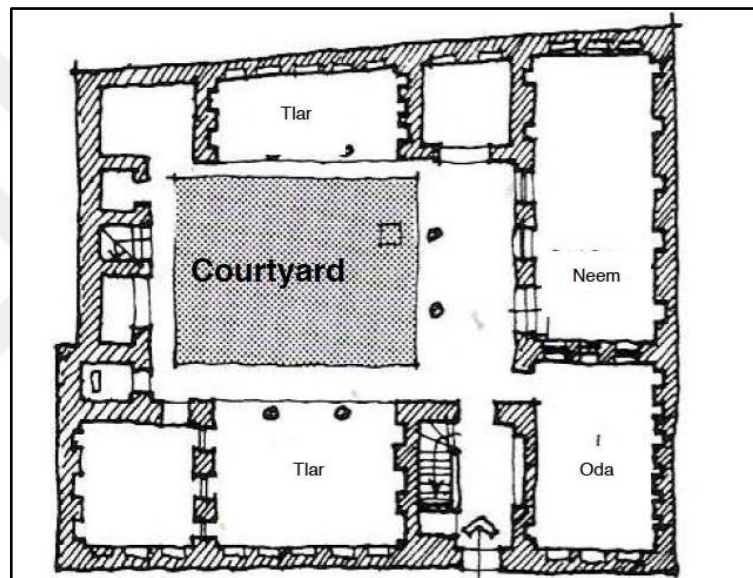


Figure 2.15. Plan example of courtyard house in Baghdad [12].



Figure 2.16. Section of courtyard house in Baghdad [12].

Courtyard houses give more importance to the interior spaces, they are well decorated in Islamic style, using various ornamentation and colors are used in the galleries and the rooms, meanwhile the exterior facades of the houses are similar to each other and create a similar narrow alley between them, the houses don't have any opening or window on the ground floor [13].

The central courtyard is created by pathways and columns from the 4 sides, which doesn't attach directly to the street. In the courtyard gardens and fountains exist for providing a natural environment inside the house, colorful windows are used.

Traditional researches are important for filling the design gap in the modern era and bringing back these Islamic and traditional features, by increasing awareness of those characteristics by the residents and the architects, for understanding deep insight of Courtyard houses and reviving it [13].

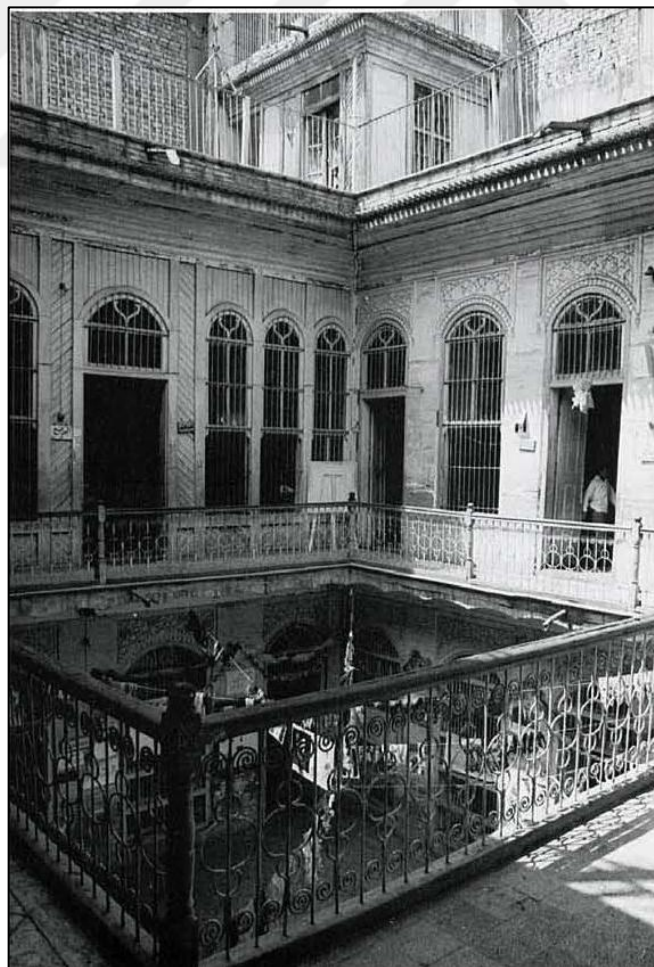


Figure 2.17. View of inside a courtyard from Baghdad house [12].

3. HISTORY OF ARCHITECTURE IN SULAYMANIYAH

In this chapter, examining the historical layers of Sulaymaniyah architecture and their characteristics will be discussed, according to the documents which have been written about the city's history and documentations.

3.1. SULAYMANIYAH ARCHITECTURE IN ANCIENT TIME

Throughout history the ancient Architecture of this area was affected by the Assyrians, however the city is close to the one of the oldest human settlements (Hazarmerd Cave) (Figure 3.1) which was place of the Neanderthals [14].

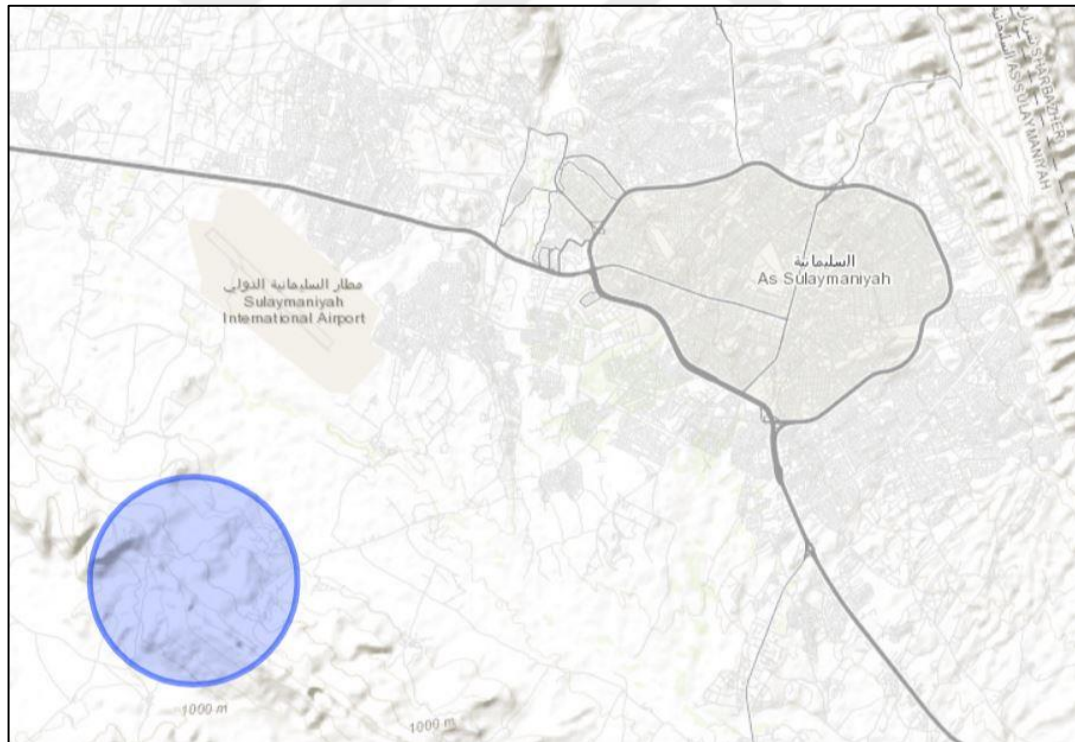


Figure 3.1. Map of Sulaymaniyah and Hazarmerd Cave location, created by author.



Figure 3.2. Hazarmerird Cave in Sulaimanyah 2020 [Anonym].

Kunara Village, which is about 5 km from the city center (Figure 3.3), is an archeological place that have been found recently, and its history is around 4200 years B.C when the Lulubis was living in this area [15].



Figure 3.3. Kunara village according to Sulaymaniyah center, created by author.

The oldest settlement was found before 12000 years ago in (Zawichami) close to Shanidar cave in Bradost, humans learned to create shelters and houses, and in Charmo village close

to Bazian – Sulaymaniyah (Figure 3.4), 10,000 years ago, first human settlement was created, before the agricultural era (Around 7000 years BC) [16].

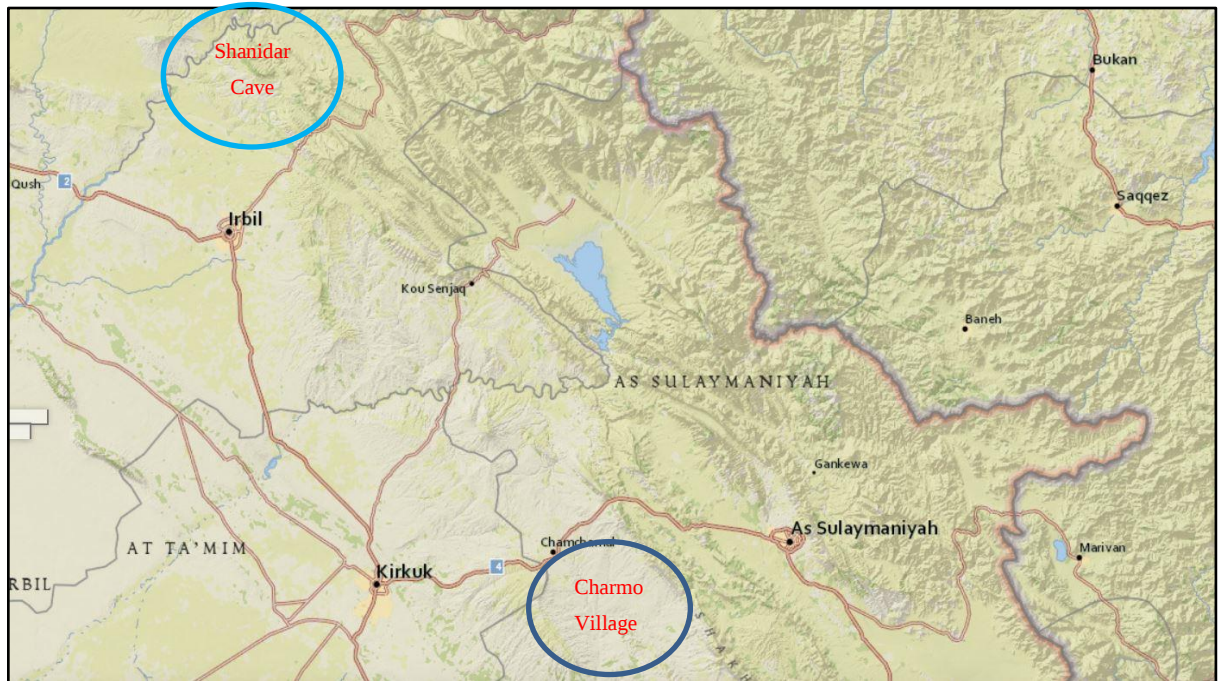


Figure 3.4. Map of North Iraq. Charmo village location, created by author.

The Architecture of north Iraq can be classified in towns, villages and Nomadic style, An example for the towns is Erbil citadel, which is an ancient human settlement that have continuously been inhabited for 7000 years[17].

Alesandro have travelled in northern Iraq for surveying historical areas and identifying the buildings that are in danger of being demolished. 60 kilometers north of Duhok have seen Dalal bridge (Figure 3.5) in Zakho, which was built in Abbasid period, because it is similar to the bridges that was built in Syria.



Figure 3.5. Dalal bridge 10th century in Zakho [18].

Another structure is Qishla in Koya (Figure 3.6), which stands on a hill over the city. It is constructed in the 2nd half of 19th century. The city also has a Bazaar that is an expensive area which was market place of Ottomans together with residential uses. The bazar has a well decorated gate which leads to a carvansarai [18].



Figure 3.6. Qishla building in Koya [18].

The topography of the northern part of Iraq, was a major factor for this emirate to be strong and safe, building citadels in the high places and away from main roads for the protection of the economy and the political power, such as Dukan castle that was constructed on a 60 meters rocky hill.

The castles in the north was different from the south, because of the climate and geological factor, away from the main roads it was constructed (Figure 3.7) [19].

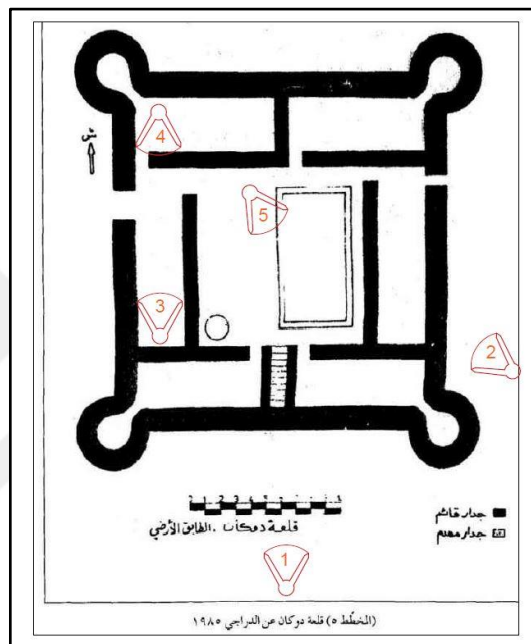


Figure 3.7. The places of the Photograph taken of the Castle (Dukan Castle Plan 1985) [19].



Figure 3.8. Elevation of Dukan Castle [19].

Dukan castle is an archaeological castle that was built on a 60 meters high hill for the purpose of Protecting the Emirate, however it was neglected and most parts of it is demolished (Figure 3.8).

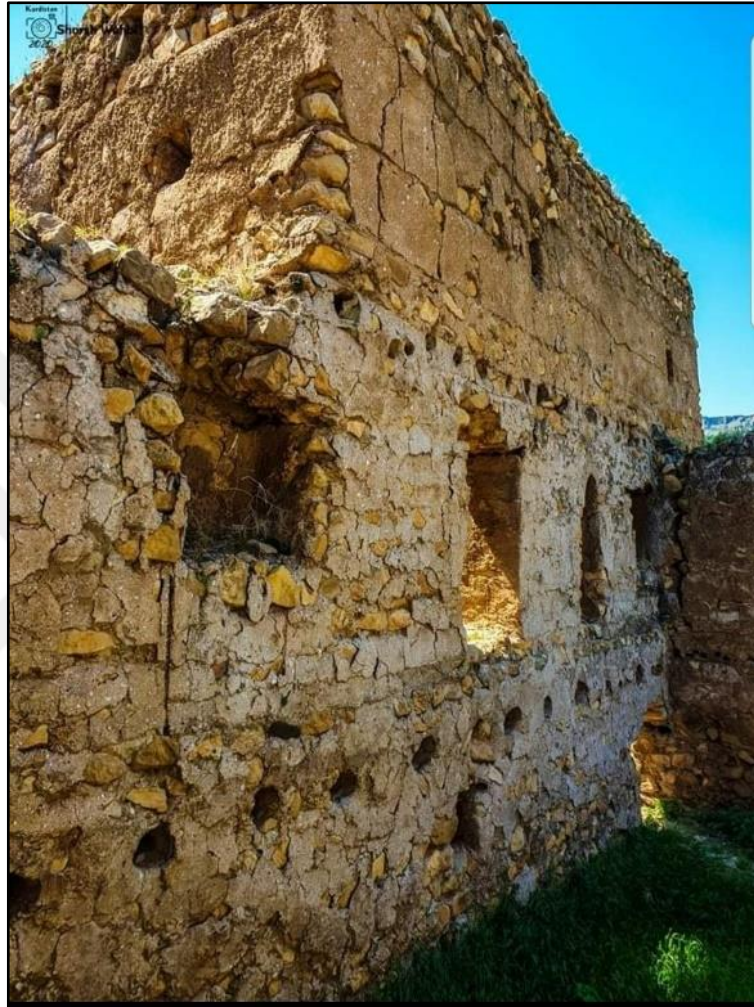


Figure 3.9. Photograph taken of Dukan Castle [15].

The castle was built by Mohammed Pasha the blind (Kor). The castle is a rectangular shape 22 by 22 strengthened in the corners by watch towers, the materials for building the citadel is stone and mud, and the roof was made by wood and mud, it contains a central pool for water collecting through an underground water canal [19].



Figure 3.10. Interior parts of the Castle [19].

Al Sulaymaniyah antiquities department, has conducted a field survey of the historical buildings, and 106 buildings was registered, 17th of them is now owned by the government, and 7 of them were conserved [5].

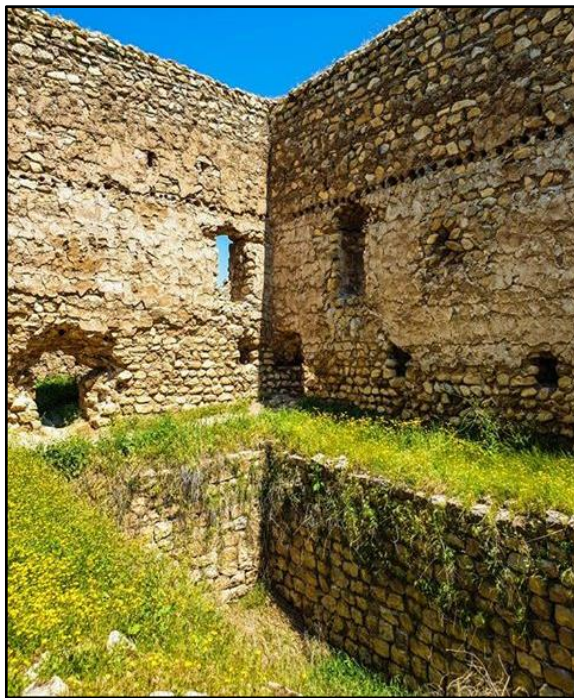


Figure 3.11. Central under floor spaces which is probably used as food store [19].

3.2. NEW LOCATION OF SULAYMANIYAH (MALKANDI VILLAGE)

"Qalachwalan" (Figure 3.9) was the first capital of Baban Emirate before the Sulaymaniyah, The emirate have lived from 1649 to 1850. There was continuous conflict in this era between Safavid and Ottoman Empire in this area. Qalachwalan became a battle ground for the two rivals [20].

In 1197 (1783) Baghdad Governor Suleyman Pasha appointed İbrahim Pasha from the Baban family as the governor of the Baban Emirate, The Emirate was managing the area in indirect control of the Ottoman Empire from 1550 – 1850 [21].

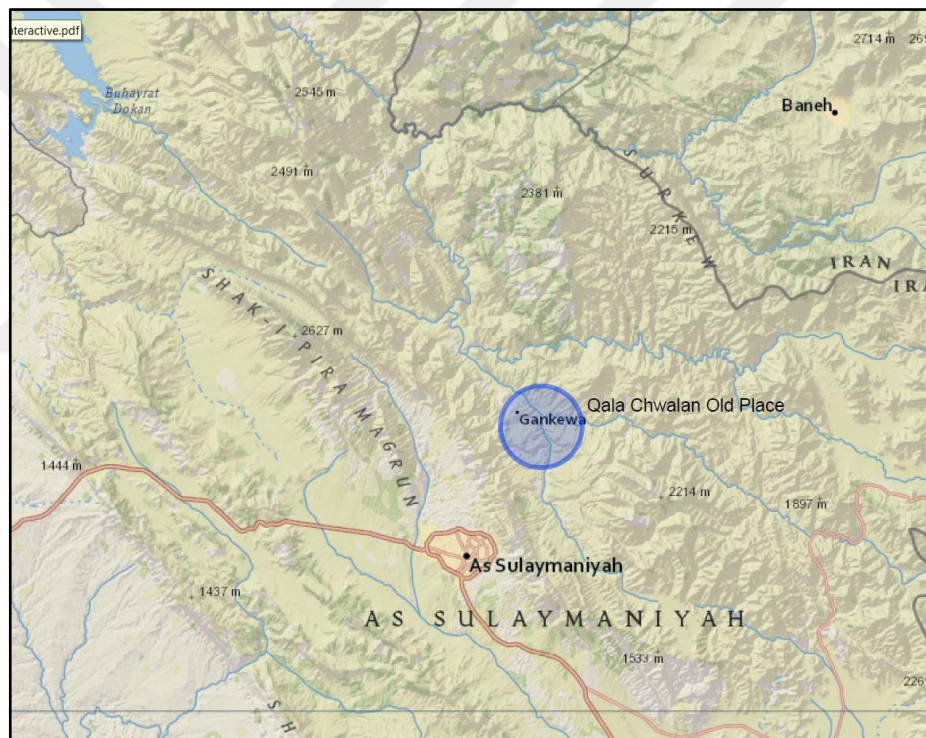


Figure 3.12. Location of new Sulaymaniyah and Qalachwalan, created by author.

The location of the city was a strategic place, but it had continuously been attacked by Safavid Empire, and the Ottoman rulers wanted to protect the place's integrity for their support of the borders. This led Mahmud Pasha to move the Baban Emirate into a safer zone in 1781. He chose Malkandi to be the new center of the Emirate and begun constructing castles and housing units.

Ibrahim Pasha have been living in cities such as Baghdad and Istanbul, which inspired him to create a similar Kurdish city, that could be a center of education civilization [22].

In 1783, Ibrahim Pasha started to move the city towards the new place of Sultan Sulaiman. For this purpose he creates buildings such as (Bath and Qaysari). The city was named Sulaymaniyah after Sulaiman Pasha (Ibrahim Pasha's father) [23].

The new area of the city was more strategic and an economical place, also it was a flatter area in Iraq, which had the potential to become a big city for the future, compared to the place of (Qalachwan) which was a hilly and a forest zone. Also to decrease the conflicts between the Safavid and Ottoman Empire in Iraq [22].

After the city of Sulaymaniyah was established, it witnessed a rapid development activity. At the beginning of the 19th Century, so many different religions were living in Sulaymaniyah, The population have reached 10,000 in 1820. In the 1880s, the population had increased to 14,744 (14,556 Muslim, 134 Jews, 54 Catholics) [24].

In 1821 and 1842 the city was captured again by the Persian army. And it was again restored to the Ottoman rule in 1846 and remained until the end of the First World War.

In 1850, the Babans were removed Iraq and the area was in direct control of the Ottoman Empire (Shahrazoor Principality), and after World War 1, it became part of Iraq.

3.3. SULAYMANIYAH IN OTTOMAN ERA (BABAN EMIRATE)

The Baban emirate (Figure 3.10) was a Kurdish Dynasty that has been under the rule of Ottoman Empire nominally and the rulers had the title of Pasha. The dynasty was ruling Sulaymaniyah and Shahrazoor area (See map 3.10)

In 1847, finally the emirate was removed after the last Pasha of the Baban's was replaces by Ismail Pasha, he was an officer of the Sixth army of the Ottomans, and was the official rule of Sulaymaniyah as Kaymakam⁴ [25].

⁴ Under the administration of the provinces (valilik), there are district governorship (Kaymakamlık) with a smaller population. The governor (Vali) is responsible for the administration of the provinces, and the district governor (kaymakam) is responsible for the administration of the districts.

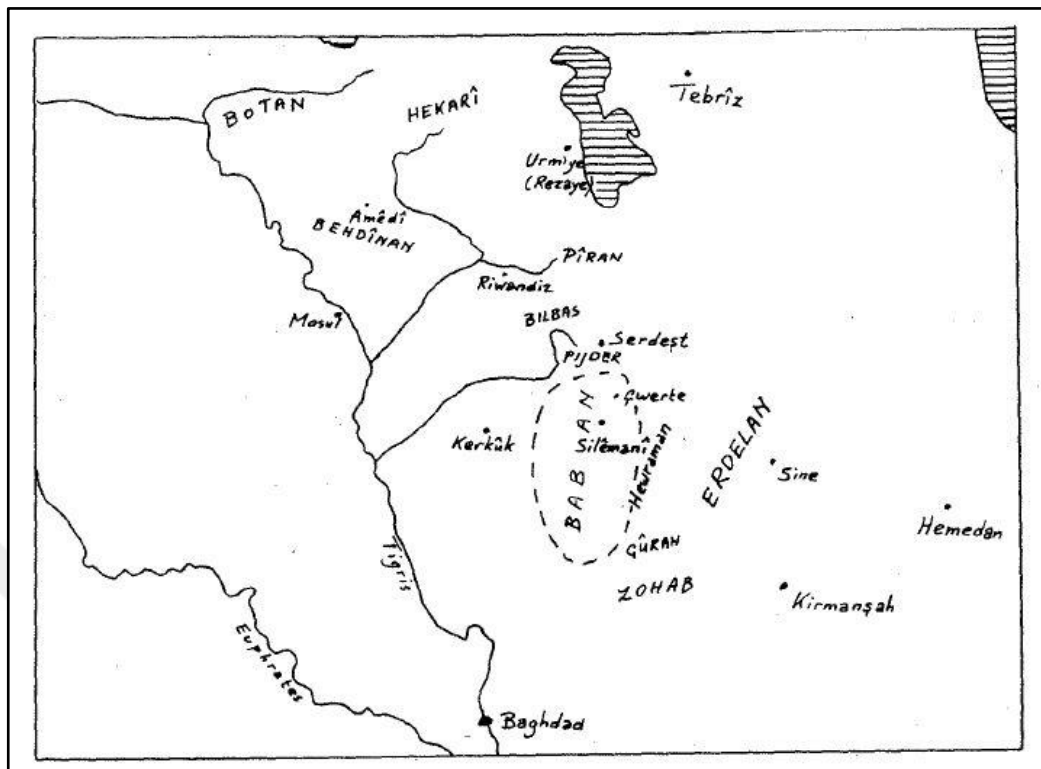


Figure 3.13. Map of Baban Emirate and surrounding Emirates and rivers [21].



Figure 3.14. Sulaimani's Photograph taken in 1924 showing the central area around Saray complex [Anonym].

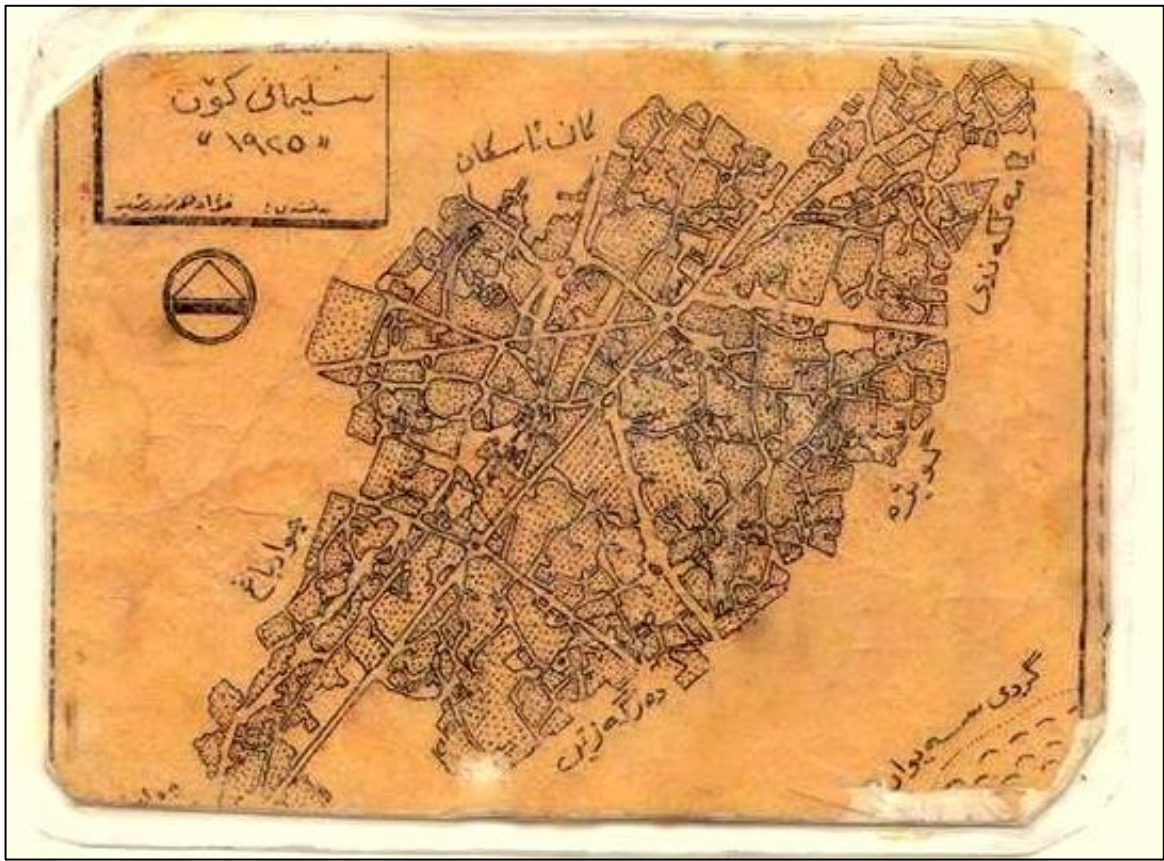


Figure 3.15. Old map of Sulaymaniyah in 1925 [26].

The map shows the districts of Sulaymaniyah in 1925, which are around a central zone which is Saray complex, In the place of the old (Malkandi) village, there is Malkandi district, other districts are (Goizha) and (Kaniaskan) which are next to Malkandi, (Chwarbakh) is in the south-west, (Dargazen) is in the south, in the bottom right corner (GrdiSaiwan) can be seen which is a Cemetery for the city (Figure 3.13)

The city was surrounded and extended around the Saray complex, the residential streets were narrow, and about 3 meters wide and in irregular form. The main streets were leading into smaller and narrower streets, and then into the dead-end streets called (Cul-De-Sac) which in the end creates a tree form urban. The housing scales are varying from small to medium and some larger houses which are belonging to the rich people.

The overall skyline of the city was horizontally organized, because the height of the buildings was not more than two stories. The residential areas are organized by the narrow and irregular roads in the organic form which is named "*Cul-De-Sac*". (Figure 3.13)

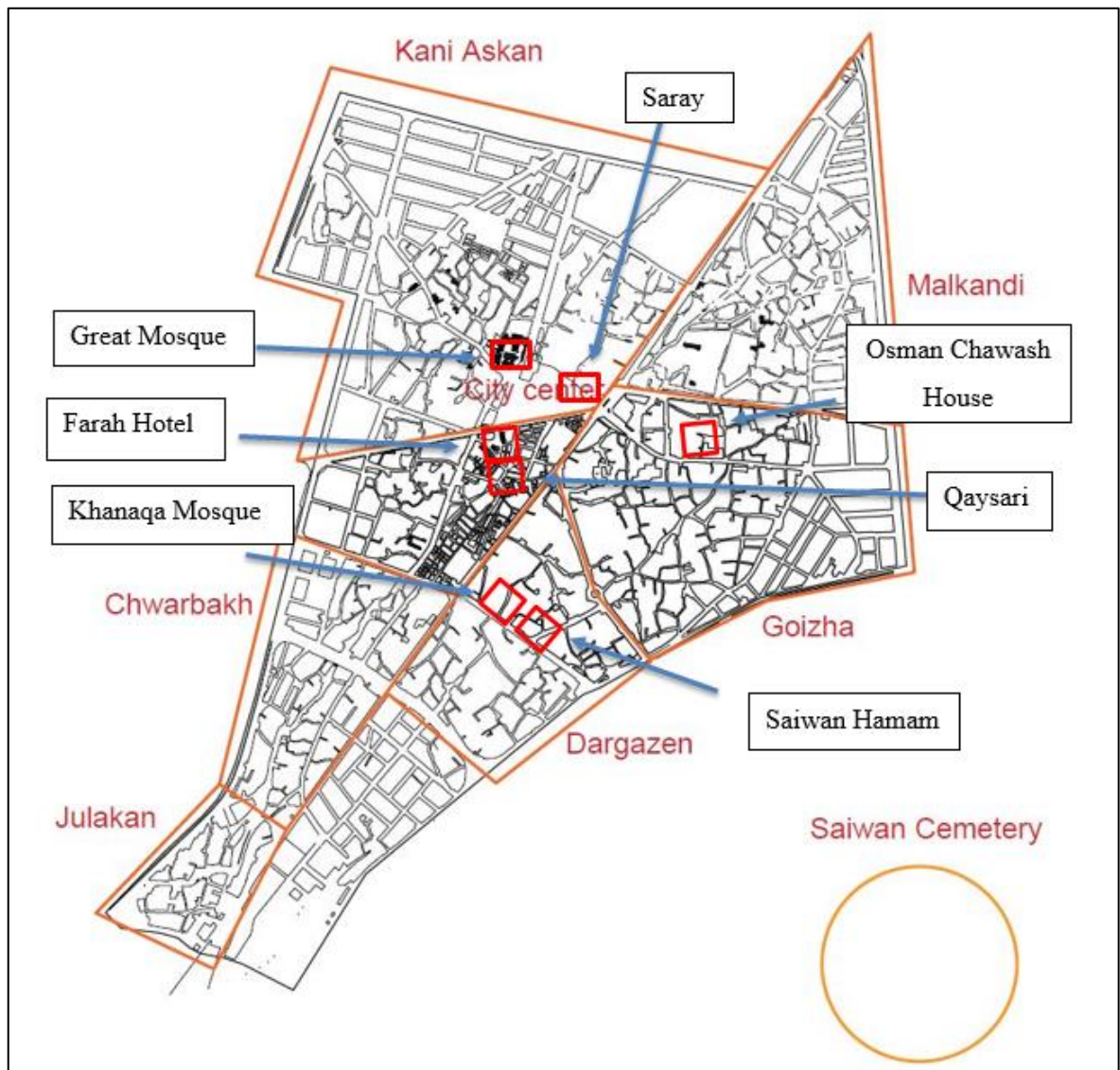


Figure 3.16. Analyzing the old map of Sulaymaniyah districts, created by author.



Figure 3.17. The main street in Sulaymaniyah called (Bardarki Sara) [Anonym].

The office building at the front has modern façade of modular architecture of Bauhaus school, with traditional stone material (Figure 3.14, 3.15).

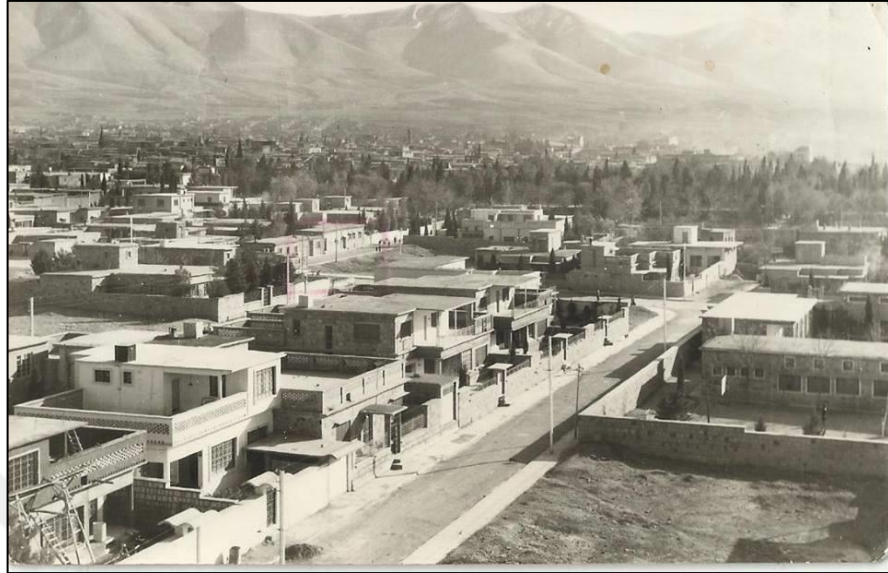


Figure 3.18. An old photograph taken of the city (after 1950s) reinforced concrete can be noted as a modern building material [Anonym].

At the beginning, there was a place of worship. Built in 1785, and boasting a vast library, the Mzgawt-e Gawra, the great mosque (Figure 3.16) became a center for knowledge and social interaction. Everything else was built around it such as villas, a market place and schools [22].

The houses have maintained its traditional design, which had a central courtyard surrounded by the other rooms of the house. However, majority of the residential units were not made according to a pre-engineering planning, but according to the financial ability of the residences.

In the 1890s, 3000 households (15,000 people), 400 shops, 30 mosques and madrasas, 8 inns, 9 coffees and 8 baths were identified in the city. According to the yearbooks of the Mosul Province, the city of Sulaymaniyah consisted of 2982 dwellings between 1908-1912. During these years, there was a government mansion, a hospital, 32 mosques, 2 madrasahs, 2 junior high school, a church, 12 inns, 10 baths, 1155 shops, 34 mills. there were 21

fountains and public fountains, a barracks, a telegraph house, 25 coffee houses, 15 tea houses⁵, 6 bakeries and 11 big ovens [2].

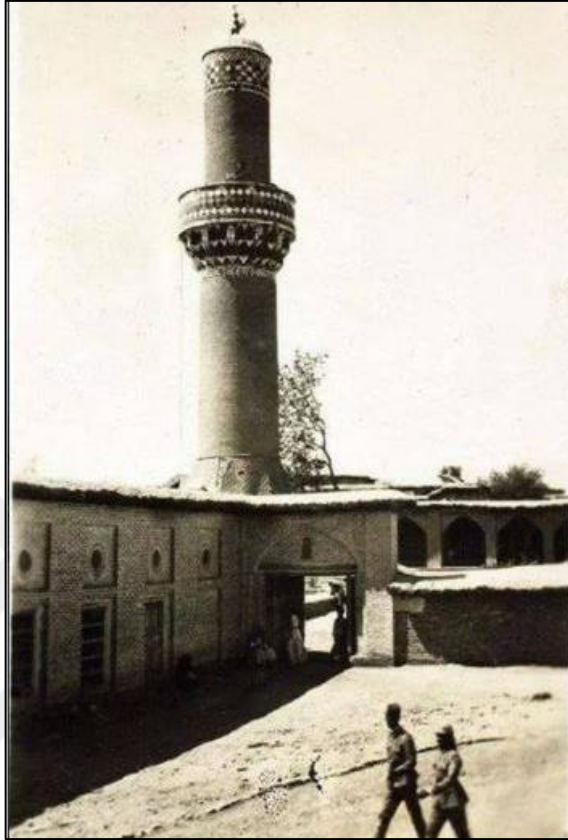


Figure 3.19. An old photograph taken of The Great Mosque of Sulaimaniyah, Turkish pointed arches are visible in the courtyard of the mosque [Anonym].

The Turkish pointed arches seen at the backside are one of the few Ottomans period buildings remains that can be detected in this region.

In a trip to Sulaymaniyah, Sir Rich mentions in his book that was written in 1820 there were 5 Mosques in Sulaymaniyah, and 5 Carvansarai, 1 Church, and 5 Hamam which one of them was the biggest one that he had ever seen.

In a quote about the quality of the Hamam's of Sulaymaniyah, Mr Rich mentions that:

Today I went to a bath in Sulaymaniyah, it was beautiful and full of service. I could say that I have never seen before, such a beautiful hamam even in Turkey. The Pasha has brought special Iranian experts to build the new buildings in Sulaymaniyah [24].

⁵ Tea houses were generally run for men, where tea and coffee were drunk, hookah bubbled, tavla and card games were played.

There was the building of Qishla (Daboo in Kurdish) which was a Castle constructed in 1891 by Mahmut Pasha next to the Qishla Hamam for the purpose of serving for the army. Now the building is covered by the shops of Sharawani Zone (Old Principality Zone) [27].

3.3.1. Urban Features

As Sulaymaniyah was a religious and educational center, the Islamic planning of the cities is dominated, the traditional living environment of the central area was based on strong social connections, which was consist of Squares as a public area for the purpose of gathering and increasing social connections.

The architectural building types of the city could be divided into 4 types, which are: administrative, residential, religious, commercial.

The historical town was dominated by the residential function, and the rest was the other types of buildings, however in the recent years, the residential types was decreasing, and the commercial buildings was increasing in a high rate.

The administrative buildings were mostly located in the city center, and each neighborhood has a mosque inside it. [28]

3.3.2. Housing Design

Plan typology of the houses in Sulaymaniyah can be characterized by several features, the most significant part was having a one-sided courtyard, which was in the middle open space and was directly connected to the outside with a door (Figure 3.17).

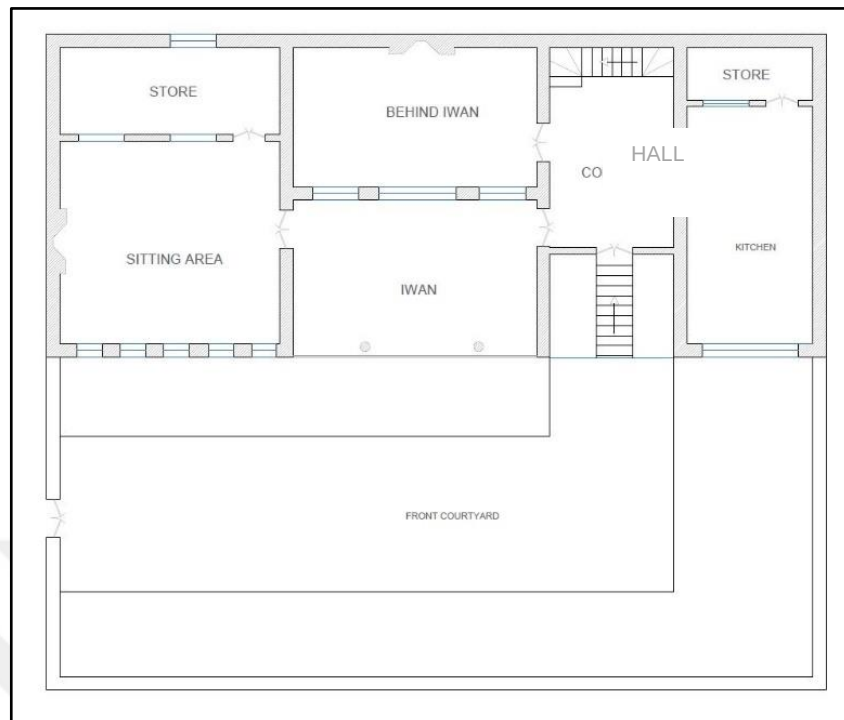


Figure 3.20. A typical housing in Sulaymaniyah, created by author.

Progress of architectural styles of buildings can be investigated in three stages:

1. Traditional Building Technology.
2. The transitional stage
3. The Modernity.

The Traditional housing style is consisting of Vernacular Architecture which was built by mudbrick and the roofs are simple woods and mud.

Vernacular architecture, it's a style of building which is being built by material and skills of the local people without involving architects of pre planning. This style was mostly in the pre-industrial ages, which they differ from a location to another one, according to the available skills and materials [29].

Residential houses in the traditional style in Sulaymaniyah are typically simple and practical which is similar to Vernacular Architecture. They were mostly built for the purpose of shelter from natural and environmental factors (Figure 3.18, 3.19, 3.19)



Figure 3.21. Housing examples in Sulaymaniyah, photograph taken by author.



Figure 3.22. Turkish brick ornamentation on house gate, photograph taken by author.



Figure 3.23. A Tandoor room in front of a house, photograph taken by author.

The housings had a central courtyard which was also used for religious practices, food preparation, drying food or textile, spinning, and weaving, welcoming guests and flat roofs are for drying foods and sleeping, the central court had a privacy from the exterior, to keep the privacy of the female members of the houses. The general layout of the housings was consisting of 1 or 2 story buildings.

The planning of the housing is consist of a courtyard with an iwan in one side (Figure 3.21), and the building next to it in a rectangular building form , the entry is through a small entrance to a corridor which leads to the courtyard, the walls next to the street was around 2 meters high for keeping the privacy of the inner parts, and in the inside there are gardens and fountains together with kitchen and tandoor [14].



Figure 3.24 Example of iwan open to a courtyard, photograph taken by author 2021.

The ground floor is mostly used for the purpose of storages, animal keeps and servant rooms, the upper floor for living room and bedrooms, and the main component of the houses is iwan which is a roofed open space which looks directly on the courtyard.

The decorations of the residential units was mostly for the interior spaces and the Iwan, together with the Entrance door of the house, however the exterior wall had simple decoration (Figure 3.22) [14].



Figure 3.25. Materials used in the housing of the city, photograph taken by author.

3.3.3. Materials for Construction

The materials which have been used for construction were the affordable materials that could obtain easily, such as stone and clay, stone and gypsum, mud bricks and mud. Mud and wood were use on the roofs. Wall thickness was more than 40cm [27].

Malkandi Stone is a famous stone of the city, which have been used for constructing the important architecture, the stone is famous for its nice appearance color, and it's easy of application and to be broken easily by Hammer to make it rectangular shape. This stone has been used until the year 1958 [27].



Figure 3.26. Wall built by Malkandi Stone, photograph taken by author.

3.4. REPUBLIC PERIOD OF SULAYMANIYAH



Figure 3.27. Map of Sulaymaniyah Governorate [Anonym].

A Kurdish Kingdom was created between 1922 to 1924 in Sulaymaniyah as its capital (Figure 324), The kingdom was unrecognized and it was created after the Ottoman empire was collapsed [30].

In this period the building style of Iraq have changed into modern building and materials, The original style of the area and the environmental factor have been forgotten, which consists of concrete masses and shapes that is closer to the western style of construction [9].

After the occupation of Iraq by the British army in 1917, The style of construction have changed and new materials were used such as Cement and Iron (Schliemann) which had the influence on the country and continues until today [9].

4. CONSERVATION OF OTTOMAN ERA BUILDINGS IN SULAYMANIYAH

In many recorded important architectural heritages of the city, seven of the most important buildings belong to the Ottoman era will be examined in the conservation point of view, together with analyzing their architectural characteristics.

4.1. THE GREAT MOSQUE

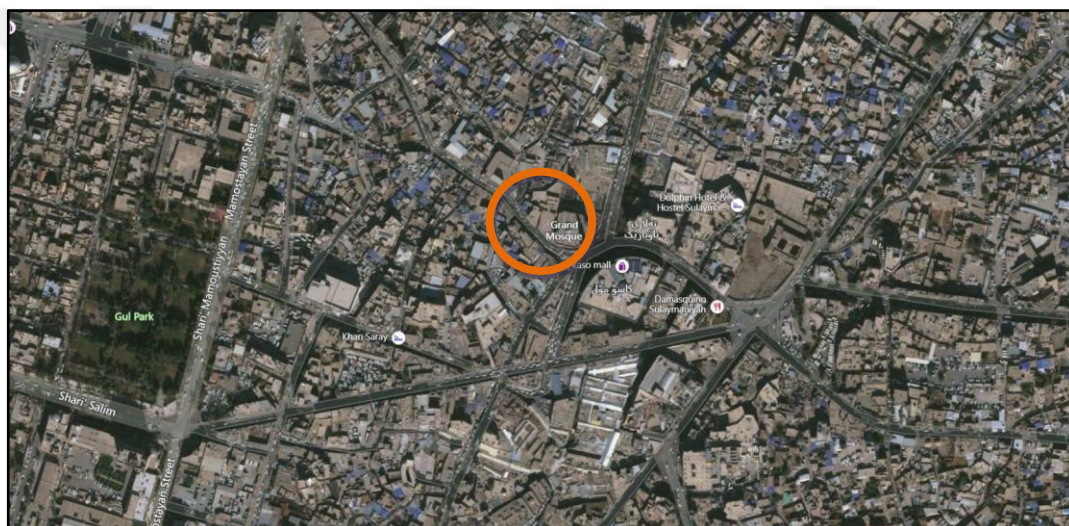


Figure 4.1. Location of the great mosque, created by author.

The great mosque of Sulaymaniyah (Figure 4.1) is the most important mosque of the city and its located in the city center, it was first built by Ibrahim Pasha of Baban, it was used as a mosque and educational center for the city, the library of Baban's was transported from Qalachwala to this mosque [31].

The person that was responsible for this renovation of the building was (Mohammed Said Barzenci), which was one of the grandsons of (Kak Ahmed Sheikh⁶) which was a famous religious resident of the city and followed the Qaderi Approach of Islam religion.

⁶ Kak Ahmed Sheikh is a famous religious person in Qaderi approach who have written many religious books that are written in Persian and later was translated into Kurdish, he was also a Poet and had close relations with Maulai the famous Kurdish Poet.

It is in a center point of the historical area, which consists of madrasa, tombs and mosque, In the document it's written that the minaret was built in the Ottomans Era as a new addition to the mosque in 1890 [31]. in 1967 another new minaret was added, and the rooftop was changed, also the courtyard of the mosque was expanded. In 1924, after the bombardment of the English army on the city, there were several damages on the Great Mosque and some housing around [27]. In the last century restoration studies give the new face to the complex. Old minaret renewed and added a new taller minaret on the other corner (Figure 4.2, 4.3)

In an Ottoman document which was written in 1890, it mentions that the Ottomans provided 1000 Lira's to renovate the mosque, which shows the great support for education and knowledge, this lead to creating many famous poets and writers [31].

The plan consists of the main prayer area which has 4 semi hexagonal shape, besides it in the right there is the main ablution place, in the backside there is a multi-purpose hall used for the events of the mosque, the kitchen prepares food for the people in need, there is a secondary prayer hall which is used for daily praying purpose (Figure 4.2).

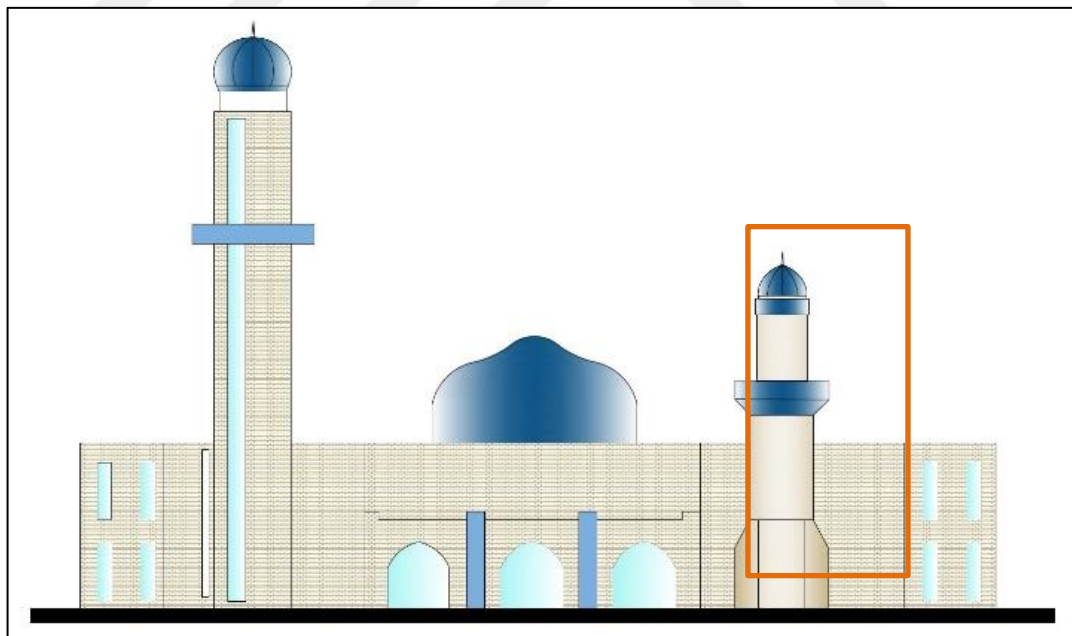


Figure 4.2. Main facade of the Great Mosque. The oldest minaret is the short one, created by author.

In the main Elevation of the new constructed mosque. Old minaret renewed and added a new taller minaret on the left side of it.

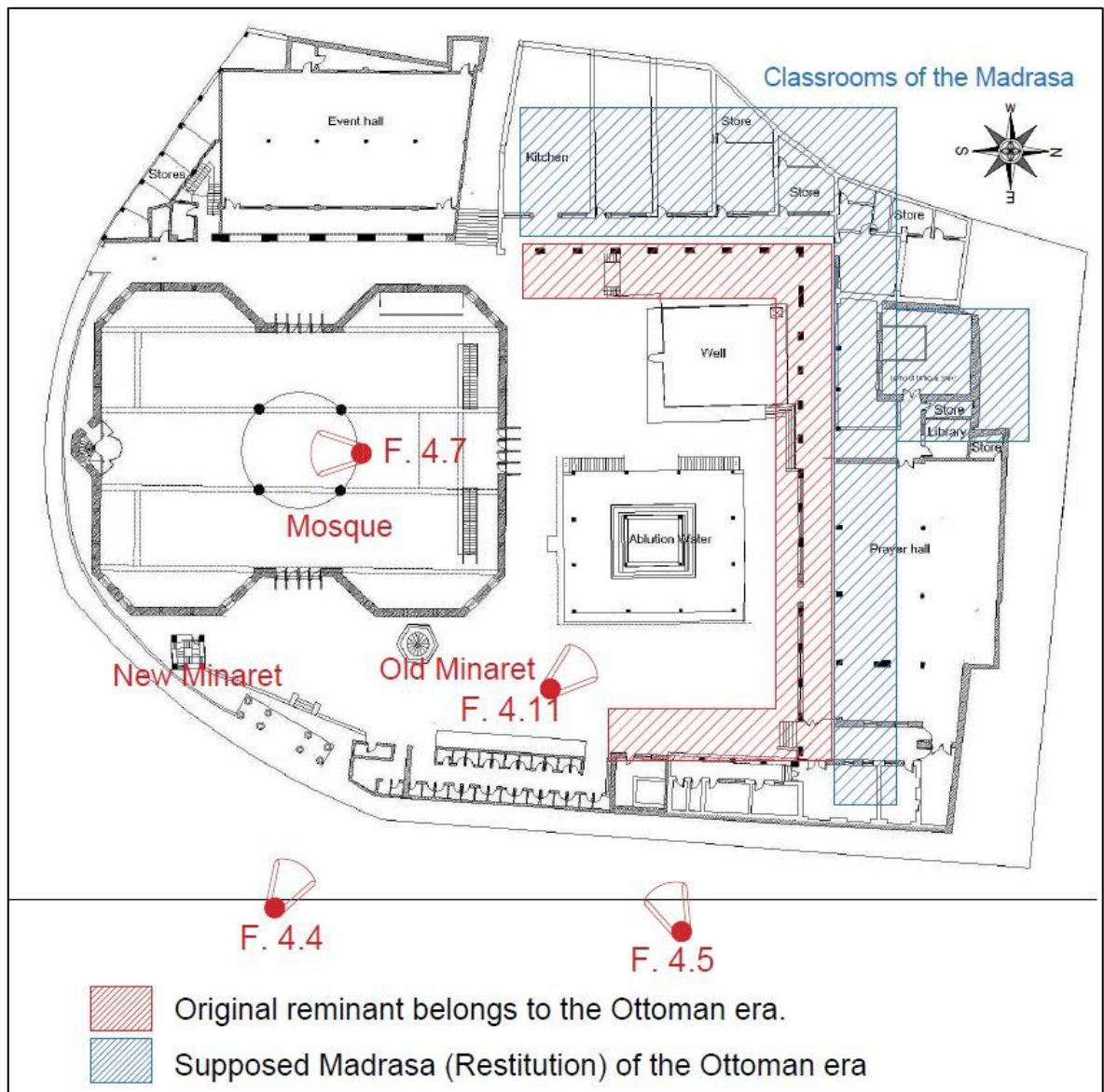


Figure 4.3. Plan of The New Great Mosque and renovated arcades around it, created by author.

According to the plan characteristics, it is possible that the main mosque was consisted of a complex which had mosque and madrasa, which is a smaller part in the backside of the main praying area (Figure 4.4)

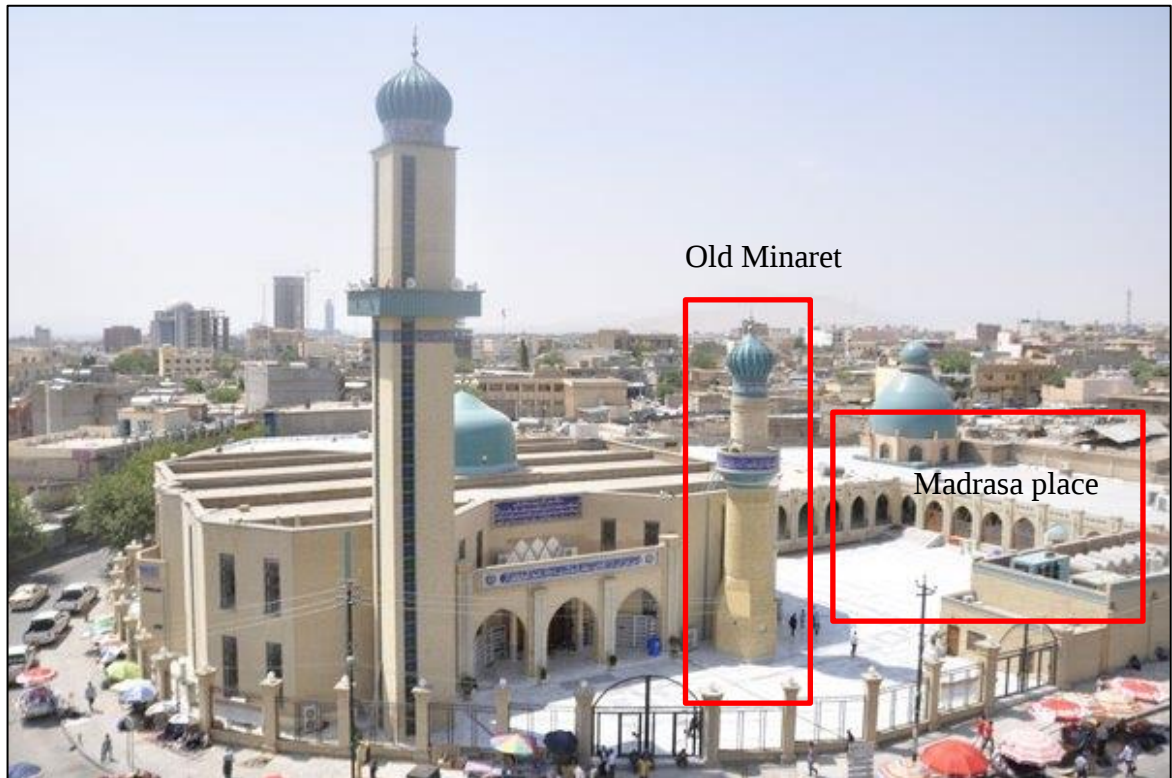
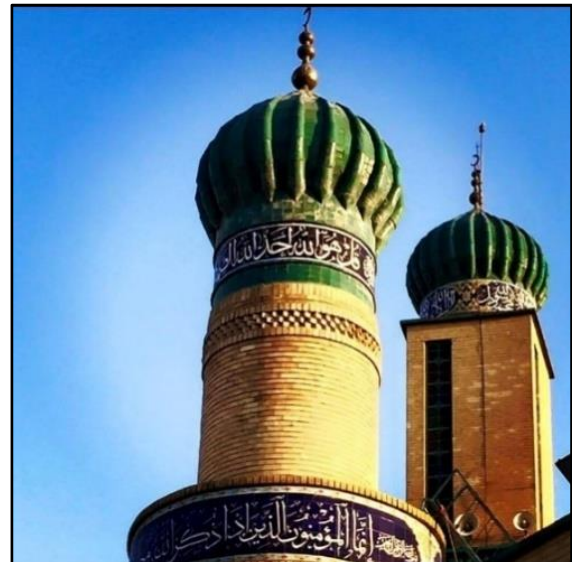


Figure 4.4. The New Great Mosque Complex after restoration with the new tall minaret addition (2021), photograph taken by author.



(a)



(b)

Figure 4.5. (a) The new great mosque with the addition of a new minaret. (b) Details of the minaret, photographs taken by author.

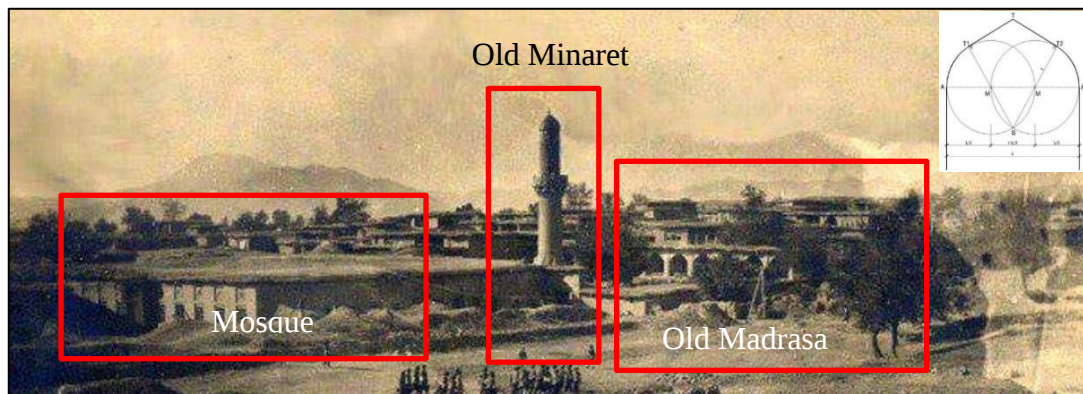


Figure 4.6. The Great Mosque complex before restoration, Ottoman Era arches on the arcade of the madrasa part [29].



Figure 4.7. The interior of The New Mosque (2021). The order of the pointed arc of the Mihrab shows Persian pointed arch character, photograph taken by author.



Figure 4.8. Original minaret and the Great Mosque in Sulaymaniyah (2021, 1900's)
[Anonym].



Figure 4.9. Persian minaret of Isfahan mosque [Anonym].

The decoration of the minaret is close to the Persian style minaret, it is constructed with a semi sphered top part which is covered by holy texts from (Quraan), glazed brick used in the minaret is the same colours that have been used in the Asfahan Mosque.

The courtyard is one protected area in the mosque which is still an important part for ablution and secondary praying area, it is constructed with Turkish pointed arch, however the renovation of the mosque appears to have changed to Persian pointed arch (Figure 4.10)



Figure 4.10. Original Turkish pointed arches belong to the Madrasa of the Great Mosque (1900's) before restoration [Anonym].

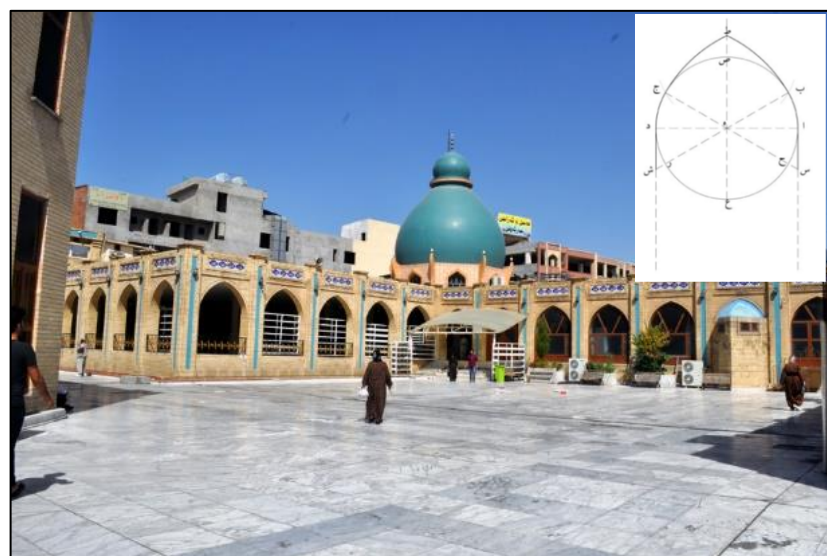


Figure 4.11. Arches changed during last restoration of the Great Mosque, Photograph taken by author at 2021.

The mosque, the madrasa, tomb and the Great Mosque Complex, which probably had a primary school at the entrance of the courtyard, were destroyed during the wars. (Figure. 4.9) During the last restoration studies, in 2020, the facade of the building was renewed, the mosque space was expended, the front porches from Ottoman Period were preserved in the madrasah, the rear part was expanded, and the dome of the tomb was renewed.

In these studies, only protected part of the porticos but some changes with the arch orders of the short minaret, original arches were in Ottoman order different from today. (Figure. 4.12)

Complex construction was made in Anatolia by the Seljuks in the 13th Century, these complexes were consist of mosque and a madrasah which was surrounding a courtyard for cultural public space within the complex.

An early example of mosque and madrasa complex was in Mardin city (Mardin Taceddin mosque). This feature of courtyard with mosque and madrasa later on because a general feature of the mosques that were being built [32].

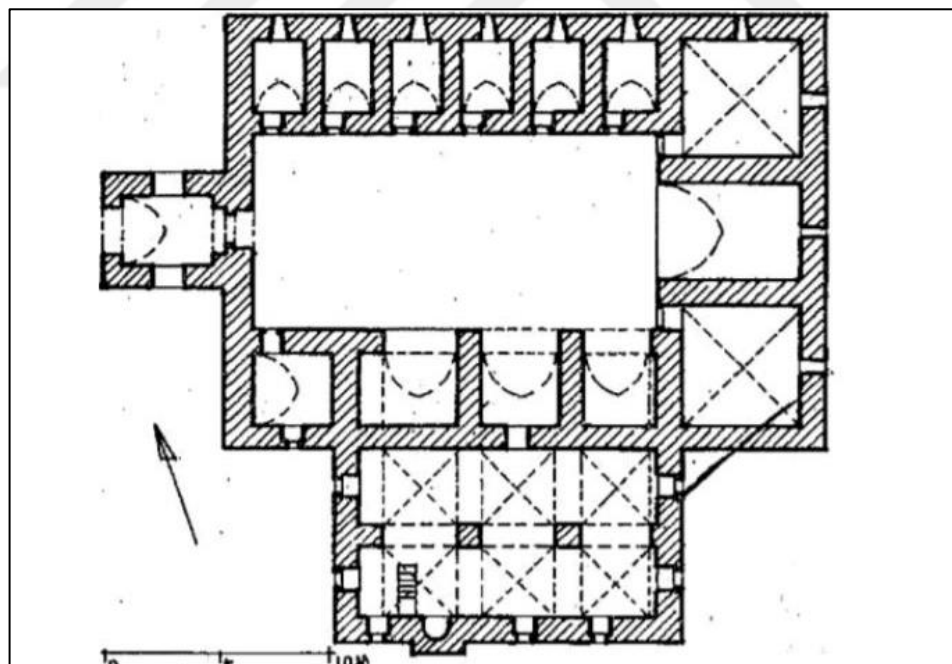


Figure 4.12. Mardin Taceddin mosque and Madrasa [32].

The great mosque conservation concept, according to Venice Charter Article 6 which requires preserving the scale of a monument with it's traditional existance, and preventing any addition or modification in the construction which will change the overall mass relations and the traditional colours [33].

The traditional context had to be preserved. There should not be any new construction or excessive renovation that would disrupt the mass colour relationship of the minaret.

Venice Charter Article 1 mentions the importance of historical monument, which may not be a single building but a whole district or area that have worked in a specific civilization. The monument may not be an artistic work, but it may have had an importance or a cultural meaning in the past [33].

Not only famous architectural buildings, but also lesser-known buildings from the history and which have gained importance by its historical value, should be preserved as they are evidence of past civilizations. Instead of changing its façade, the original Great Mosque complex should have been restored with all its old values.

The only original building element is the short minaret even if the original facade material has been changed during the last restoration studies.

4.2. KHANAQA MOSQUE



Figure 4.13 Old Photograph taken of Khanaqa Mosque [32]



Figure 4.14. Location of Khanaqa mosque, created by author.

Khanaqa Mosque is another important building of the city which is located near the Khanaqa square (Figure 4.14) it was built by Mahmood Pasha for Maulana Khalid Naqshbandi who was a leader of Naqshbandi Route, for the purpose of expanding the believes of the religion [27]. The construction of the mosque started in 1816 and finished in 1817.

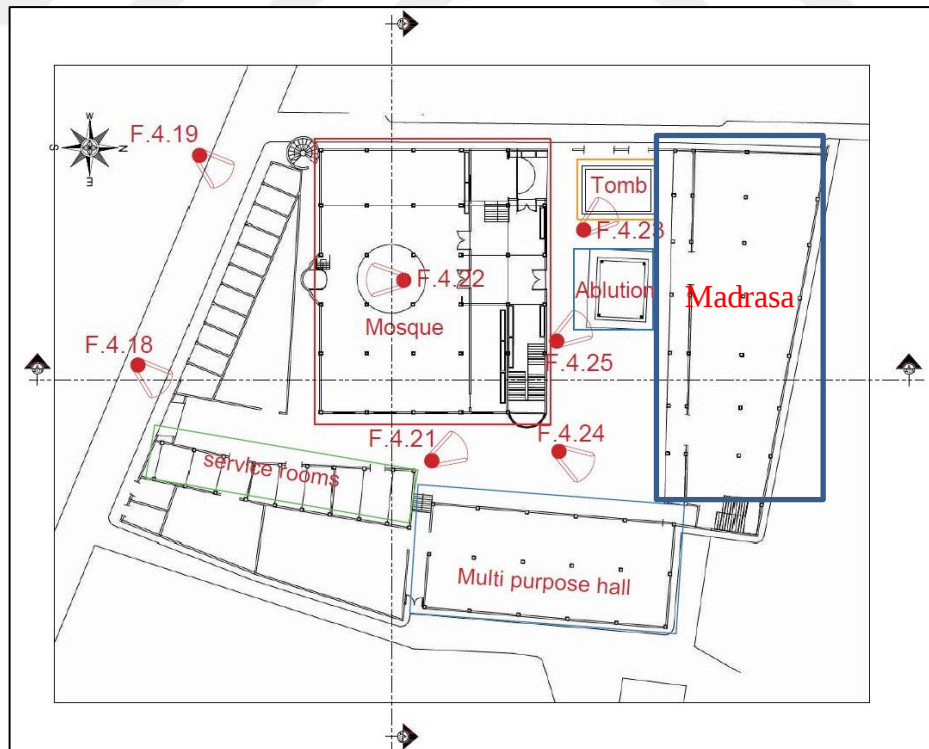


Figure 4.15. Ground floor plan of Khanaqa Mosque, created by author.

The plan consists of a central praying area for the main Pray times, In the courtyard of the mosque there is an ablution open zone with water fountain, the tombs of famous people are inside the courtyard (Figure 4.15).

The left side of the mosque is used as secondary praying area which is used throughout the day. The southern part is used as a multi purpose hall for specific functions, together with some service rooms for the mosque cleaners (Figure 4.15).

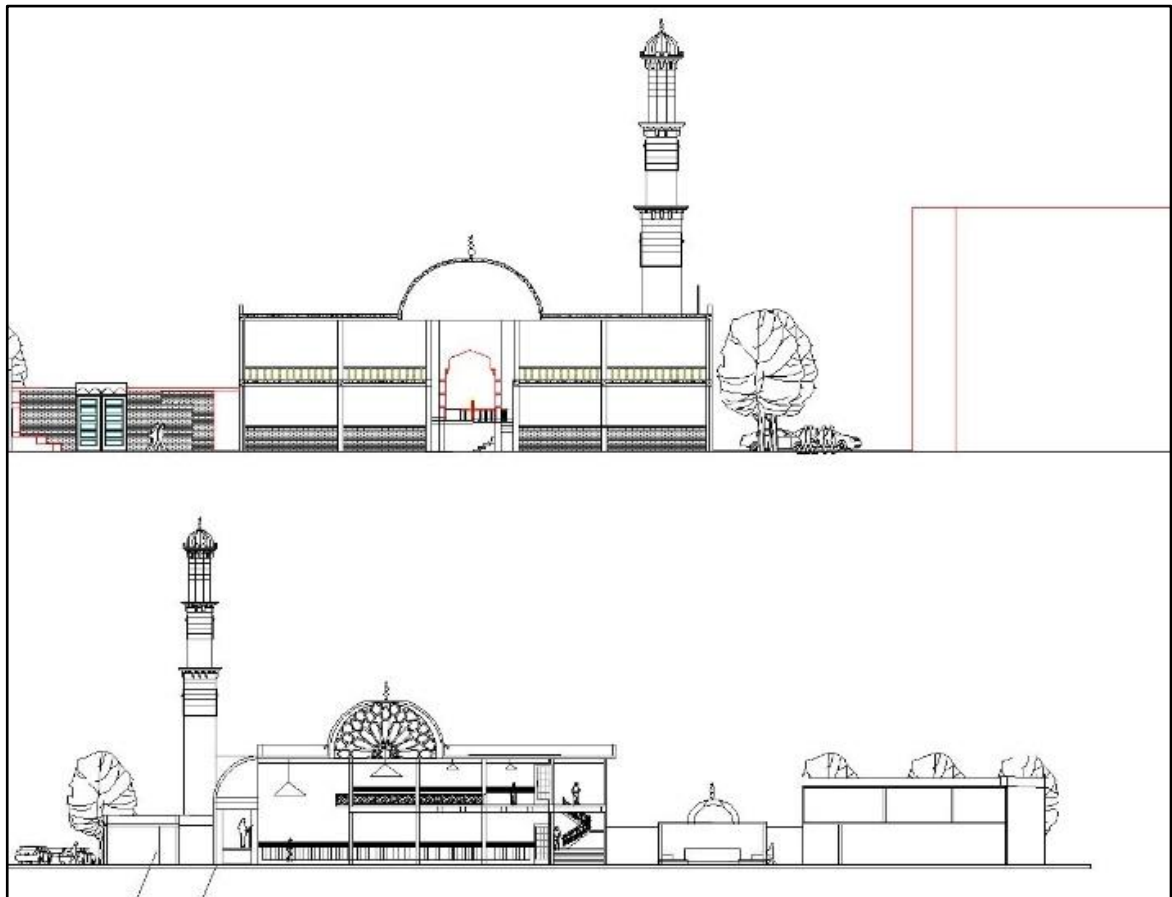


Figure 4.16. Sections of Khanaqa Mosque 1:400, created by author.

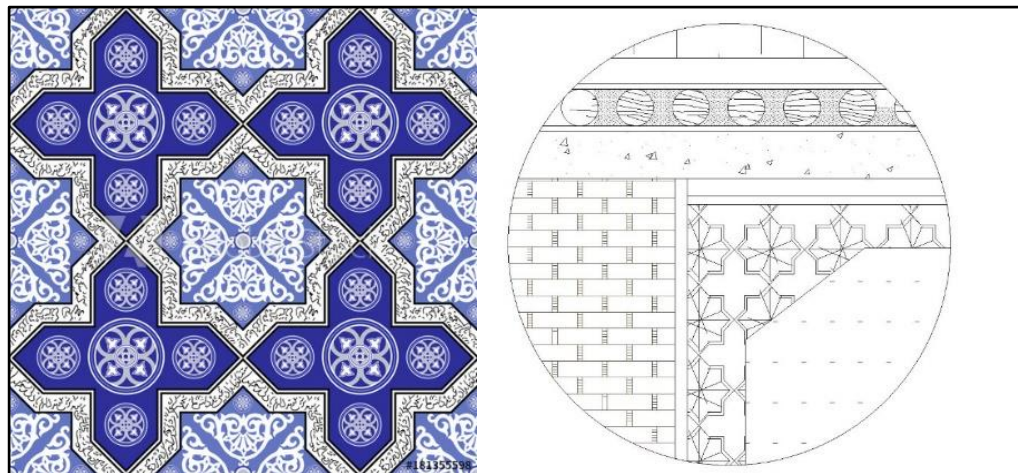


Figure 4.17. Ornamentation details of Khanaqa mosque, created by author.

The Ornamentation is the same style of Persian Ornamentation of Mosque.

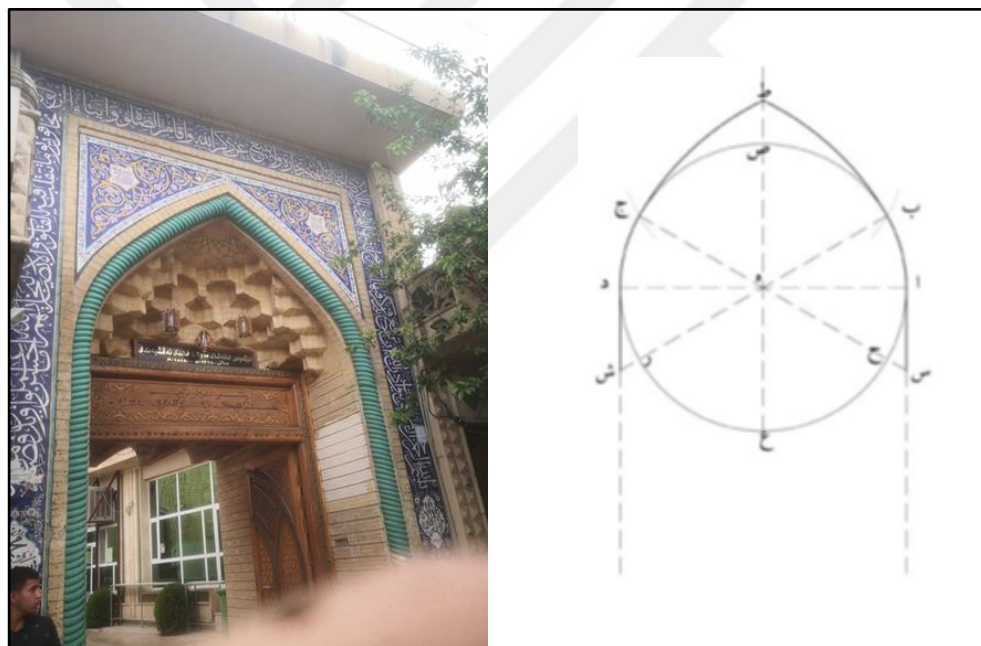


Figure 4.18. Entrance ornamentation of Khanaqa Mosque, photograph taken by author.

The entrance of the mosque is decorated with Persian Ornamentation and the arch is the same with Persian Arch. Creating the mosque was by (Al Hamui) he requested The Ottoman Sultan (Abdulhamid II) for creating this Mosque, it's famous for its big scale design and ornamentation comparing to the other Mosques, it's been built on an area of (1000 m²), The mosque consists of a central courtyard, which later have been expanded with a school (Mahui School of Religious science), it have been restored for the final time in 2011, It have been the second biggest mosque of the city.



Figure 4.19. Side view of Khanaqa Mosque, photograph taken by author.



(a)



(b)

Figure 4.20. (a) Khanaqa Mosque minaret decoration, photograph taken by author. (b) Isfahan Mosque minaret decoration [Anonym].

The time of the minaret construction is not known; however, the minaret design is the same style of the Mosque in Isfahan (Figure 4.20).



Figure 4.20 Renovated courtyard of Khanaqa mosque, photograph taken by author.

The new addition to the mosque's prayer hall is not a right application, which is a modern curtain wall and the stone used to cover the walls is not original to the style, this renovation made the looking of the mosque to appear distorted (Figure 4.21)



Figure 4.21. Interior of Khanaqa mosque, photograph taken by author.



(a)



(b)

Figure 4.22. (a) Interior of Tomb, (b) Exterior of Khanaqa tomb, photographs taken by author.



Figure 4.23. Inside courtyard walls of Khanaqa Mosque, photograph taken by author.



Figure 4.24. Ablution inside the courtyard of Khanaqa mosque, photograph taken by author.

The Khanaqa mosque conservation concept, according to Venice Charter Article 6 which requires preserving the scale of a monument with its traditional existence, and preventing any addition or modification in the construction which will change the overall mass relations and the traditional colours [33].

According to this article, changing the façade of the mosque is a false reconstruction of the mosque, the traditional façade had to be preserved in the same characteristics according to the old data and records.

The decoration of the Mosque have been changed, and the additions are altering the Mosque's original characteristics, this should not have been allowed, however changing it back to the original appearance is necessary.

4.3. FARAH HOTEL

Farah Hotel is a corner building which is located in Sulaymaniyah in Mawlaui road (Figure 4.25). The building was constructed in 1914, at the beginning it was used as a place for the

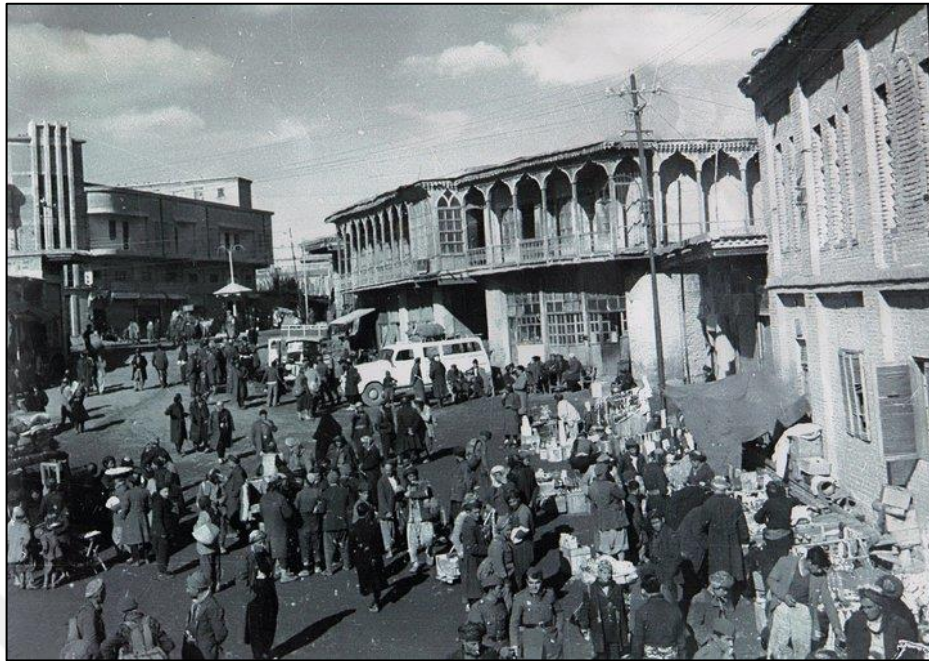
merchants or visitors who have visited the city. Because of the climate factors it has damaged several times. It has been renovated by the Heritage Department of the Ministry of Culture of Sulaymaniyah, and now it works as a Museum.



Figure 4.25 Location of Farah Hotel in the city center, created by author.

The building consists of a closed courtyard which the ground floor is used for commercial uses, and the upper floor was used as a hotel (Figure 4.30). The materials used for construction is stone and mudbrick, together with wood for the decoration of the building. In the center of the courtyard, it contains a big garden, sitting areas and a fountain (Figure 4.29) [34].

It was the first commercial building in Sulaymaniyah that is used for hotel (rest area). The first building heritage that based on of column and beam in Sulaymaniyah. Hotel Farah consists of two floors, Ground floor which was used for shopping and the internal court for Garage, also the first floor which was used for guest rooms of the hotel.



(a)



(b)

Figure 4.26 (a) An old image of Farah hotel (around 1950) [Anonym]. (b) Farah Hotel's old façade; before restoration 2006 [32].



Figure 4.27. Farah hotel; after restoration, photograph taken by author.

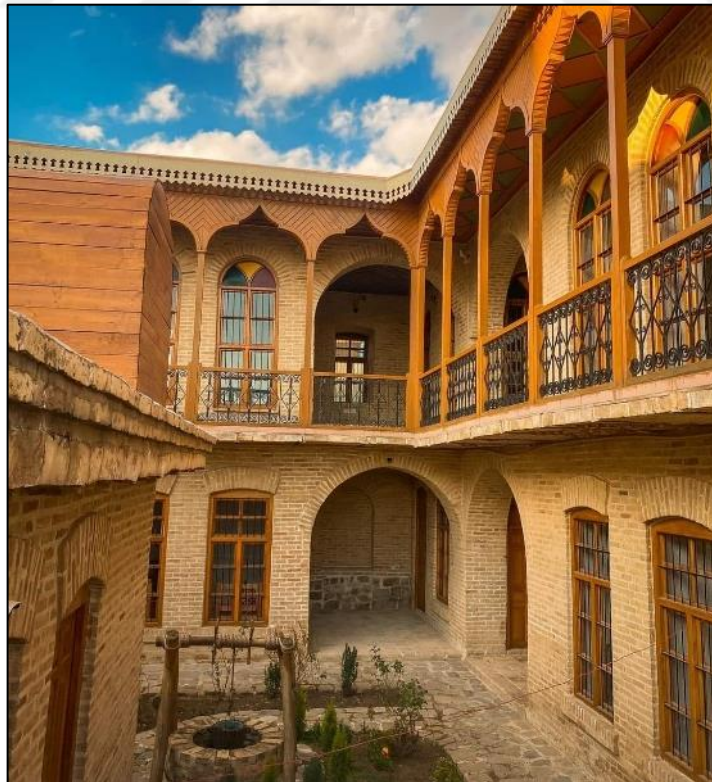


Figure 4.28. Farah Hotel, after restoration 2021, photograph taken by author.



Figure 4.29. Farah hotel's Ground floor plan, created by author.

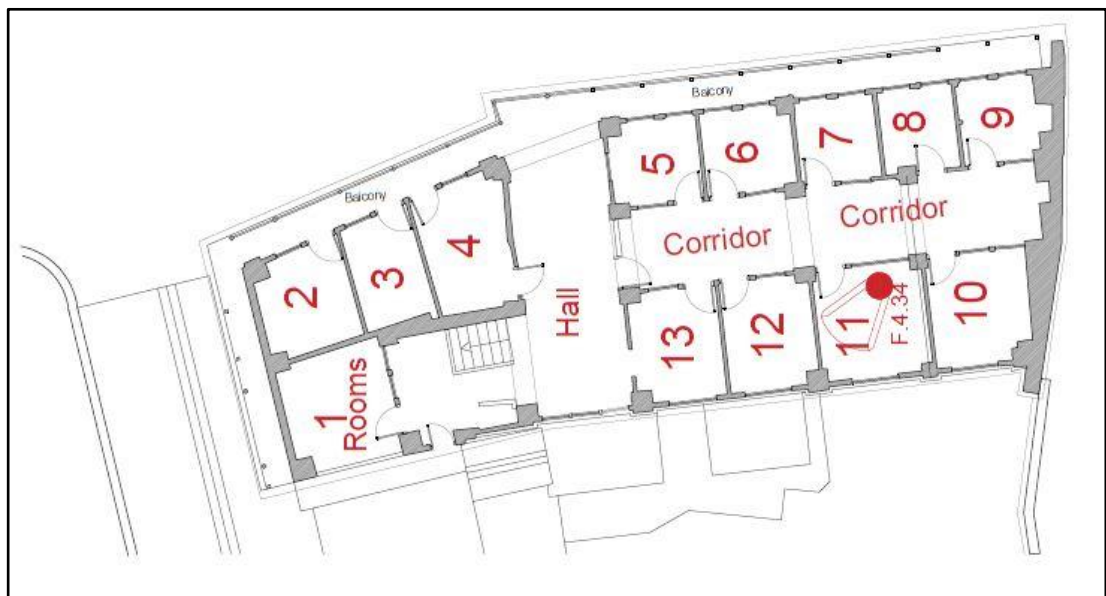


Figure 4.30. Hotel Farah Second Floor, created by author.

Material used in this building were handmade brick, wood, steel, lime...etc. slab constructed by two deferent material components, brick with steel type (Agada) for Ground Floor and

wood with lime mixture type for First Floor, at (2013-2015) the first renovation was done by the Government, with the Regional Growth Budget.

The plan of the hotel appears to have some rooms surrounding a central courtyard, which is similar to the central courtyard style of Baghdad. This style of construction makes a fine climate for the inner spaces and lets the air circulation to move between the rooms (Figure 4.32).



Figure 4.31. Inner courtyard of the Farah Hotel after restoration 2021, photograph taken by author.



Figure 4.32. Shops of the Farah Hotel after Restoration 2021, photograph taken by author.



Figure 4.33. Interior of the Farah Hotel rooms after restoration 2021, photograph taken by author.

The Farah hotel conservation concept, according to Venice Charter Article 3 which mentions the importance of historical conservation, which is not only for protection of a monumental work, but also it works as a historical proof of a particular time [33].

This building has been preserved with its rich architectural style; it can be considered as a monumental architecture inside the city center.

Venice Charter Article 4 mentions the importance of conserving a monument continuously and it should be maintained as long as it stands [33].

Continuous maintenance of the building is necessary as it's in a location which has a high load of use on the building, monitoring the situation of the building by the government is essential.

Rüstempaşa Caravanserai is a hotel structure built in the city (Edirne) in the 16th century. The building has 2 square courtyards that were expanded in different periods. The lower floors were built as shops and the upper floors as hotel rooms and show similar features to the Ferah Hotel. The building also has a caravanserai where animals are kept. Today, this

part is used as a restaurant, and the shops on the lower floor and the hotel rooms on the upper floor have been transformed into a new hotel comfort with the rehabilitation project.

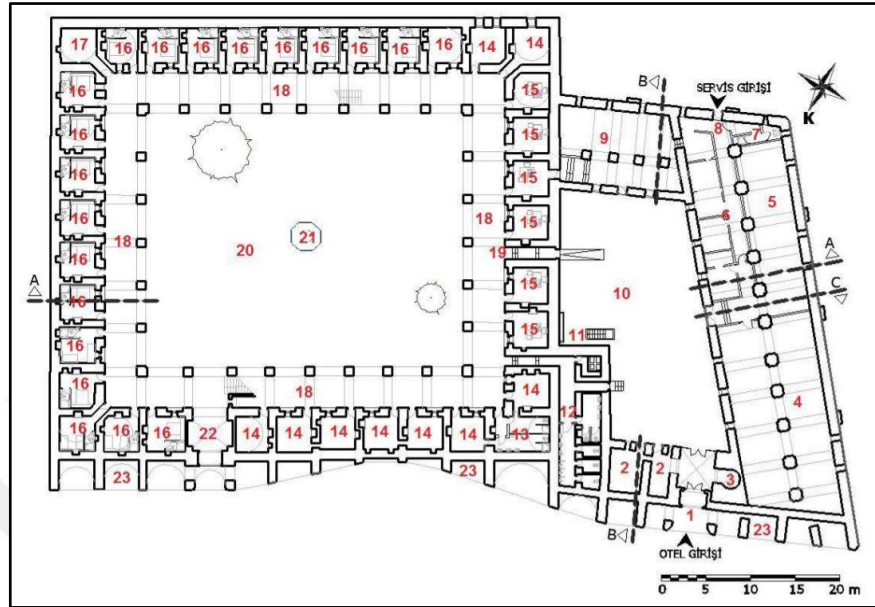


Figure 4.34. Interior of the Farah Hotel rooms after restoration 2021, photograph taken by author.

Like the Rüstempaşa caravanserai, the Farah Hotel is seen on the ground floor plan where it consists of shops around a central courtyard (see fig. 4.30). A part of the upper floor has probably been destroyed and the character of the plan with the central courtyard has lost the original form in the second floor.

4.4. OSMAN CHAWASH HOUSE

It is located in the Sabunkaran District in Sulaimaniyah (Figure 4.35). the building history dates back to 1885, which was built by "Rasheed Osman Chawash,

British entering the city the turned adapted it into their private use of a hospital. The building has no function currently and is protected as a cultural heritage zone.

The house consists of upper and lower floors which was called (sarkhan & zherkhan). This heritage house was renovated by Directorate of Antiques of Kurdistan region in 2013.



Figure 4.35. Location of Osman Chawash House, created by author.

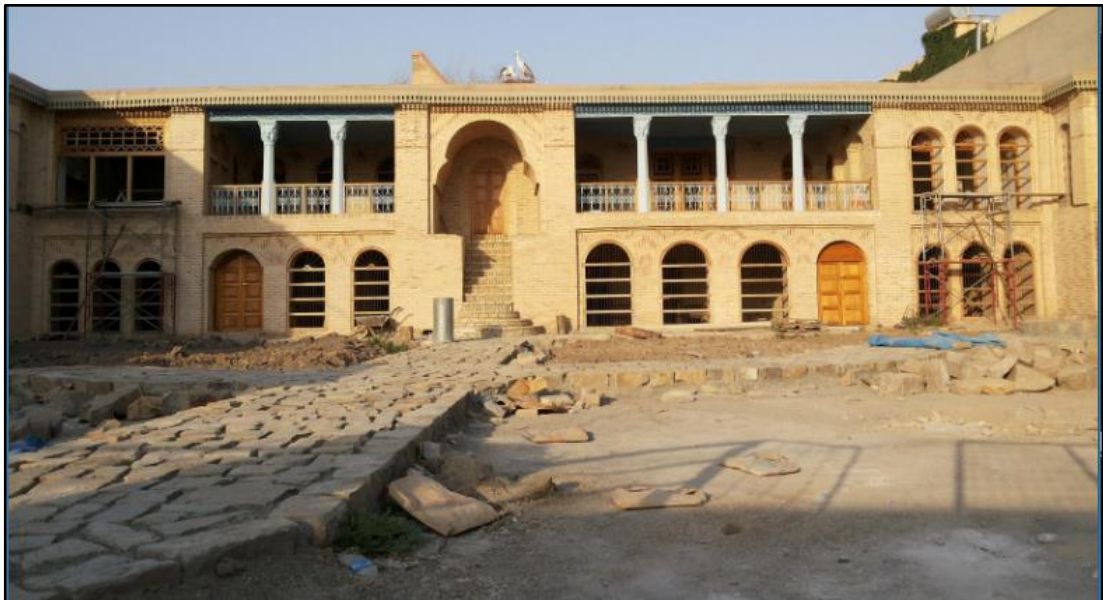


Figure 4.36. Osman Chawash house during restoration studies, photograph taken by author.

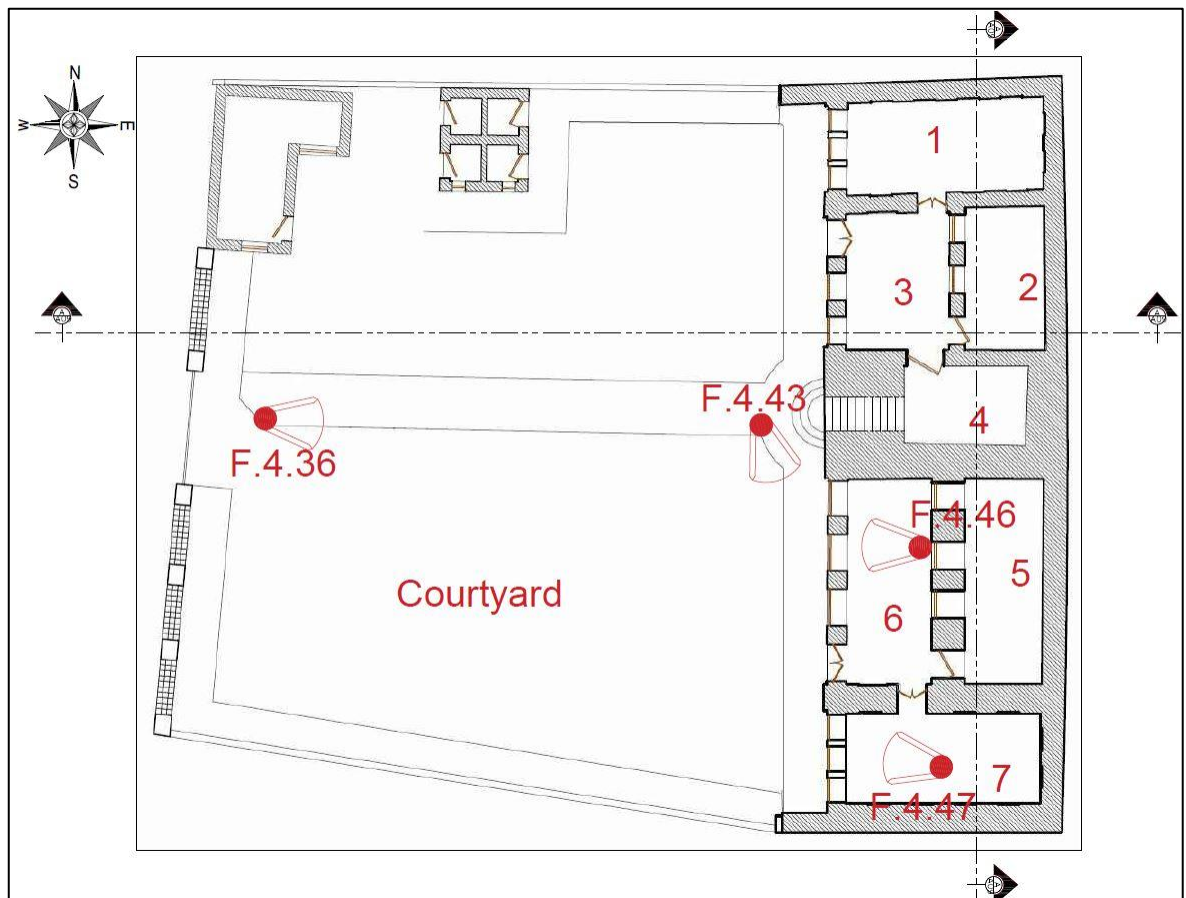


Figure 4.37. Ground Floor Plan of the restoration studies of Osman Chawash House, created by author.

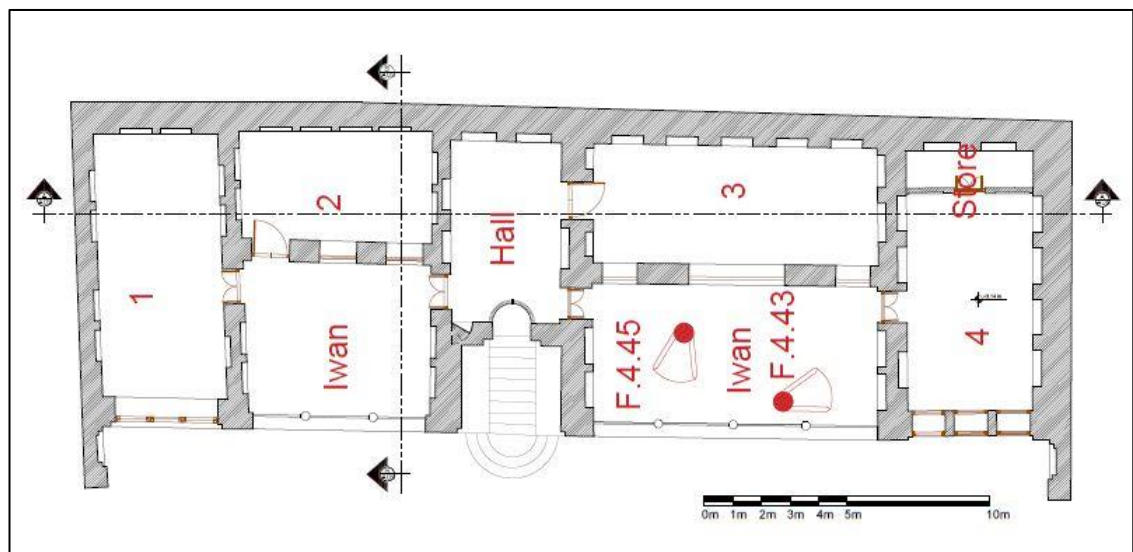


Figure 4.38. First Floor Plan of the restoration studies of Osman Chawash House, created by author.

The plan of the house contains a courtyard, and (I) shaped building with one sided courtyard, which is a common style of housing in Sulaymaniyah, by putting the garden in one side of the house to view the garden from the iwan of the house.

The First Floor consists of an open Iwan, the other rooms appear to have been used for Living rooms and Bedrooms. The Ground Floor was probably used as a kitchen storage rooms.

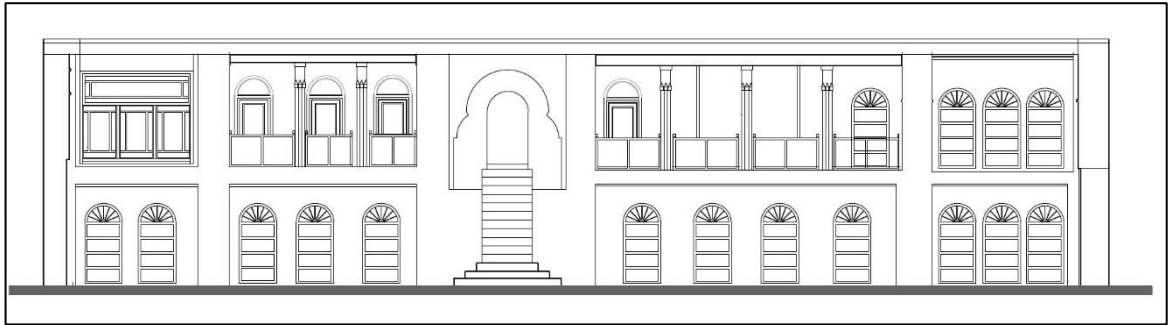


Figure 4.39. Elevation of Osman Chawash house, Created by author.

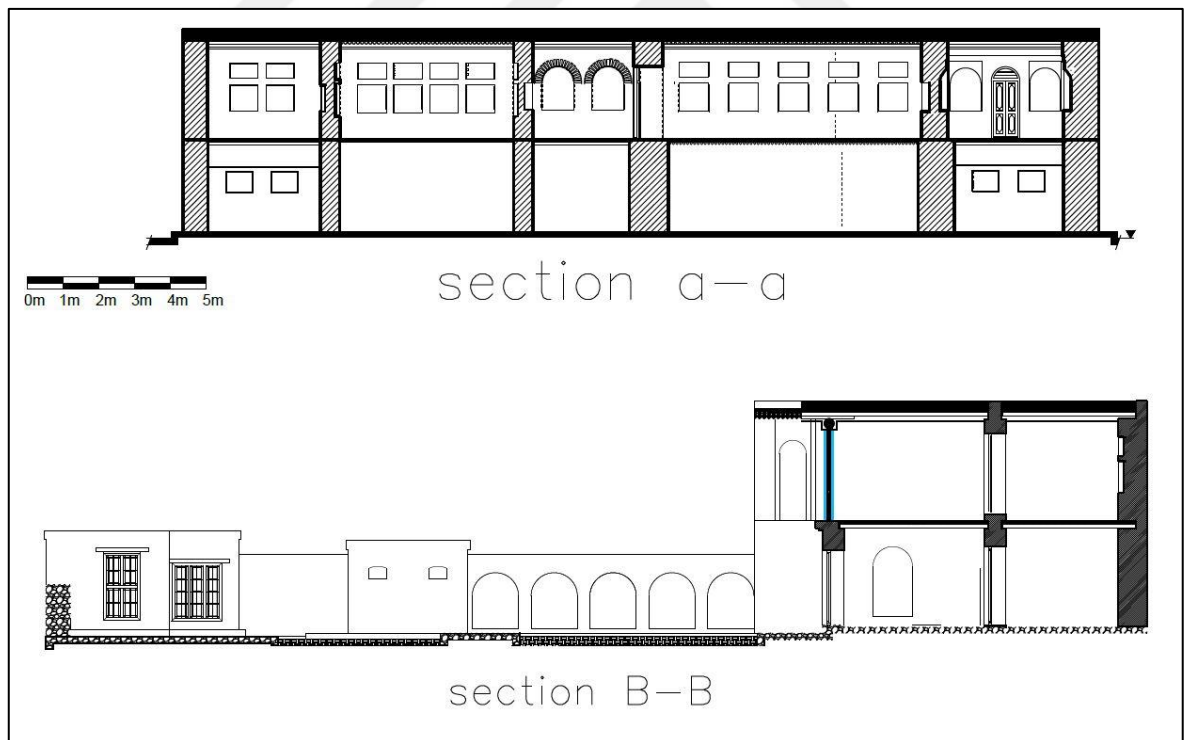


Figure 4.40. Sections of Osman Chawash house, created by author.

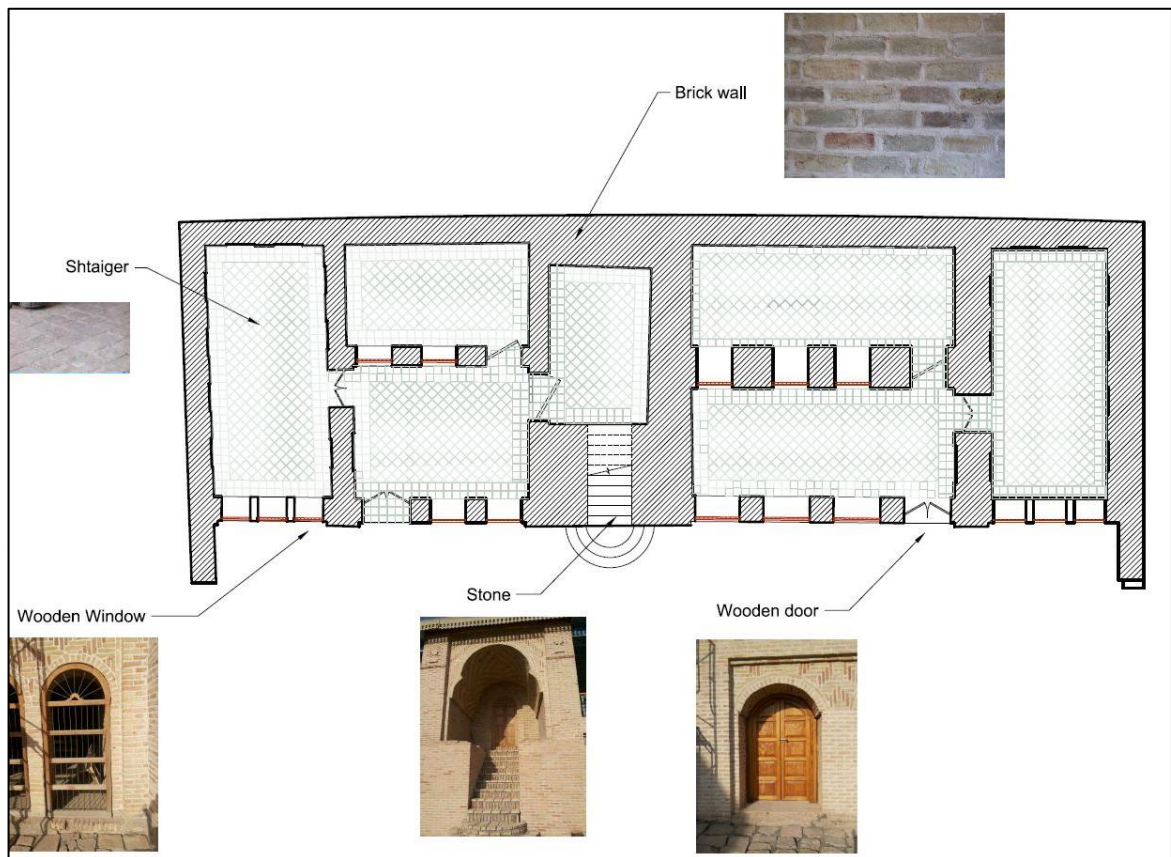


Figure 4.41. Details of Window and Door & Materials of Osman Chawash house, created by author.



Figure 4.42. Sanandaj museum house, created by author.

The similarity of housing construction of Sulaymaniyah and Sanandaj, shows the fact that the housing builders were mostly from Sanandaj part of Persian Empire.



Figure 4.43. The Iwan doors of Osman Chawash house during restoration studies, photograph taken by author.



Figure 4.44. Renewed Muqarnas decoration of the Iwan of Osman Chawash house, photograph taken by author.



Figure 4.45. Iwan view towards the Courtyard of Osman Chawash house, photograph taken by author.



Figure 4.46. Window of the rooms of Osman Chawash house, photograph taken by author.



Figure 4.47. Room's doors details of Osman Chawash house, photograph taken by author.

Osman Chawash conservation concept, according to Venice Charter Article 5 which mentions the importance of having a function to the protected historical buildings and it's purpose in serving the society.

The overall values and decorations of the building should be protected, the changes should be limited according to the state of the building and it's planning specification.

After the restoration works, it may not be possible to renovate the building, which was built for a large family with servants, to the use of a single family, within the new living standards.

For this reason, it should be ensured that the new function of the building is compatible with the original function of the building without making any changes in the plan scheme.

4.5. SARAY (PALACE)

It's one of the most important buildings located in the city center square (Figure 4.48), it was the main governance building of the Babans, it was built in 1784 and was restored in 1927

for the British Army, then it became an office of Iraq government, it is a listed building as a national heritage today. The building consists of 2 Floors which each of them are 1863 m², the ground floor has 22 rooms and the second is 20, together with 3 Halls for protocols and future projects of the city.

The plan of Saray consists of two main courtyards surrounded by rooms, which reflects a governmental function, the courtyards are functioning as connection between the spaces, also for the climate factors to let the air move between the building in the hot weather (Figure 4.49)



Figure 4.48. Location of Saray Palace in Sulaimaniyah, created by author.

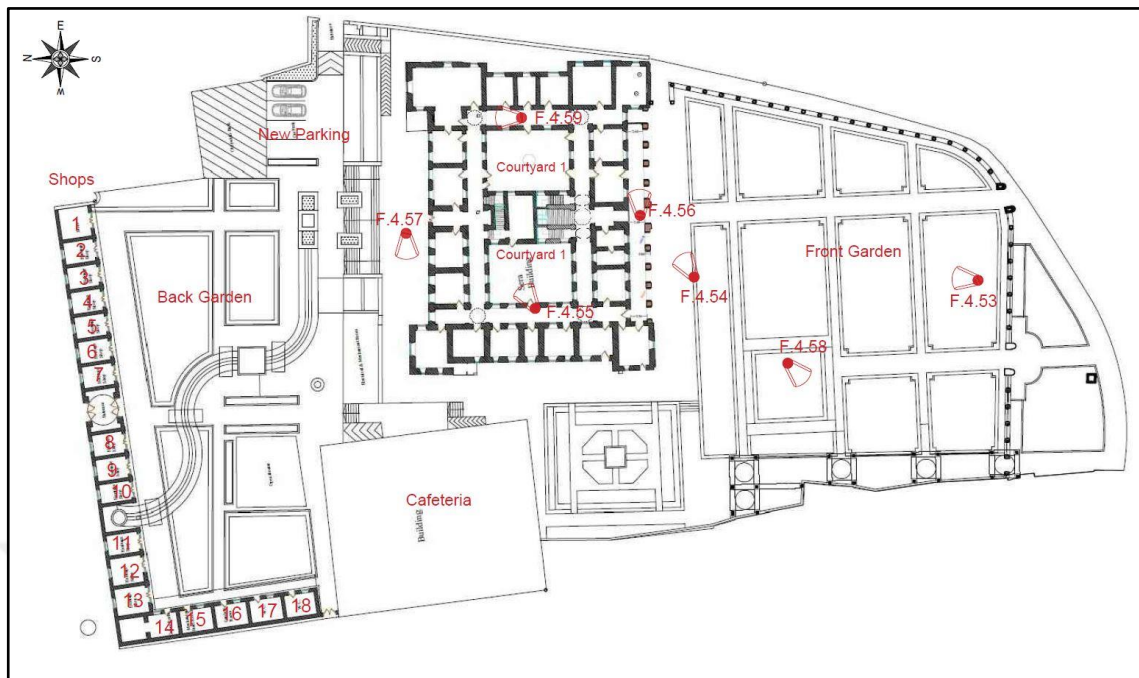


Figure 4.49. Siteplan of Saray and the main building plan in the center, created by author.

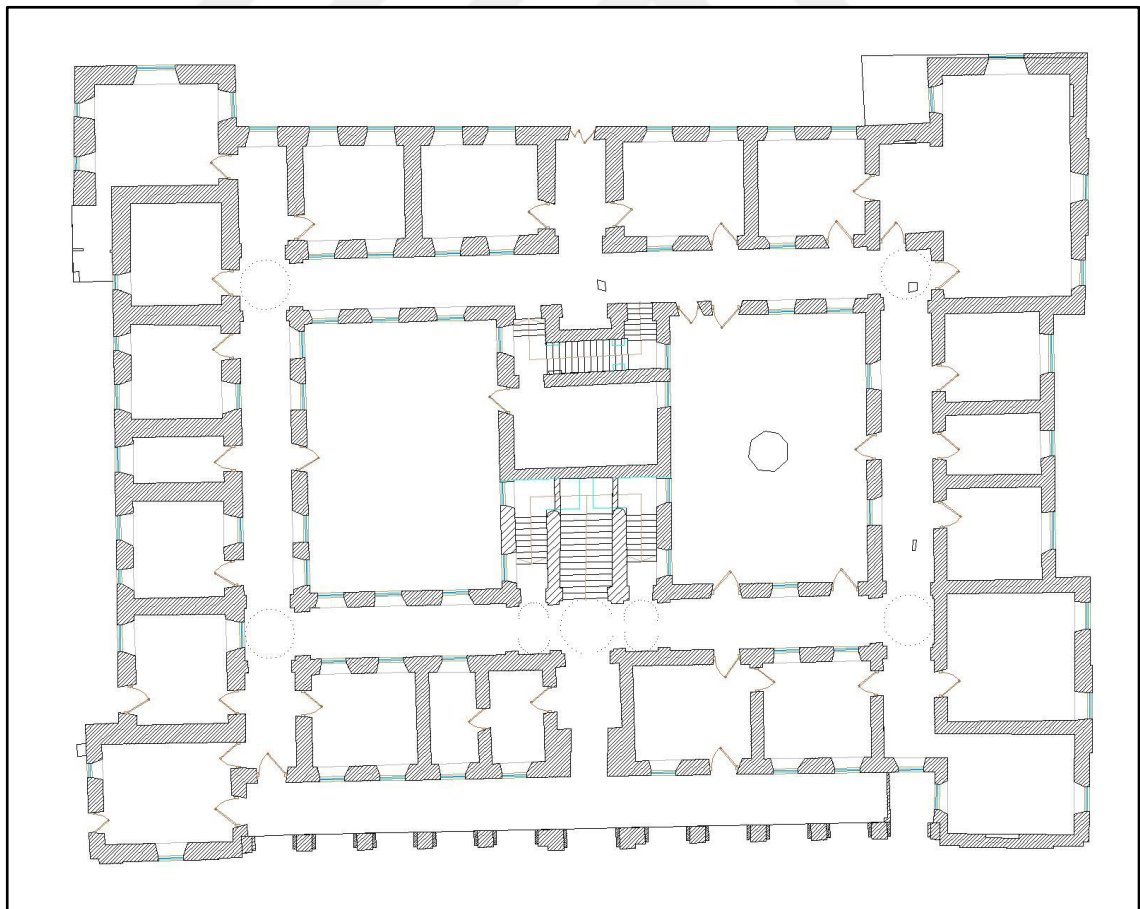


Figure 4.50. Plan of Saray Palace, created by author.

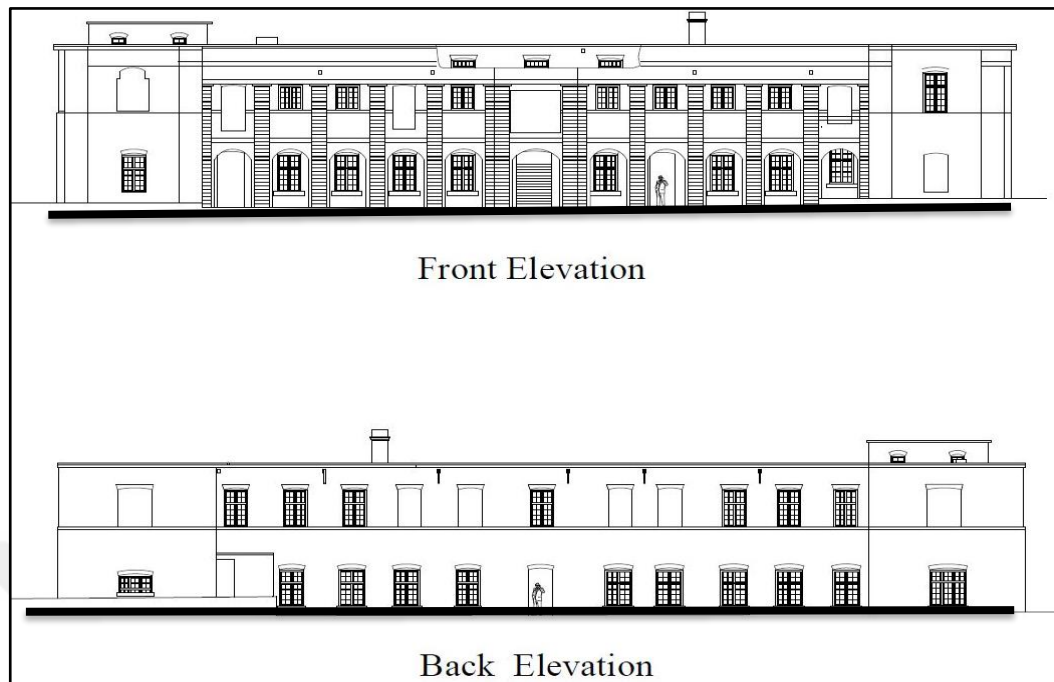


Figure 4.51. Elevations of Saray Palace, created by author.

Restoration was begun again in 2012 (Figure 4.54), by removing the white plastering on the façade and the concrete on it, to be restored on its main materials after it was hidden for many years, and now it works as a national museum for the city [35].

Renovation of the building is a good example of keeping the historical appearance of the building design and materials.



Figure 4.52. An old image of the Saray in Sulaymaniyah [Anonym].



Figure 4.53. Saray after renovation, photograph taken by author.



Figure 4.54. Saray during Restoration 2012 [33].



Figure 4.55. The inner courtyard of Saray Building, photograph taken by author.

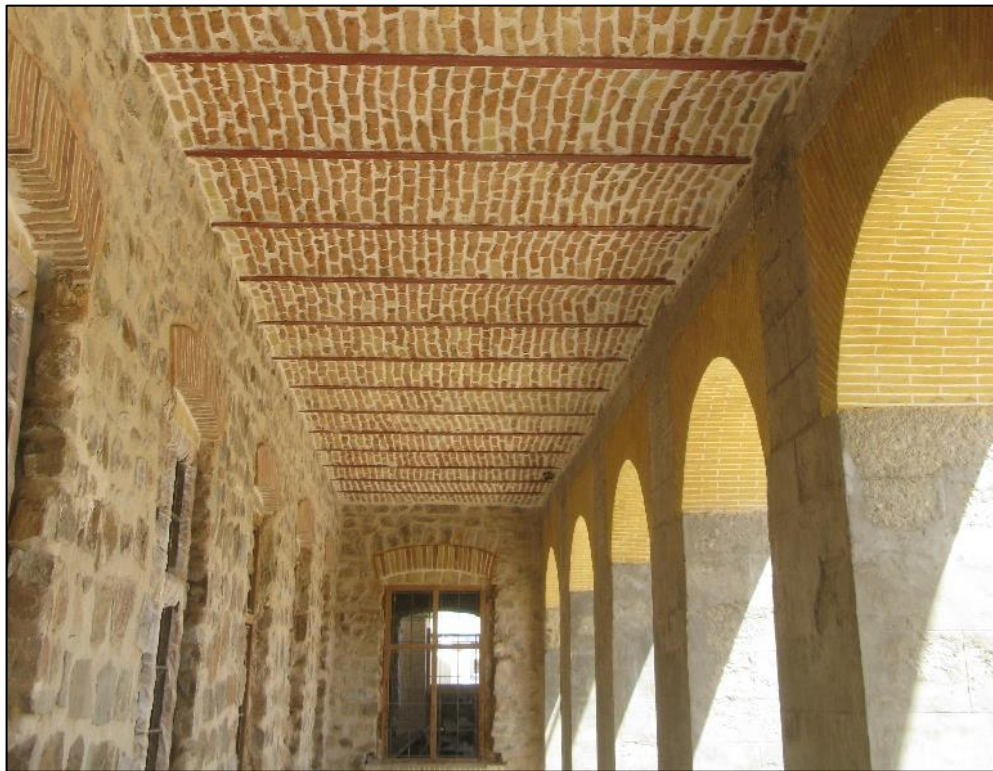


Figure 4.56. Iron beams in Saray used as a traditional building technology, photograph taken by author.



Figure 4.57. Backyard of Saray building, photograph taken by author.

The mini-toned ceiling beams with original classic metal beams and brick lintels (Figure 4.56), and thick stone carrier legs were preserved during the restoration, and its original material was consolidated (Figure 4.56)

The possible original ornamented furniture and decorations of the palace have not survived. However, interior and exterior photographs taken before the war should be collected and one room of the building should be turned into a museum, materials such as old photographs or building elements should be exhibited, and detailed and explanatory information about lost values should be passed on to future generations. Whatever its new function, the building should have a mini-museum.

The plan scheme of the palace in Sulaymaniyah is a model of the classical palace architecture seen in Europe in the 19th century, with a central sofa and multiple rooms. There are 2 large central halls in this building. One of them is for sofa use for protocol activities, and the other is for greenhouse purposes. The rooms in the corners are larger than the others. Similar examples exist in 19th century European architecture, such as the Royal Palace in Amsterdam and the Richmond Palace (Figure 4.61).



Figure 4.58. The south elevation of Saray (Probably used as animal keep), photograph taken by author.



Figure 4.59. Interior of the central pathway of Saray (Traditional building technology have been protected very well), photograph taken by author.

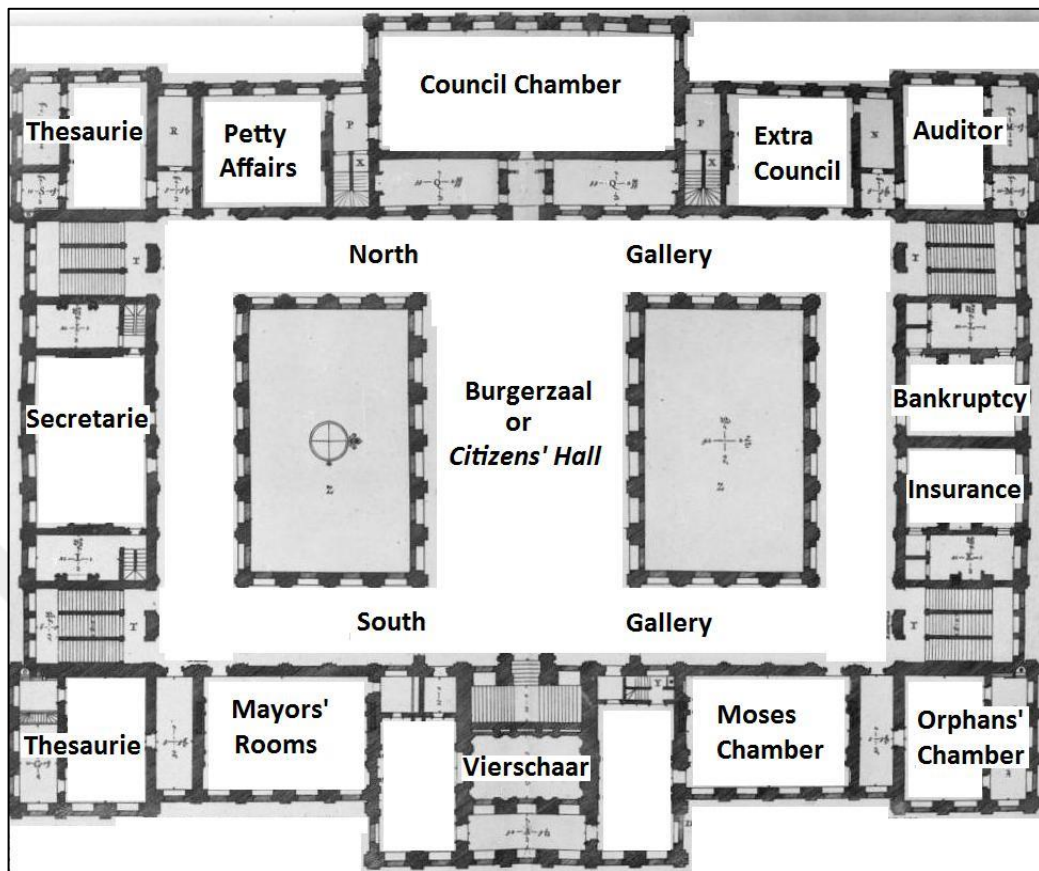


Figure 4.60. Plan of Amesterdam Palace [34].

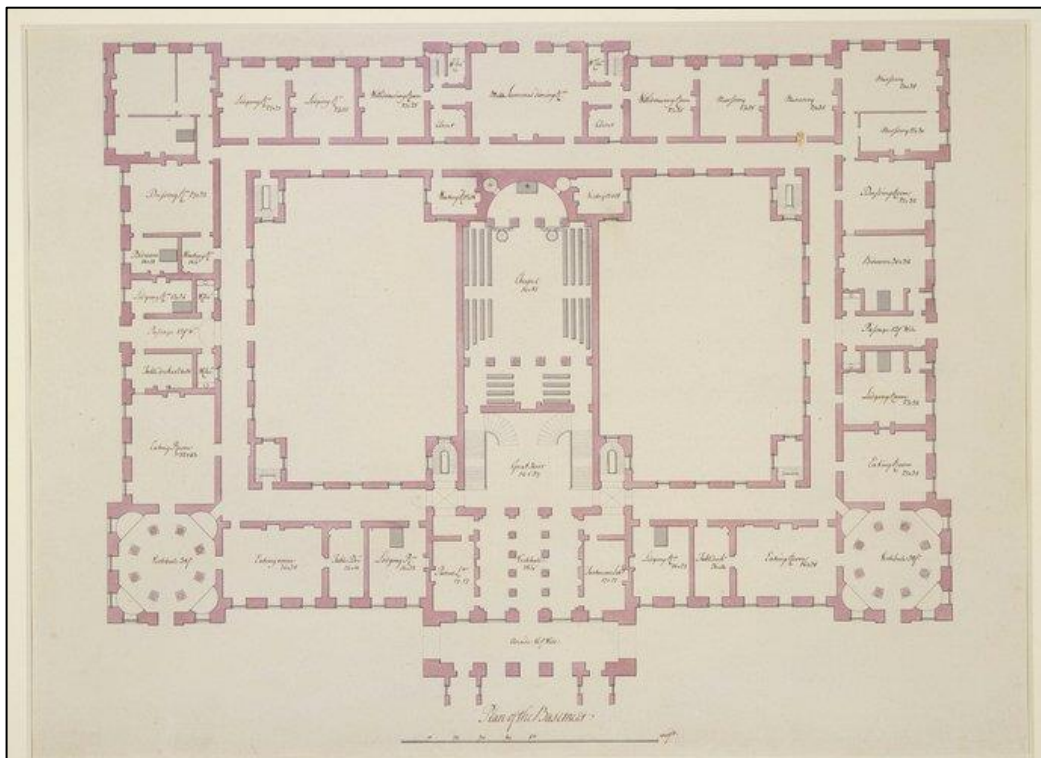


Figure 4.61. Richmond Palace plan in London [35].

Continuing the building tradition of the Central Asian ribat and caravanserais, the facade of the palace was designed in a more ornate way with vertical, modular protrusions and the entrance iwan composition, as in the Ribat-ı Melik and Manakaldi Caravanserai. The front entrance iwan features a house entrance similar to the old Sulaymaniyah houses, like Osman Chawash House.

Farah hotel conservation concept, according to Venice Charter Article 5 which mentions the importance of having a function to the protected historical buildings and it's purpose in serving the society, The overall values and decorations of the building should be protected, the changes should be limited according to the building and it's planning specification [33].

The building have been preserved and reconstructed according to it's original style, however it's necessary to bring the building back to contact with the city, by having a function for it which fits it's planning and matches the location of the building in the city, The building could be a central palace which is used for general activity or gathering in the city center.

The palace was built in a period that Ottoman was affected by European architects, Balyan family was an Armenian architect family of 2 sons and a grandson, for several decades they built palaces and architecture for the Ottomans, At that time Ottoman orders such as arches, classical muqarnas decorations wasn't been used, instead Baroque and Empire decoration elements was used unconsciously, in the 18th century classical orders was forgotten in all over the world. After 19th century, neoclassicism was born as a concept in Architecture, which have appeared as Neogreece, Neoottoman, Neogotik. Saray palace is a building that was built just before the Neoclassical period [36].

4.6. SAIWAN HAMAM

It is one of the important architectural heritages of the city which was built in 1860, it is located on Khanaqa area next to Khanaqa mosque (Figure 4.62). Throughout history it was used by important figures of the city, the other bathes were too crowded, so this bath was created and at first it was used for the Baban family in the city, later it turned into a public Hamam, Restorations of the Hamam led to lose the paintings on the walls, however the structure of it still stands and it have undergone a restoration in 2007 by Sulaymaniyah government [35].



Figure 4.62. Saiwan Hamam Location, created by author.

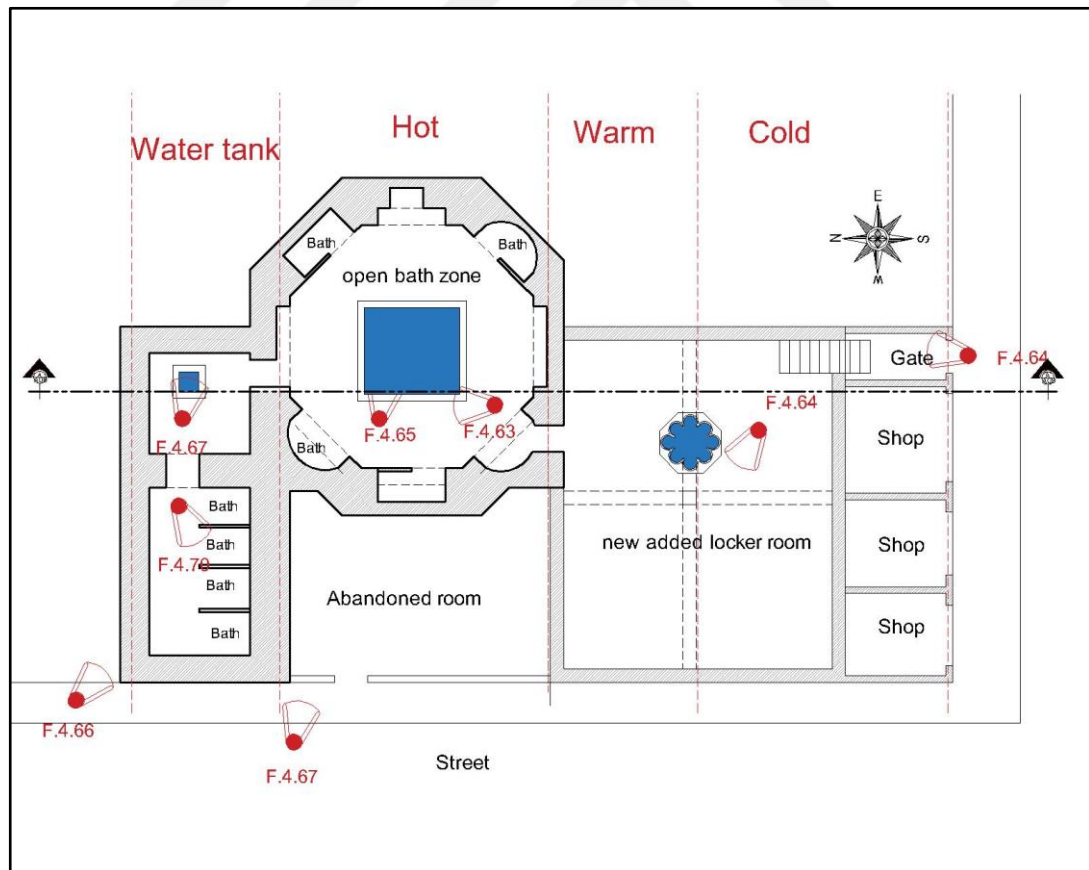


Figure 4.63. Restitution proposal for the Plan of Saiwan Hamam, photograph taken by author.

Plan of the bath consists of a central gathering area, which is covered by a big dome, which stands on 8 smaller arches that has a Persian appearance of arch. After the entrance, the new added part is used for lockers room, and in the end part there is separated smaller bathes, and a service area for organizing the water functions (Figure 4.62).



Figure 4.64. Saiwan Hamam interior, photograph taken by author.



(a)

(b)

Figure 4.65. (a) The entrance of Saiwan Hamam. (b) The lobby of Saiwan Hamam, photograph taken by author.



Figure 4.66. Saiwan Hamam interior, photograph taken by author.



Figure 4.67. Saiwan Hamam's rooftop, photograph taken by author.



Figure 4.68. The place of fire making for Saiwan Hamam, photograph taken by author.

The rooftop of the bath is in a bad situation, which is covered by a bad quality of Asphalt, this removed the nice appearance of the dome in the exterior (Figure 4.68).



Figure 4.69. Saiwan Hamam's personal bath interior, photograph taken by author.

The interior side is covered with a new tile material which is in a bad situation and quality and needs repair (Figure 4.69).

The original plan characteristics of the Hamam have undergone wrong intervention and was destroyed unconsciously, because of incorrect restoration decisions.



Figure 4.70. The separated bathes roof of Saiwan Hamam, photograph taken by author.



Figure 4.71. Hagia Sophia Harrem Sultan bathhouse [Anonym].

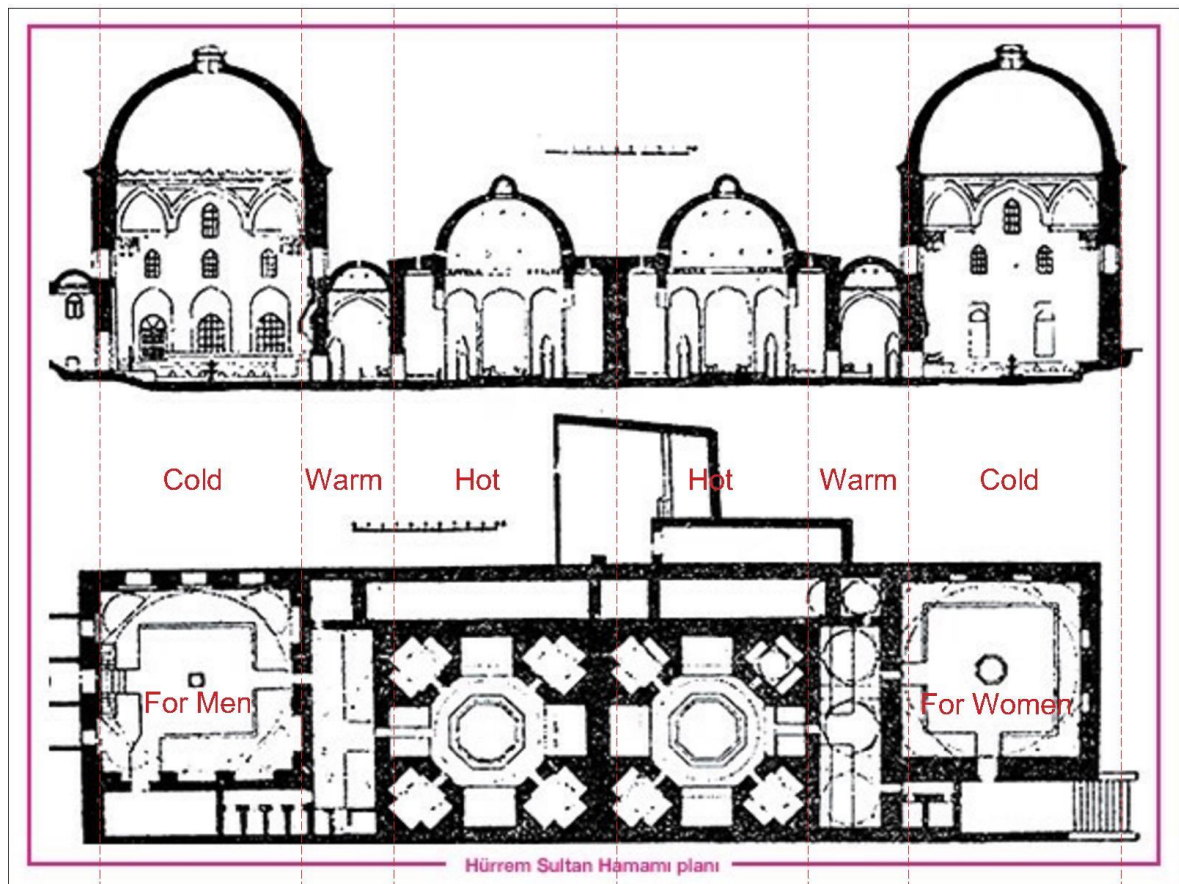


Figure 4.72. Plan & Section the Harrem Sultan Hamam in Sultanahmet [Anonym].

The Hurrem Sultan Hamam was built in 16th Century in Istanbul, it was designed by Mimar Sinan on the location of the destroyed Baths of Zeuxippos.

Hürrem Sultan Bath consists of 2 parts which have separated entrances and spaces for men and women. They both have common heating/cooling system.

The bath consists of 3 main parts, a cold place in the beginning for locking rooms and Wooden changing cabin, also fountain in the middle. The second part is a warm transition area which is before the 3rd man Hot part. The "hot area" has a circular plan and a central plan with small private washing areas around it.

Compared to the Saiwan bath, only the hot area has survived from the classical Ottoman period bath in the Saiwan Bath.

Compared to this plan of the bath, it's clearly can be seen that the plan of Saiwan hamam was changed and decreased compared to the plan of Hagia sophia's Hurrem.

The area for the Hamam is more and the outline is a complete structure of a bath, however the Saiwan bath lack's the original characteristics of Bath plan.

Saiwan Hamam conservation concept, According to Venice Charter Article 1 mentions the importance of historical monument, which may not by a single building but a whole district or area that have worked in a specific civilization. The monument may not be an artistic work, but it may had an importance or a cultural meaning in the past [33].

The use of bath in the past, was not only for it's function, it was a place of social connection and interaction, which have been used for the daily life of the citizens. The quality of the bath today is not fit enough to be used by the people for the daily use, as the current owner of the Bath mentions:

The building was created by the Ruler of the city to be an important bath in the city, however the government today ignored the bath and it's maintainance, also because of economical crisis, the bath can't be used by the majority of citizens [Owner of the bath].

Venice Charter Article 4 mentions the importance of conserving a monument contiuously and it should be maintained as long as it stands [33].

Continuous maintenance of the building is necessary as it's not conserved in a good quality changing its appearance to the original type of decoration is necessary, monitoring the situation of the building by the government is to improve its quality is essential.

4.7. QAYSARI

There is a commercial area called Bazar around the Saray building, it consists of different shopping units, The Qaysari was first introduced here by the Ottomans from Turkey, which is an irregular shopping street that is not more than 3 meters wide.

This qaysari was built by Mustafa al-Naqib (1900's), it's located south of the Farah hotel. In the form of Istanbul markets at that time. Forming the upper part of the market in the form of large basements he built a marvelous piece of engineering.

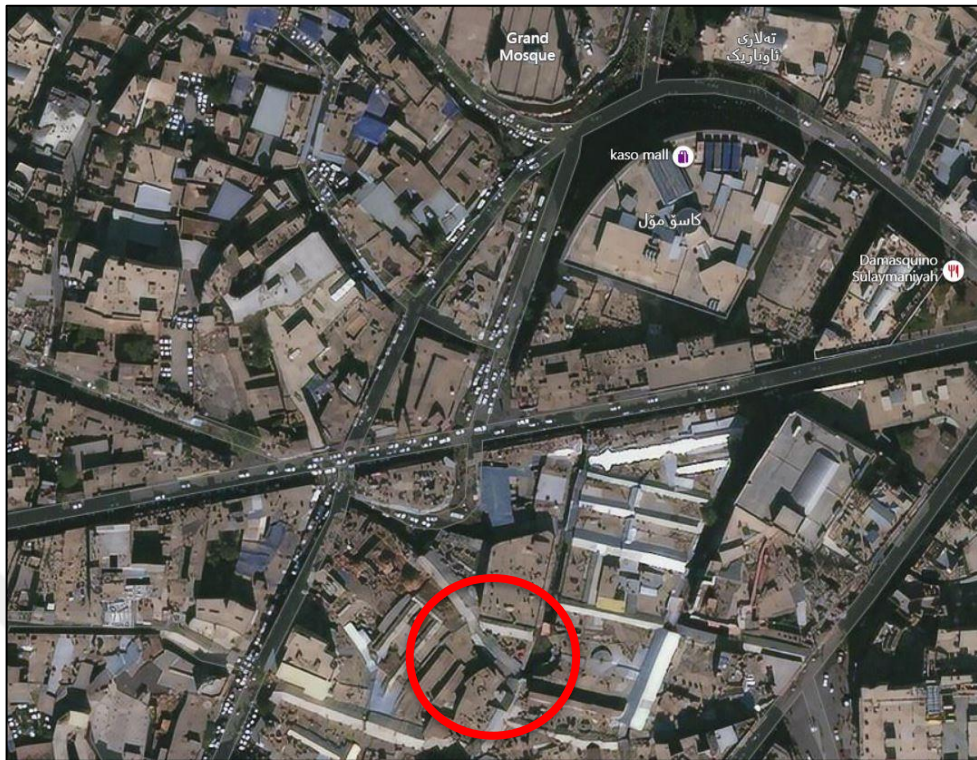


Figure 4.73. Location of Qaysari Building, created by author.

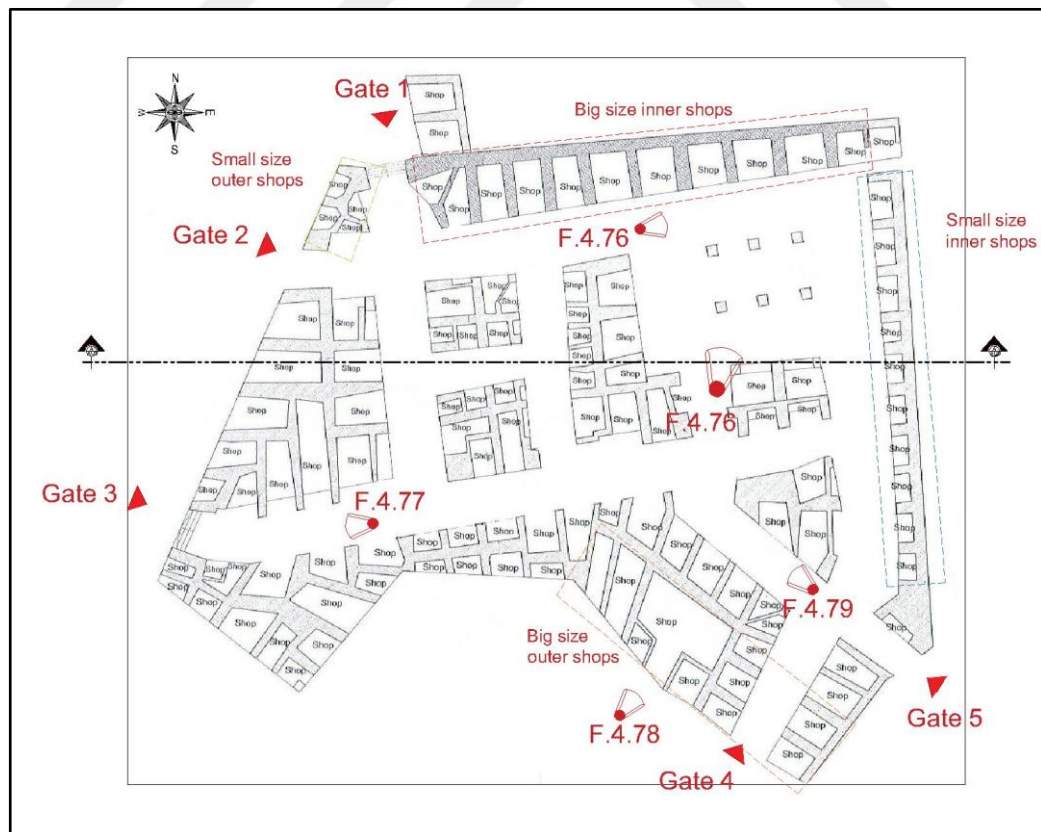


Figure 4.74. Plan of the Qaysari building [46].

In the beginning the doors of the shops were made of wood. It then was developed to become a more modern market, but keeping its Ottoman architectural style. There are boutiques, clothing stores, perfume stores and cosmetic stores.

1. Big size inner shops: 39
2. Small size inner shops: 37
3. Big size outer shops: 15
4. Small size outer shops: 14

The shops of Qaysari are small and the upper small parts are used as storage for the shops. The walkways of the Qaysari's have shelters to prevent rainwater and direct sunlight entering the shops.

The sized of the shops are mostly 3 meters deep, and from 1.5 to 5 meters wide, the Qaysari have 105 shops, the selling goods go into the main road by 0.5 meters (Figure 4.77), The shopkeepers sit beside the goods or behind it, This traditional style is still being used in the Qaysari even today [36].

Naqib Qaysari was built as a covered market place. It is possible some parts of the Qaysari were demolished compared to the commercial shops of Istanbul.

This example shows that it's possible for a tradition to remain in the city. Understanding these architectural values and its functions is important for preserving historical buildings and its maintenance.

Most likely, this structure, whose shop rents are collected by the state, must also contribute greatly to the state treasury.



Figure 4.75. Renovated interior of the Qaysari building, photograph taken by author.



Figure 4.76. Walkways inside the Qaysari, photograph taken by author.



Figure 4.77. Gate of the Qaysari building, photograph taken by author.

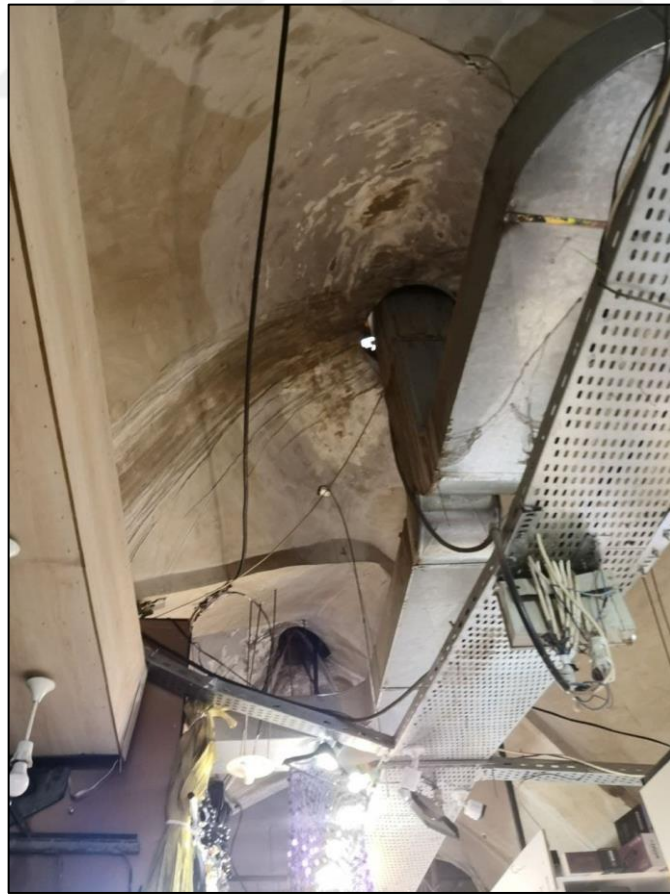


Figure 4.78. Old roof of the Qaysari building, photograph taken by author.

New additions should not spoil the original appearance of the historical monument. A suitable restoration project should be prepared without distorting by additional installation elements which may spoil the original appearance of the historical building (Figure 4.79).

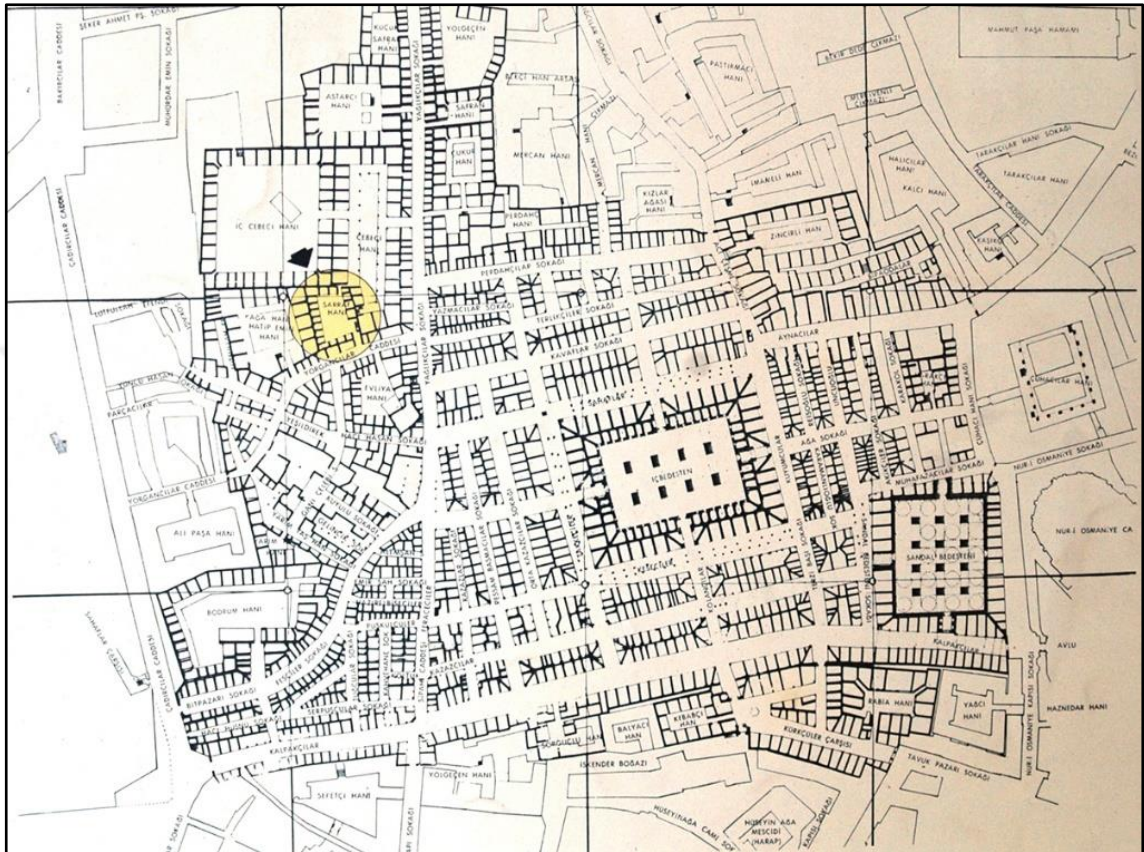


Figure 4.79. Grand Bazaar in Istanbul, close to Sultan Ahmet Square [Anonym].

Covered or open bazaars with many entrances are a building type with similar characteristics in the lands dominated by the Ottoman Empire (in the Balkans, Arabian Peninsula, Anatolia and North Africa). Some of these bazaars are vaulted or domed and can be called "bedesten". Some form the shopping streets that develop around the covered bazaar (Figure 4.80).

Qaysari conservation concept, According to Venice Charter Article 1 mentions the importance of historical monument, which may not be a single building but a whole district or area that have worked in a specific civilization. The monument may not be an artistic work, but it may have had an importance or a cultural meaning in the past [33].

The building was a historically important shopping center in all the times, which created cultural interaction by selling and exchanging goods, clothes, and fulfilling the daily needs of the people, Qaysari is a typical Ottoman bazaar in Sulaymaniyah.

This type of shopping center should be preserved and maintained according to the article 1 of Venice Charter, because the building carries an important cultural meaning of shopping.



5. CONSERVATION OF ARCHITECTURAL HERITAGE IN OLD CITIES

5.1. EXAMPLES OF SUCCESSFUL CONSERVATION STUDIES

5.1.1. Conservation of Historic Periods in Superposition

- Gazi Kasım Pasha Mosque:

The mosque is a square-planned, single-domed building built in 1543 using the stones of the previous church, St.Bartholomew in Pecs, Hungary. It was built by Gazi Kasım Pasha, the former governor of Budin, in 1548 (Peçevi, 1999). The building, which was used as a church after the end of the Ottoman rule and has undergone many additions and changes until today, took its present appearance in 1939 as a result of a project competition. In the implemented project, the square planned mosque was preserved with its original features (window proportions, mihrab) and a common “church” space was created by adding a semi-circular closed space to its north. The previous bell tower and minaret were demolished and replaced with a bell tower, a metal mechanism that could rise at any time. A contemporary understanding of conservation approaching the past periods with respect is in line with Article 11 which is written in Venice Charter, and traces of the period when the building was a mosque (window arches, exterior facades, muqarnas traces, pencil works) are preserved [38].

Venice Charter; Article 11; The valid contributions of all periods to the building of a monument must be respected, since unity of style is not the aim of a restoration. When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work [33].



Figure 5.1. The view from the Gazi Kasım Pasha Mosque side of the building, which is used as a church today; There is a museum under the mosque. Remains thought to belong to the Ottoman period madrasah were found under the office building shown on the right [38].



Figure 5.2. The view from the interior of the Gazi Kasım Pasha Mosque, looking the new addition part of the church. New addition part are preserved but the new wall paintings are also added to the church [38].

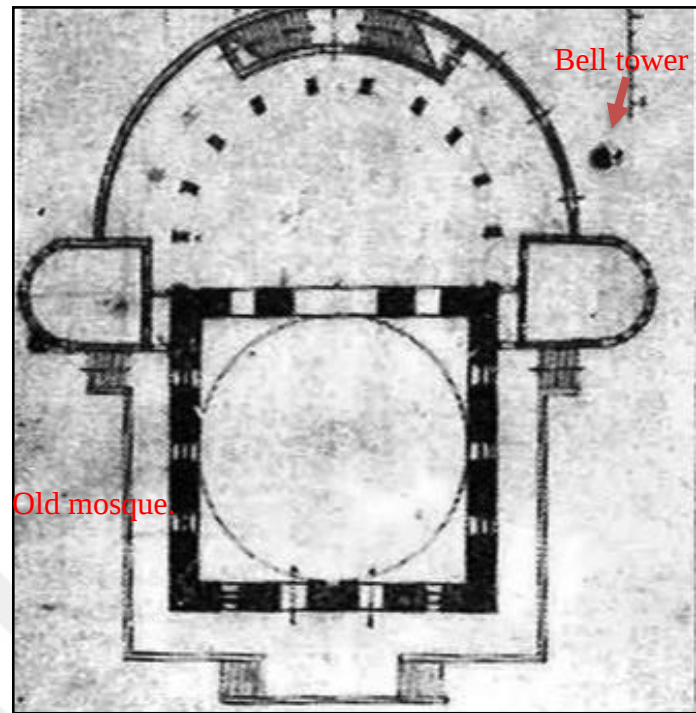


Figure 5.3. The renovation project, which was successful in the project competition in 2010; The building is used as a 2-piece church by making a new addition in the form of a circle to the old square-shaped Mosque [38].

5.1.2. Conservation of Adaptations Respectively

In 1981 a campaign to reinforce Cultural buildings in France was undergone their president Francois Mitterrand. Louvre building was among those buildings and one of the most important ones. For this purpose, I.M Pei was commissioned to have a concept design for the building. After the renovation was implemented and completed, the building had thousands of visitors daily.

A new grand entrance was added as a central lobby space which provided focal point for walking inside the museum. In addition, an underground system of galleries, storage, and preservation laboratories was added. The glass pyramid provided had reinforced the buildings main entrance as a new focal point, also providing an open area for exhibition.



Figure 5.4. Louvre Museum's additional part [38].

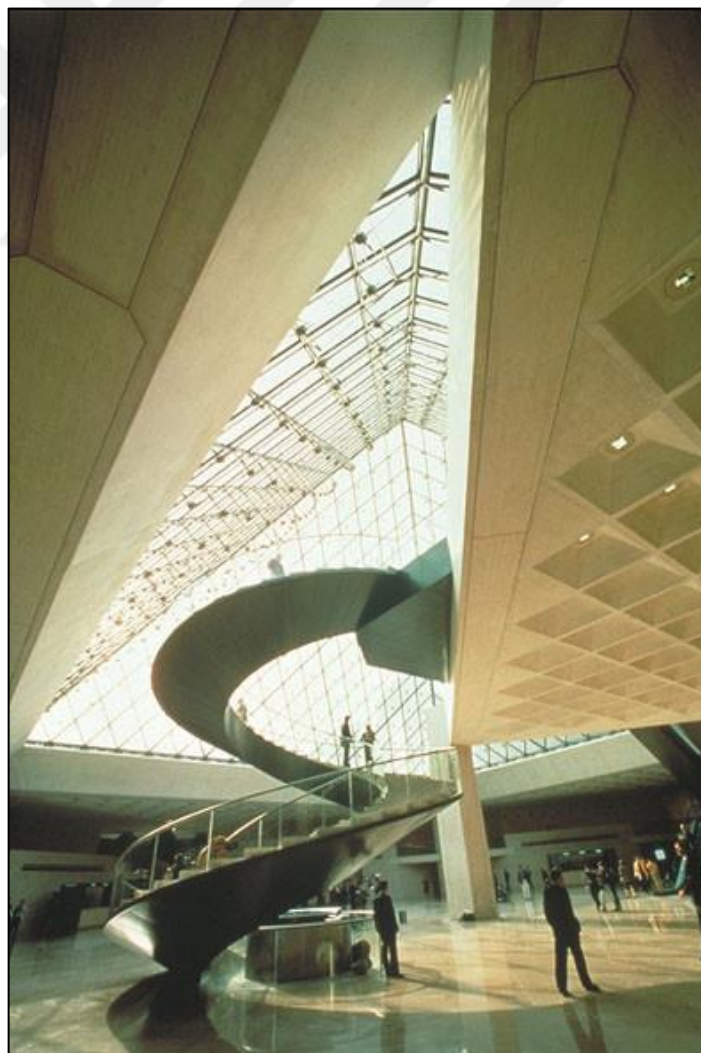


Figure 5.5. Interior of the Museum's addition [38].

Formally, it is the most compatible with the architecture of the Louvre..., it is also one of the most structurally stable of forms, which assures its transparency, as it is constructed of glass and steel, it signifies a break with the architectural traditions of the past. It is a work of our time [38].

The monumental appearance of the glass and steel pyramid fixed in the middle of the court provides a central focal point that compliments the scale and design of the Louvre, After decades, the Pie's design have remained as a cultural and symbolic place of Paris, Together with Eiffel Tower which they bring thousands of tourists into the city [38].



Figure 5.6. The scale of the addition compared to the old Architecture [38].

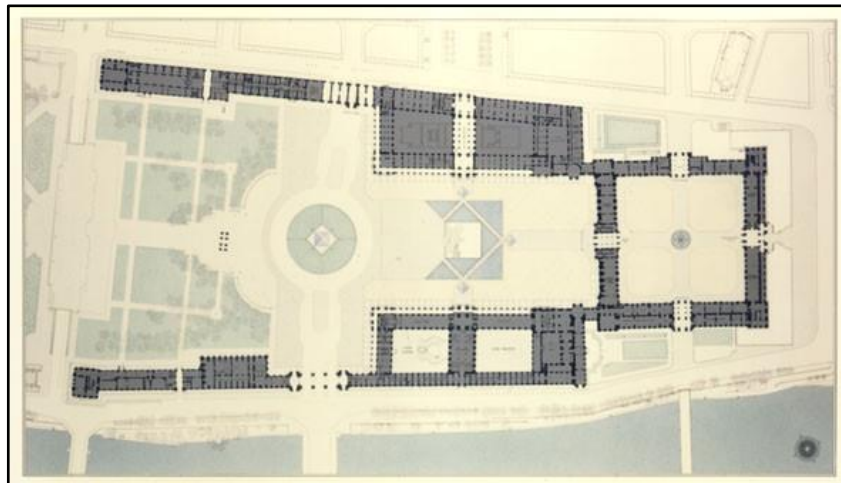


Figure 5.7. Plan of the louvre museum (Old building and the location of the Additional part) [36].



Figure 5.8. The conserved building which is constructed in 1546 [38].

5.1.3. Conservation of Old Ruin as an Open-air Museum

The Roman Forum was a key political and civic center in Rome throughout history, which was located in Capitoline and Palatine Hills, it was continuously developed inside the city and have been used as an important center. The Romanian Forum is an archeological area which still providing important insight in the historical urbanism of the ancient Rome [39].



Figure 5.9. Roman Forum area in Rome, Italy [39].

In the Iron age, the inhabitants of the city used Marsy valley for a Necropolis (a large ancient cemetery), but the necessity of the city led this area to become settlements and the Necropolis was moved to a usable through several transformations of human activity and natural environment, the brutal activities was transported to somewhere else in the city [39].



Figure 5.10. The ruins turned into open air museum [39].



Figure 5.11. The ruins of Roman Forum [39].

5.1.4. Adaptation of Old Building into New City Life

- Maidan Iman, Isfahan.

This historical monument was built in 17th century by Shah Abbas I, it was an important cultural and social area for Safavids, the area consists a public urban square in Isfahan, it has a Royal Mosque (Shykh Lotfollah) and two-story arcade connects several other monumental architectures, it's one of the largest open urban places in the world which reflects the richness of the Persian Architecture. In the western part, there is Ali Qapu pavilion, in the northern part there is Qysariyeh portico, in the southern part there is the Royal Mosque [40].



Figure 5.12. The open yard infront of the Meidan Imam [40].

The Maidan is not a typical feature of Iranian urban planning, it's a unique immense square which is 560 meters long and 160 meters wide, in contrast to the other Iranian public squares which are tightly laid without a large open space. The northern part Qaysari is leading inside the Esfahan Bazaar which is 2 km long, The eastern side mosque (Sheikh Lotfallah) is a masterpiece of Iranian Architecture which was built for the royal court as a private mosque [40].



Figure 5.13. Social interactions in the Maidan Imam area [40].

The Maidan contains arcades and shops in all of its sides, in the second floor there is a balcony which musicians and public concerts is being held there. In behind the Ali Qapu Talar leads to the throne room of the Shah, there he received ambassadors of other empires.

The royal Maidan of Esfahan was continuously a monument which showed the social and cultural life of the Persian Empire. However, preserving its value requires continuous sustainable maintenance and development.



Figure 5.14. The shops in the Maidan Imam area [40].



Figure 5.15. The minaret and the dome of the building [40].

5.2. CONSERVATION FOR THE ARCHITECTURE IN IRAQ

The Ottoman era had influenced the architecture of Iraq, through improving construction technics and city development, bridges and monumental architecture was necessary architecture of the Era.

The Iraqi government is paying more attention to the country's heritage sites, such as the old Ottoman headquarters of Qishla in Baghdad, writes Omar al-Shaher.



Figure 5.16. Qishla Photograph taken of Baghdad (Anonym).

In 2021, the Iraqi government launched a campaign to restore the building of Qishla, built by the Ottomans in Baghdad in 1855 to serve as the headquarters of their forces. Nowadays, it is known as the “old Green Zone,” in reference to the "Green Zone" in Baghdad where many government facilities are located.

Sulaymaniyah city, through its short history, has an important role in the area, by connecting the Silk Road for general trade, and politically, it was a place for connecting the two main empire's and it's peace, by balancing between the Ottoman and Persian Empires.

Throughout history, the city was a place for education and religious practice, together with merchandise and crafts, it has been a safe place for living.

What remains of the city's urban past is threatened by the "modernization frenzy" that followed the 2003 US war in Iraq, they argue, as local developers rushed to build the next big supermarket or mini mall. Now concrete and glass skyscrapers overshadow areas where once stood traditional mudbrick homes, or grand white-stone [20].

Through defining Conservation, the challenges of the city could be understood easier.

There are 2 famous definitions:

Conservation means all the process of looking after a place, so as to retain it's cultural significance [41].

The profession devoted to the preservation of cultural property for the future, conservation activities include examination, documentation, treatment, and preventive care supported by research and education [42].

The city's architectural style have changed throughout time, Before the rule of English most of the architecture was constructed in the Local approach, however after the 2nd world war it have been changed together with the Iraqi architecture into the western style, there have been some architects which were designing in Iraq with the new style such as (Maison, Jackson, Cooper) [14].

In parallel, the old heritage of the city is under the threat of being demolished and to be replaced by commercial buildings, through time it could be lost by environmental and human factors, this lead to create a plan for protecting the architectural heritage by the city's governors inside the new Masterplan of Sulaymaniyah, however, before registering the important buildings, many of them have been demolished, The demolished buildings could be re constructed again, but the financial shortage of the government is another reason of this loss[43].

As the study progress, the names, situation and the functions of the current historical buildings are as follows:

Table 5.1. The conservation situations of the Sulaymaniyah Buildings.

no	Name of the buildings	Conservation status	Situation	Function
1	The great mosque	Conserved	Good restoration	Functioning
2	Khanaqa Mosque	Conserved	Bad restoration	Functioning
3	Farah Hotel	Conserved	Good restoration	Functioning
4	Hssein Agha Residence	Conserved	Good restoration	Needs Function
5	Saray building	Conserved	Good restoration	Needs Function
6	Saiwan Bath	Still standing	Bad restoration	Needs repair & conservation
7	Kayseri Building	Still standing	No restoration	Needs repair & conservation
8	Haji Rashid Osman Chawash House	Conserved	Good restoration	Needs Function
9	Raouf Faraj House	Conserved	Good restoration	Needs Function
10	Haji Ahmed House	Conserved	Good restoration	Needs Function
11	Ali Mama Sheikh House	Conserved	Good restoration	Needs Function
12	Ali Sheikh Muhmammed House	Conserved	Good restoration	Needs Function
13	Haji Said Mutabji House	Conserved	Good restoration	Needs Function
14	Raouf Saraf House	Conserved	Good restoration	Needs Function
15	Tofiq Faiq House	Conserved	Good restoration	Needs Function
16	Sofi Karee House	Conserved	Good restoration	Functioning.
17	Azad Nuri House	Conserved	Good restoration	Needs Function
18	Piramerd House.	Conserved	Good restoration	Needs Function

However, most of the old houses of the city have been demolished for the expansion of commercial purposes, these buildings have been conserved and still protected. There are unique buildings which is in need for urgent conservation, however the main problem is lack of functioning in these conserved buildings, they haven't been mixed with the new city life of Sulaymaniyah, the houses don't function as it was historically, because the plan requirements of the current age differ from those old style.

The conservation process is in need for providing functions for those conserved buildings.

6. CONCLUSION

In general, when the "Ottoman empire" is mentioned, an administration in which 77 different nations were ruled together with equal rights comes to mind. The Ottoman Empire was established in Bursa, located in Turkey, in 1299 and ended in 1923. The 16th century is a century when the Ottoman Empire had the largest lands and was best administered. During this period, the city of Sulaymaniyah, located in northeastern Iraq today, was founded by Sultan Suleyman within the borders of the Ottoman Empire and was equipped with many architectural works under the administration of various pashas. The 18th century is a period when the central administrative power of the Ottoman Empire weakened. In this period, the administration of the city of Sulaymaniyah and its surroundings lived for a while under the administration of the Muslim Kurdish Baban Emirate, and the Ottoman administration came to an end in the 19th century.

The 20th century was a period in Europe with rapid urbanization and a high rate of rural-urban migration. It is observed that rapid urbanization has started in Sulaymaniyah with the new reinforced concrete building technology.

Written sources about the quantities and qualities of Ottoman architecture are unfortunately not available in local libraries and sources. A small number of known works have been recorded in this study, with on-site survey studies and photographic determinations.

When the preservation status of the structures that were built during the Ottoman Empire's rule in Sulaymaniyah and which have survived to the present day with different changes and interventions are examined;

The great mosque complex became an important area in Sulaymaniyah, the building continued to be used, but unfortunately no effort was made to preserve its original qualities. In fact, the madrasah area around the building was added to the prayer area of the mosque and the educational function of the madrasa was forgotten. A high dome, which is not seen in old photographs, was added as the top cover of the tomb. The fact that the original minaret was preserved, and that the old building was demolished and a new mosque and minaret with different styles and architectural features were added, is a proof that the Ottoman period buildings did not want to be remembered by the local administration. However, the Ottoman period structures in the Balkans and Hungary are deliberately and willingly protected

The fact that the Ottoman Empire had a palace built in Sulaymaniyah is a formation that proves that Sulaymaniyah was an important center for the Ottoman administration. The Ottoman Pasha must have undertaken the administration of Sulaymaniyah and the surrounding provinces and carried out official meetings and administrative affairs in this building. The use of reinforced concrete lintels and beams during the restoration of this building is an important document showing that the necessity of preserving the original qualities of this building has not been internalized.

The Khanaqa mosque has undergone almost a change that is almost newly built, on the other hand, the bath is very bad, only the octagonal space in the warm part and the special bathing spaces around it survived due to unplanned construction activities. Consciousness and desire to protect is absent in the administration as well as in the public.

As a result, it is possible to say that the castle, mosque, bath, bazaar and other Ottoman period architecture were not preserved in Sulaymaniyah, on the contrary, the traces of this period were tried to be destroyed. For example, the porticoes of the Ulu Mosque madrasah with the proportions of Turkish pointed arches were destroyed and rebuilt with new features.

However, as discussed in various articles in the Venice Charter, the contributions of each period should be respected. The Ottoman period (16-19th C) has an important place in the history of Sulaymaniyah. The future cannot be built without knowing the past. Architectural works are the most important documents belonging to past civilizations. Young generations can better understand the events of the past by using, seeing and examining the structures that are important witnesses of those structures.

We suggest that the erroneous restoration work should be terminated by retrospectively researching the history of the buildings in detail, obtaining old photographs and documents. Do not forget that the generations that we cannot teach to protect their past cannot take care of their own actions in the future.

REFERENCE

1. Wikitravel. [cited 2021 Jan 20]. Available from: <https://wikitravel.org/en/Sulaymaniyah>.
2. Ero C, Babu LUM, Orhan LU. *Mosul in the Ottoman Vilâyet Salnâmes*. Ankara: ORSAM; 2012.
3. Mahmoud ASR. *200 years Sulaimani city*. Sulaymaniyah: General Directorate Curriculum and Printing; 1999.
4. Vector Map of Iraq Political .[cited 2021 31 July]. Available from: <https://www.onestopmap.com/iraq/iraq-38/>.
5. Al-subaihawi HF. Plan and architecture of Patrimony House in Sulaymaniyah during the Ottoman Rule (Said Mutabjee House Pattern). *International Journal of Science and Research*. 2017;6(7):2-6.
6. UNESCO. The Ahwar of Southern Iraq [cited 2021 2 July]. Available from: <http://whc.unesco.org/en/list/1481/>.
7. Vajiro IAS. Current Affair. [cited 2021 31 May]. Available from: <https://vajiraoias.com/current-affairs-hindi/current-affair-7-march-2021/>.
8. Johnson C. Iraq legal history and traditions. [cited 2021 30 May]. Available from: <http://www.law.gov>.
9. Al-Taie E, Al-Ansari N, Knutsson S. The Progress of Buildings Style and Materials from the Ottoman and British Occupations of Iraq. [cited 2021 10 June]. Available from: <https://www.diva-portal.org/smash/get/diva2:982138/FULLTEXT01.pdf>.
10. Rose R. Khan Murjan the oldest Baghdad landmark. [cited 2021 12 July]. Available from: <http://muslimvilla.smfforfree.com/index.php?topic=3560.0>.
11. Öztürk M. Implementation and Results of Ottoman Mîrî System on Syria and Iraq. [cited 2021 5 April]. Available from: <https://dergipark.org.tr/tr/download/article->

file/279718.

12. Baiz WH, Fathulla SJ. Urban courtyard housing form as a response to human need, culture and environment in hot climate regions. *International Journal of Engineering Research and Applications*. 2017;06(09):1-9.
13. Haraty HJS. Typology of Iraq's traditional courtyard houses as islamic function. [cited 2021 3 August]. Available from: <https://www.slideshare.net/HayderJShakir/typology-of-iraqs-traditional-courtyards-houses-as-islamic-functional-spaces-in-low-rise-residential-units>.
14. Qadir H. Architecture in Sulaymaniyah City. [cited 2021 21 January]. Available from: <https://www.youtube.com/watch?v=QySeaBN5dig&t=1517s>.
15. Sbeiy. Lost city in Sulaimani have been found. [cited 2021 21 January]. Available from: <https://www.sbeiy.com/Details.aspx?jimare=13232>.
16. Rudaw. Kunara. [cited 2021 21 January]. Available from: https://www.rudaw.net/sorani/onair/tv/episodes/episode/documentari_09042019.
17. General board of Tourism. Architecture. [cited 2021 8 March]. Available from: <http://bot.gov.krd/about-kurdistan/kurdish-architecture>.
18. World Monument Fund. Regional Survey. [cited 2021 9 March]. Available from: <https://www.wmf.org/content/kurdistan-regional-survey>.
19. Al-Darraj S. Citadels in Iraq during the Ottoman Rule: an architectural study. *Chronos*. 2019;53(9):3-8.
20. Kamal M. History of Sulaymaniyah City. [cited 2021 21 January]. Available from: <https://yaran.me/2555/>.
21. Van Bruinessen M. *Agha, Shaikh and State*. Bloomsbury Publishing: Royal Anthropological Institute of Great Britain and Ireland; 1946.
22. Goudsouzian T. Sulaimania, Saving the dream city of a prince. [cited 2021 26 January]. Available from: <https://www.aljazeera.com/features/2016/11/21/sulaimania-saving-the-dream-city-of-a-kurdish-prince>.

23. Goston A, Masters BA. Encyclopedia of the Ottoman Empire. [cited 2021 25 January]. Available from: https://books.google.iq/books/about/Encyclopedia_of_the_Ottoman_Empire.html?id=QjzYdCxumFcC&printsec=frontcover&source=kp_read_button&redir_esc=y#v=onepage&q&f=false.
24. Rich CJ. Narrative of a Residence, and on the Site of Ancient Nineveh, With Journal of a Voyage Down the Tigris to Bagdad and an Account of a Visit to Shirauz and Persepolis [cited 2021 17 January]. Available from: https://play.google.com/books/reader?id=_NcazrFIfZcC&hl=en&pg=GBS.PR9.
25. Ebubekir C. The Ottoman Origins of Modern Iraq, Political Reform. [cited 2021 10 February]. Available from: <https://www.bloomsbury.com/us/the-ottoman-origins-of-modern-iraq-9780857720412/>.
26. Kurdipedia. Map of the old Sulaymaniyah 1925. [cited 2021 Jul 16]. Available from: <https://www.kurdipedia.org/default.aspx?lng=11&q=20160724210326132938>.
27. Baban J. *Sulaymaniyah my city*. Baghdad: Dar Al-Kahliah; 1999.
28. Mohammed H, Adu-Ampong EA. Challenges to urban cultural heritage conservation and management in the historic centre of Sulaimaniyah. *Journal of Cultural Heritage Management and Sustainable Development*. 2016;6(3):3-7.
29. Fewins C. What is Vernacular Style?. [cited 2021 17 April]. Available from: <https://www.homebuilding.co.uk/>.
30. Prados AB. The Kurds in Iraq. [cited 2021 2 September]. Available from: <https://www.everycrsreport.com/reports/94-423.html>.
31. Mohammed A. The great mosque in an Ottoman Document. [cited 2021 6 April]. Available from: <https://www.khaktv.net/all-detail.aspx?jimare=20897&type=farhang>.
32. Demir H. Anadolu Cami ve Medrese. [cited 2021 17 July]; Available from: https://www.researchgate.net/publication/334317669_ANADOLU_SELCUKLU_DONEMI_KULLIYE_DUZENLEMESINDE_CAMI_VE_MEDRESE'DE_ORTAK_AVLU_KULLANIMI_Hatice_DEMIR.

33. ICOMOS. International charter for the conservation of monuments and sites (Venice charter 1964). [cited 2021 10 February]; Available from: https://www.icomos.org/charters/venice_e.pdf.
34. Antiquity D. Hotel Farah in Sulaymaniyah. [cited 2021 7 June]; Available from: <https://slemanimuseum.org/>.
35. Muhealddin BN. Factors affecting the conservation of sulaimani. [cited 2021 7 July]; Available from: https://drive.google.com/file/d/1jl_nzNFsbIszQiwNgUH2rQ0paSc-2uUW/view.
36. Küçükkaya AG. *Late Ottoman Architecture*. Yeditepe University. Arch512, Lecture notes. 2020.
37. University of Sulaimani, View Group. City Lab Project. [cited 2021 Feb 15]. Available from: <https://www.schoolandcollegelistings.com/IQ/Sulaimania/450409232014003/City-LAB-Sulaimani>
38. Küçükkaya AG, Bayrak G, Doğan T, Baloğlu E, Alkan PL. Conservation Concepts for the Ottoman Buldings in Pecuy, Hungaria. *I. Uluslararası Türk Kültürü ve Tarihi Sempozyumu*. 2018; Yeditepe Üniversitesi, İstanbul.
39. Souza E. Le Grand Louvre. [cited 2021 23 May]. Available from: <https://www.archdaily.com/88705/ad-classics-le-grande-louvre-i-m-pei>.
40. Backer JA. The Roman Forum. [cited 2021 26 May]. Available from: <https://www.khanacademy.org/humanities/ancient-art-civilizations/roman/x7e914f5b:beginner-guides-to-roman-architecture/a/forum-romanum-the-roman-forum>.
41. UNESCO. Meidan Emam, Esfahan. [cited 2020 25 October]. Available from: <https://whc.unesco.org/en/list/115/>.
42. ICOMOS. Australia charters. [cited 2021 12 July]. Available from: <https://australia.icomos.org/publications/charters/>.
43. Henry W. Definitions of Conservation Terminology. [cited 2021 5 August]. Available from: <https://cool.culturalheritage.org/waac/wn/wn18/wn18-2/wn18-202.html>.

44. Mohammed H. The impact of heritage decline on urban social life. *Journal of Environmental Psychology*. 2018;55(1):34–47.
45. Rahi NA. Heritage in the international Arabic and iraqi laws. [cited 2021 7 May]. Available from: <https://arch.uokufa.edu.iq/archives/5254>.
46. Architecture Students. Sulaimani Qaysari hand recording. Architectural Engineering Department, University of Sulaimani, 2020.



APPENDIX A: IRAQI CONSERVATION LAWS

Although Iraq is fortunately endowed with a very rich and varied cultural heritage, efforts to protect it have been hitherto largely inadequate and unco-ordinated. While the official protective machinery centers its attention on single outstanding ancient and historic monuments and sites, the historic vernacular buildings, groups of buildings and areas - both rural and urban - remain not only badly neglected but are being rapidly demolished. The appalling and increasing destruction of this unique heritage is a serious loss and is, ironically, being caused mainly by official action. The study shows that over twenty per cent of Baghdad's historic fabric has been destroyed since World War 1 through new streets and clearance projects alone. This alarming loss is illustrated by an inventory of some 160 buildings of outstanding cultural interest demolished since 1917.

The conservation laws of Iraq:

In Iraq, the cradle of civilizations, we find that the old Antiquities Law No. (59) of 1936 AD only protects archaeological buildings, and even after it was amended in 1974 AD by Law No. (120) there is a simple remedy that refers within the topic of heritage as it came in the second paragraph of the first article what reads: "The directorate may That it considers movable and immovable property less than two hundred years old, if it is considered that the public interest requires preservation because of its historical, national, religious or artistic value. Provided that this is done by a decision of the Minister and published in the Official Gazette "Here we do not fail to point out that Antiquities Law No. 80 of 1979 AD, in which the previous text itself was included. As for the new Antiquities and Heritage Law issued by the General Authority for Antiquities and Heritage No. (55) for the year (2002), where heritage is defined: "It is the movable and immovable property that is less than (200) two hundred years old and has a historical, national, religious or artistic value, and it is declared By a decision of the minister. Chapter 4, Article 23, stipulates the following paragraphs concerned with heritage: First: The archaeological authority is obligated to continue documenting heritage buildings and areas in order to complement its scientific approach and to implement its duties in protecting the cultural heritage in Iraq. Second: The participating entity maintains a special register in which the heritage buildings and regions are registered And residential neighborhoods of a heritage architectural character due to their historical or heritage importance, their architectural features, or their Arab and Islamic heritage

importance, according to what the archaeological authority sees and announces in writing.

Third: The participating party announces that the buildings, areas, and residential neighborhoods stipulated in Clause (Second) of this Article are a conservation area, prepare maps for it, and issue the decisions necessary to protect it as an architectural heritage, determine its use, and fix the necessary prohibitions and easements that accrue to the neighboring real estate within (90) Ninety days from the date of its announcement in the Official Gazette.

Fourth: The archaeological authority notifies the competent real estate registration department to place a sign not to dispose of the heritage buildings documented with it and issue its decision regarding protection or non-protection within (90) ninety days from the date of placing the sign.

As for Article [24], firstly, it states: “The participating party may acquire heritage buildings in accordance with the provisions of the acquisition law, and secondly: the participating entity evacuates the heritage and historical buildings and their forbidden persons and funds in the event of a threat threatening the lives of people or heritage buildings according to rules issued by the aforementioned party.” . Article [25] states: “The authority vacates the leased heritage building for the purpose of carrying out maintenance and restoration after issuing a warning to the tenant within (90) ninety days from the date of notification of the warning, as an exception to the Real Estate Lease Law No. 87 of 1979. Article 26 of the same law stipulates: “State departments and the socialist sector are obligated when establishing public projects to preserve heritage and historical buildings in coordination with the antiquities authority.” Article [27] states: “The owner of the heritage building included in the preservation or documentation enjoys the following privileges: Obtaining a grant or his advances to help him in preserving the heritage building and disbursing him from the participant according to rules issued by exemption from property tax, leasing the heritage building as an exception from the provisions of the law. Rent of real estate No. (87) for the year 1979 AD ”In addition to that, Article [28] stipulates the following: “First - it is not permissible A - Trespassing or demolishing the heritage neighborhood buildings announced in the official gazette, changing the profession and the jurisdiction exercised in them in the heritage shops, markets and streets, or canceling their basic function that gave them the heritage character. B - Cancellation of the heritage characteristic of a heritage place in the ownership of others by abandoning it. The General Tax Authority assesses the rent allowance in the event of a dispute between the lessor and the lessee in order to preserve the heritage site and prevent its demise. C - It is not permissible to demolish, rebuild, restore or change the use of preservation or documented buildings

except with the approval of the archaeological authority and a permit from the participating party that ensures homogeneity with the architectural characteristics and general standards of the preservation area and temporary buildings and their preservation, and a decision is made on granting the permit within [30] thirty days from The date of application. Second: The participating party may order the violator to the provision of Paragraph (c) of Clause (First) of this Article to address the violation in the manner and period it specifies, otherwise it will deal with it at his expense. Third: The participating party compensates the injured as a result of fixing easement rights on the ground stipulated in Clause (Third) of Article [23] of this law or evacuating the heritage areas according to Clause (Second) of Article [24] of this law within (90) ninety One day from the date of fixing the rights of prophylaxis or evacuation, otherwise, the decision of the participating party regarding the rights of prophylaxis or eviction shall be considered withdrawn. It should be noted here, in this context, to the bodies concerned with Iraqi heritage, which are the bodies concerned with the care of architectural heritage, and these entities are represented by the Heritage Department of the General Authority for Antiquities and Heritage, which conducts the survey, characterizes buildings throughout the country and projects them on maps, as well as the Design Department in the Municipality of Baghdad.[44]

APPENDIX B: VENICE CHARTER

Adopted by ICOMOS in 1965. Imbued with a message from the past, the historic monuments of generations of people remain to the present day as living witnesses of their age-old traditions. People are becoming more and more conscious of the unity of human values and regard ancient monuments as a common heritage. The common responsibility to safeguard them for future generations is recognized. It is our duty to hand them on in the full richness of their authenticity. It is essential that the principles guiding the preservation and restoration of ancient buildings should be agreed and be laid down on an international basis, with each country being responsible for applying the plan within the framework of its own culture and traditions. By defining these basic principles for the first time, the Athens Charter of 1931 contributed towards the development of an extensive international movement which has assumed concrete form in national documents, in the work of ICOM and UNESCO and in the establishment by the latter of the International Centre for the Study of the Preservation and the Restoration of Cultural Property. Increasing awareness and critical study have been brought to bear on problems which have continually become more complex and varied; now the time has come to examine the Charter afresh in order to make a thorough study of the principles involved and to enlarge its scope in a new document. Accordingly, the IInd International Congress of Architects and Technicians of Historic Monuments, which met in Venice from May 25th to 31st 1964, approved the following text:

DEFINITIONS

Article 1. The concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event. This applies not only to great works of art but also to more modest works of the past which have acquired cultural significance with the passing of time.

Article 2. The conservation and restoration of monuments must have recourse to all the sciences and techniques which can contribute to the study and safeguarding of the architectural heritage.

Article 3. The intention in conserving and restoring monuments is to safeguard them no less as works of art than as historical evidence.

CONSERVATION

Article 4. It is essential to the conservation of monuments that they be maintained on a permanent basis.

Article 5. The conservation of monuments is always facilitated by making use of them for some socially useful purpose. Such use is therefore desirable but it must not change the layout or decoration of the building. It is within these limits only that modifications demanded by a change of function should be envisaged and may be permitted.

Article 6. The conservation of a monument implies preserving a setting which is not out of scale. Wherever the traditional setting exists, it must be kept. No new construction, demolition or modification which would alter the relations of mass and colour must be allowed.

Article 7. A monument is inseparable from the history to which it bears witness and from the setting in which it occurs. The moving of all or part of a monument cannot be allowed except where the safeguarding of that monument demands it or where it is justified by national or international interest of paramount importance.

Article 8. Items of sculpture, painting or decoration which form an integral part of a monument may only be removed from it if this is the sole means of ensuring their preservation.

RESTORATION

Article 9. The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of the monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case moreover any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by an archaeological and historical study of the monument.

Article 10. Where traditional techniques prove inadequate, the consolidation of a monument can be achieved by the use of any modern technique for conservation and construction, the efficacy of which has been shown by scientific data and proved by experience.

Article 11. The valid contributions of all periods to the building of a monument must be respected, since unity of style is not the aim of a restoration. When a building includes the superimposed work of different periods, the revealing of the underlying state can only be justified in exceptional circumstances and when what is removed is of little interest and the material which is brought to light is of great historical, archaeological or aesthetic value, and its state of preservation good enough to justify the action. Evaluation of the importance of the elements involved and the decision as to what may be destroyed cannot rest solely on the individual in charge of the work.

Article 12. Replacements of missing parts must integrate harmoniously with the whole, but at the same time must be distinguishable from the original so that restoration does not falsify the artistic or historic evidence.

Article 13. Additions cannot be allowed except in so far as they do not detract from the interesting parts of the building, its traditional setting, the balance of its composition and its relation with its surroundings.

HISTORIC SITES

Article 14. The sites of monuments must be the object of special care in order to safeguard their integrity and ensure that they are cleared and presented in a seemly manner. The work of conservation and restoration carried out in such places should be inspired by the principles set forth in the foregoing articles.

EXCAVATIONS

Article 15. Excavations should be carried out in accordance with scientific standards and the recommendation defining international principles to be applied in the case of archaeological excavation adopted by UNESCO in 1956. Ruins must be maintained and measures necessary for the permanent conservation and protection of architectural features and of objects discovered must be taken. Furthermore, every means must be taken to facilitate the understanding of the monument and to reveal it without ever distorting its meaning. All reconstruction work should however be ruled out "a priori". Only anastylosis, that is to say, the reassembling of existing but dismembered parts can be permitted. The material used for integration should always be recognizable and its use should be the least that will ensure the conservation of a monument and the reinstatement of its form.