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ARCHITECTURE OF HERITAGE MOSQUES IN MAFRAQ PROVINCE

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This study discusses the architectural attributes of 35 heritage mosques in Mafraq Province, established in the early Arabic Islamic ages. The researchers adopted the field study approach and the comparative descriptive method approach. The study focuses on mosques characterized by simplicity of the form without complexity in the architectural vocabulary, consisting of three major components: the praying hall, the mehrab, and the pulpit (manbar), whereas other mosques also contain other components, such as a minaret and a place for ablution (wudoo). Despite the obvious similarity in construction materials and methods, differences are evident in the periods of construction, the political circumstances, and the natural environment, which affected the production of different forms and relatively varied architectural styles of these mosques. The research recommends expanded study of these mosques and urges leaders to expedite plans to preserve them and make use of them for tourism development projects in general and for Islamic religious tourism in particular.

KEY WORDS: Islamic architecture, mosque architecture, heritage mosques, documentation, Mafraq

1. INTRODUCTION

The mosque has great significance in Islam, as it is the house of the Creator Almighty (Allah) and the most beloved world to Him for saying the Almighty: *And the mosques are for Allâh (Alone): so invoke not anyone along with Allâh* (Holy Qur'an, Surat al-Jin, verse 18), which is the place where Muslims gather to achieve the first goal of human existence on this earth, which is to worship the Creator (Almighty) (Ismael 2011, p. 12), and perform the most important pillar of Islam, which is to pray. The mosque is considered the mainstay of declaring the Islamic state and centre coherence Islamic group and its tangible physical structure (Mu'ness 1981). The mosque the source of the Islamic heritage, and, finally, the mosque is the most important symbol of Islamic architecture and its first buildings at all (Abu Eker and al-Masjed 1995). This importance of the mosque is governed by many considerations, most notably its location in the Islamic city, since it is the basic core of its planning (Othman 1988). For these high advantages and lofty characteristics, the mosque deserved the full portion of studies and research by scholars, scientists, and researchers.

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For geographic location of Jordan, which was the gateway to the spread of Islamic ideology, the Creator Almighty has gifted it with many monuments and religious sites that were built in the early periods of establishing the Arab Islamic state. Mosques are one the most prominent monuments, since every Jordanian province or city has a heritage mosque, in addition to the palaces, houses, and shrines of the companions and graves and other sites and monuments. These monuments indicate the importance of the geographic location of Jordan in general, the consolidation of its roots in Islamic civilization and identity, and its major role in spreading the Islamic ideology from the Arabian Peninsula to Asia and Europe.

This research is concerned in discussing the discovered heritage mosques in the Mafraq Province, which comprise 35 mosques according to information from the Department of Antiquities of Jordan (interview with Director of Public Antiquities in Mafraq Province on April 5, 2011), and periods of construction that refer to the different eras of Islamic ruling. This study will first define the concept of the mosque in general, and then point out the merits of constructing it and prospering with it, as well as the legislative provisions and functional considerations related to its design and construction. Also, this study will identify the heritage mosques in the Province of Mafraq and their geographic distribution across the province, as well as identify the eras of its construction, in addition to identifying the most important elements, characteristics, and advantages of architectural planning and construction.

2. THE IMPORTANCE OF RESEARCH

The importance of this research lies in its uniqueness, since it is the first comprehensive study to define heritage mosques in the Province of Mafraq. This importance is especially relevant in that most of these mosques—to this day—are preserved in their original plans, which helps to visualize their architectural shape, and in that some are still functioning where prayers are held to this day, which gives it great significance in deducing the characteristics of the architecture of these mosques since its first eras. Also, in order to highlight the Islamic theme in Jordan, it is a complementary study to those conducted by Jordanian and foreigner Orientalist researchers and archaeologists, for example, Ghawanmeh (1986), Bisheh (1979), al-Rashdan (1994), and al-Housan (1999; 2002) of Jordan, in addition to Creswell (1969), Helms, Betts, Lancaster (1990), and other foreigners.

3. RESEARCH OBJECTIVE

The research aims to introduce the heritage mosques scattered throughout the Province of Mafraq, to identify their geographical locations, to point out periods of construction, to highlight the most important characteristics that distinguish them in terms of their aspects of planning, architecture, and construction, and to identify the most important factors that have affected that distinction.

4. RESEARCH METHODOLOGY

The following methods have been adopted to gather and emphasize information:

1. *Literature review*, referring to:

- a. the Holy Qur'an and Prophetic Sunnah to point out the verses and Hadiths related to the construction and prosperity of mosques; and
 - b. Books, religious and historical references, and research related to the subject of study.
2. *Case studies*, referring to:
- a. Studies, research, and results of archaeological excavations, conducted by the archaeological researchers at the Jordanian Department of Antiquities; and
 - b. Researchers' field visits for the discovered locations of mosques, and their documentation, qualitative analysis, and comparison to obtain results, focusing on measuring the following factors:
 - i. Geographic region,
 - ii. Construction period, and
 - iii. Architectural characteristics of mosques, which include the following:
 1. Design model (with nave, without nave);
 2. Floor area (square m);
 3. Architectural elements (praying house, mehrab and Qibla wall, platform, ablution place, minaret);
 4. Building materials (stone, basalt, mixed);
 5. Roofing systems (stone arc, vault, cross vault, post and beam, temporary roofs); and
 6. Floors (mud, stone, mosaic).

5. THE CONCEPT OF THE MOSQUE

5.1. Linguistic Meaning

The word *mosque* (*māsjid*) in Arabic is the rhythm (*maf'el*), a name derived from the triple root (*sājādā*) in the sense of to *submit and straighten up* (Firozabadi 1998, p. 287), and derives from a *place to prostrate*, in plural (*māsājed*). The word in Arabic comes also by using *fatha* with *jeem* (as *māsjād*), which means *man's front when he puts his forehead to the ground*, and *whoever submits as he was commanded by the Creator Almighty by prostration* (Ibn Mandour 1981). The word *mosque* (*māsjid*) in Arabic language has several synonyms, including: *albayt*, *almasjed*, *almasjed alharam*, *almasajed*, *aljame*, and *almusalla*. The words *almasjed*, *almasajed*, and *almasjed alharam* were mentioned in the Holy Quran 28 times. Reference to *al-Masjed al-Haram (Ka'aba)* came with the spelling of *House* 17 times, which referred to it as *Maqam Ibrahim (the place of Ibrahim)* and *Musalla (Prayer place)* one time, and as *al-Masjed (Mosques)* with the spelling of *Buyoot (Homes)* one time and each spelling had an occasion (Mu'ness 1981, p. 13).

5.2. Shari'a Meaning

The word *masjed* in Islamic Sharia means *the place or building endowed for prayer for all Muslims* (al-Wali 1988, p. 137), which is every locality where Muslims pray, because the Prophet Mohammad said: "earth is made a mosque and purification for me" (al-Bukhari 2008, p. 61). Also the term *Masjed* is used since it is associated with prostration (*sojood*), which is a basis of prayer, and the highest level of worship. As the prophet Mohammad said: "a worshipper is closest to his Lord, when he is in '*sojood*', do increase calling (Muslim 2008, p. 133).

5.3. The First Mosques in Islam

Prophet Mohammad was faster than others in response to the command of his Lord in the building (maintaining) mosques, so the first work he did on arriving to Yathrib City (now al-Madina al-Monawarah) as a migrant from Makkah was to build a mosque. The *Masjed Quba* was the first mosque built in Islam and the first mosque built for the public (Ibn Katheer 1998, p. 209; Ibn al-Qayyem al-Jawziah 1986, p. 29). God said of the virtue of the mosque: “Do not stand [for prayer] within it—ever. A mosque founded on righteousness from the first day is more worthy for you to stand in. Within it are men who love to purify themselves; and Allah loves those who purify themselves” (*Holy Qur’an*, Surat al-Tawba verse: 108).

After the spread of Islam, building mosques began to spread throughout the regions, which became under the Islamic system, since the teachings of Islam—of verses and Hadiths—urge Muslims to build mosques and push them to build and introduce them to the provisions and conditions of building them.¹ In addition, mosques are a statement of what God has prepared for those who build them of great reward and credit, and follow the example of the Prophet Mohammad. Construction of the mosque was the first physical and moral step to form the Islamic city, and one of the most important foundations of its planning. Building and maintaining mosques, in the general sense, include two meanings: the *tangible* and *moral*. In this regard, al-Qortobi (1998, p. 135) explained by saying, “The most firm faith in this verse is who prospers mosques by praying, cleaning and repairing them and what it believes in Allah and His Prophet”.²

The first mosques of Islam in common were characterized by their simple shapes, components, and building materials. These elements are in conformity with the teachings of the Islam and the main purpose of construction, namely praying in congregation, and by its simplicity in relation to the community and surrounding buildings and in response to the climatic conditions of the surrounding environment, as well as the usage of the available building materials (Ibrahim 1982). This approach is also based on the technical and artistic capabilities of Moslems in the fields of architecture at that time, which were limited (Sameh 1987, p. 10).

6. RESULTS

The results of the study and qualitative analysis (shown in Appendix 1) are presented in the following discussion

6.1. Distribution of Discovered Mosques by Geographic Region and Historical Period

Mafrag Province³ is geographically divided into two main regions (al-Ansari 1998): the western region known as the *Magareeb*, distinctive with its temperate climate and

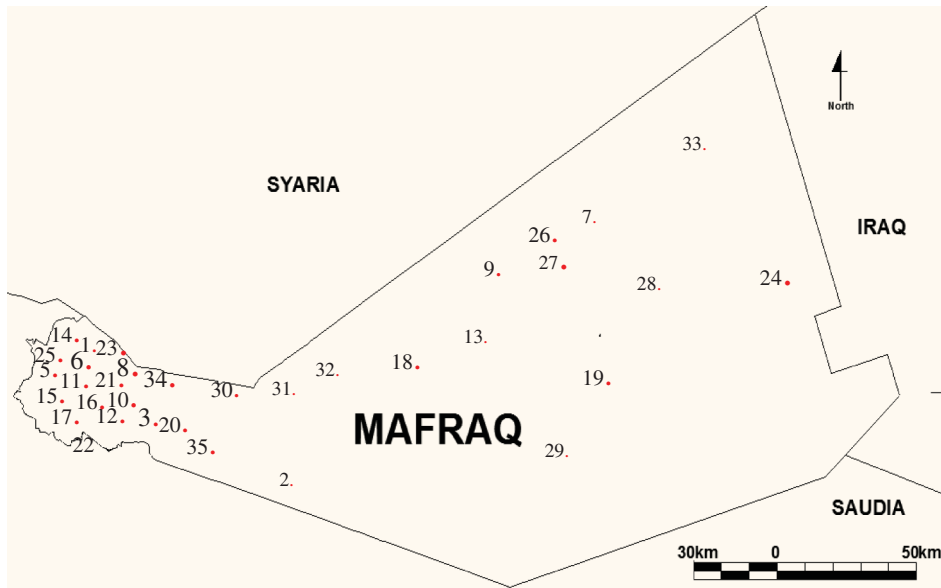
¹According to the verse 18 of Surat al-Tawba of the *Holy Qur’an*: “The mosques of Allah are only to be maintained by those who believe in Allah and the Last Day and establish prayer and give Zakah and do not fear except Allah, for it is expected that those will be of the [rightly] guided.”

²Mafrag Province is located northeast of Jordan between the longitudes (36o.15’) and (39o.15’) east and the latitudes (31o.45’) and (33 o.15’), distinguished with its width approximately 26626 square km to form approximately 29.6 % of the total area of Jordan.

³Badreddin al-Zarkashi (745–794 H 1344–1397 AD) mentioned most of these verses and Hadiths and included an alphabetic index at the end of his book (1999, p. 418–427).

natural good conditions and the eastern region known as the *Northeastern Badia*, which is an extension of the area called *Badiat al-Sham*. This area extends from the northern part of the Arabian Peninsula and southern part of Jordan to the south and east of Syria. Badia occupies approximately 75% of the area of the province and is characterized by desert climates and relatively harsh natural conditions. The discovered mosques have been distributed geographically according to this division. The number of the discovered mosques in the western region was 16 mosques, and number of the mosques in northeastern Badia was 19 (Figure 1).

In terms of the construction period, most of the mosques were built during the Mamluki and Ayyubid eras with a total number of 18 mosques, followed by the Umayyad mosques with a total number of 13 mosques. During the Abbasi era with two mosques and the Rashidi and Ottoman eras, only one mosque was built in each time period. For two more mosques—Hamra Sohaim and Habbabieh mosques—the period of construction was undecided. Many of these mosques were used in the following eras after being restored and maintained, such as the Bal’ama, Medwar, and Rehab mosques (Appendix 1).



1. Ain Bani Hasan	2. Anoukia	3. Bala'ma	4. Bqea'wia	5. Breqa	6. Fudayn
7. Habbabieh	8. Hamnaneh	9. Hamra Sohem	10. Hayan Rowaybed (E)	11. Hayan Rowaybed (w)	12. Hayan Mishref
13. Jada'a	14. Khanasry	15. Khatla	16. Khertbt Samra	17. Medwar	18. Mnifa
19. Moailig	20. Qnaia	21. Rehab	22. Sa'ad	23. Sama Serhan	24. Risha
25. Sorra	26. Shbeka (E)	27. Shbeka (W)	28. Tal Bses	29. Tlol Mashaqif	30. Um Ejmal
31. Um Qutain	32. Um Sarb	33. Wadi Qasab	34. Za'atry	35. Znaia	

Figure 1. Map of the geographical distribution of heritage mosques in the Province of Mafraq (all data and photographs from authors unless otherwise noted) (color figure available online).

6.2. General Characteristics of Mosques

This study showed that most of the discovered mosques were similar in many of their architectural characteristics, in terms of indications and functional requirements as a place dedicated to prayer and worshipping. Also, some mosques witnessed a kind of evolution in terms of the architectural constituent, form, and elements that were later added to the mosque.

6.3. Architectural Characteristics

Various features and characteristics emerged as a result of analyzing the field visits made by the researchers for these mosques, by studying their locations, drawing plans, and photographically documenting them. The researchers also returned to the available data at the Department of Antiquities in the Province of Mafraq and the data of the researcher al-Housan, who supervised the exploration for most of the mosques. Thus, the researchers were able to highlight the most important characteristics of planning and architecture of these mosques and make some comparisons to find the mutual influences between them. The results follow.

6.3.1. Design Models Most of the discovered heritage mosques in the Province of Mafraq adopted in their design the simple mosque model with one lobby without a nave (i.e., house of only praying) (Figure 2). The exceptions were some mosques that contained this element (i.e., a nave), such as the mosques of western Shbeka and Sa'ad, which consist of the remains of an unroofed nave attached to the praying house in each of them from

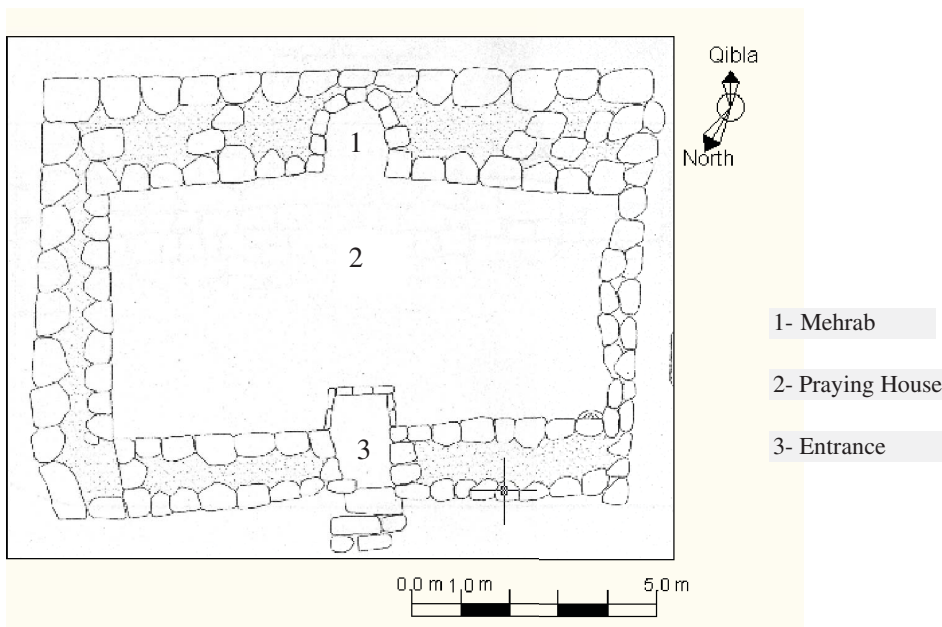


Figure 2. Horizontal plan of the Rehab Mosque as a simple model of the discovered mosques (color figure available online).

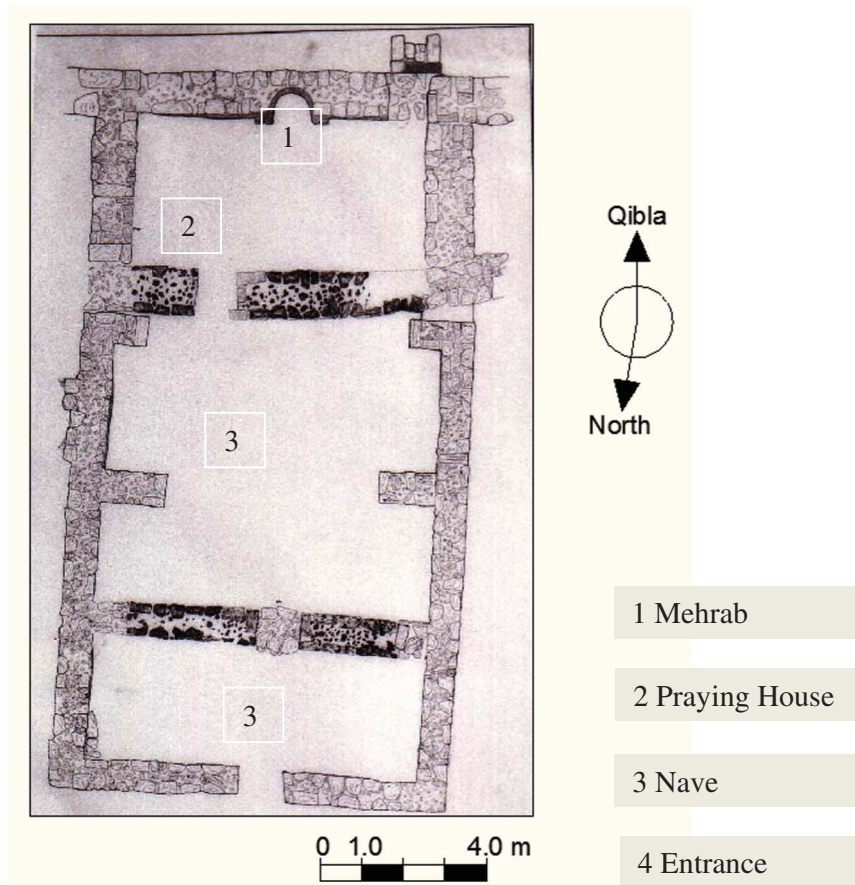


Figure 3. Horizontal plan of the Fudayn Mosque (color figure available online).

the opposite side of Qibla direction. In the Fudayn mosque, extending from the northern side of the house of prayer is a space 10 m long, which is a nave with three doors. The first door opens towards the house of prayer on the centre of the Mehrib; the second door opens towards the north tower; and the third door overlooks the unroofed space adjacent to the residential home adjacent to the mosque leading to the main entrance (Figure 3). This finding may explain the presence of this element in this mosque—of the great concern to the site, this model is the most responsive model to the climatic conditions of the area for the human interaction with environment and closeness.

6.3.2. Total Area Studying and analyzing the total area of the discovered mosques revealed the following:

- The discovered mosques varied in size and are relatively small, ranging from 10 to 400 m square due to, from the viewpoint of the researcher, the technical capabilities and construction methods used at the time that did not allow building mosques with large areas. Also most were in small, residential, sparsely populated areas. In addition, some are located at the outskirts of the main roads in order to serve transient people, as well as to

be located through the internal Hajj route. Of note, the prevailing lifestyle of the area population depended on travel and instability for routinely exercising the profession of grazing livestock. A final point is the spread of mosques for soldiers and positions stationed along the frontlines bordering the regions.

- Risha Mosque is considered the largest among all of the discovered mosques, with an area of 400 m square, dimensions of 20 m X 20 m) approximately. This mosque is followed by the second largest mosque in Fudayn area of 300 m square, dimensions of 30 m X 10 m, approximately, and finally Sa'ad Mosque at 122 m square, with dimensions of 11 m X 11 m.
- Mosques of Sorra, Hayan Rowaybed, Khatla and Znaia mosques are the least in space among the mosques, with 10 m square and dimensions of 5 m X 2 m each.
- The mosque with biggest area belongs to the Umayyad era. The next two largest-area mosques are from the Ayyubid Mamluki era.
- Mosque Risha is a Badia open mosque (not roofed), whereas Fudayn mosque is roofed and evolving in terms of various architectural, structural, and aesthetic aspects.

6.3.3. Architectural Elements

Five main architectural elements were noted.

- **Praying House:** The main space in all discovered mosques. The horizontal projections of the praying house in all mosques took two shapes: Square or rectangular, which were not completely regular, due to lack of accuracy in construction. The rectangle shape, for which the longer side extends on the axis perpendicular to the axis of Qibla of the mosque, was the most commonly used in the horizontal projection forms in the mosques. This design is influenced by Prophet's mosque design in Medina and is a natural reflection of the functional method in design, providing praying and prayers' requirements, according to the verses of *Holy Qur'an* and Prophetic Hadith.
- **Mehrab and Qibla wall:** The Mehrab element was present in all mosques, and mostly in the form of a hollow curve in the wall of the Qibla located in the middle position of the mosque to indicate the Qibla direction, and serves as a special place for the Imam without crossing the first row during praying in congregation. Mehrab varied in forms and dimensions, according to construction style, some of which were a regular or irregular semi-circle, while some were in the shape of the rectangle. To build Mehrab, they adopted rows of stones, narrowing the distance between them higher up, to form a circular or tipped arc, roofed with a semi-circular dome, prominent from outside. Qibla wall and sides of Mehrab in some mosques, such as the mosques of Fudayn and Sa'ad, constituted some aesthetic elements of distinctive decorative inscriptions. For example, circular and square stone pillars are placed on both sides of the Mehrab, and patterns of systematic and plant shape carvings are in the stone or are made of gypsum (Figures 4–7).
- **Platform (Manbar):** No presence of a platform was observed in any of the discovered mosques. It is believed that the platforms were made of not-durable, lightweight, and non-fixed materials, such as wood. Physical evidence was found to indicate the presence of wooden platforms in some mosques, such as pieces of decomposing wood and metal nails found in Fudayn and Ain Bani Hasan mosques.
- **Ablution place:** The existence was not detected of any elements attached to the mosque for the purpose of ablution or toileting, except in the Fudayn Mosque, where the ablution place still exists beside the mosque as a small basin attached to a channel to drain water. Archaeological excavations in some mosques revealed remains of circular stone basins and pottery jugs believed to have been used at ablution (Figure 8).



Figure 4. Photograph of the Mehrib in Sa'ad Mosque and the columns that decorated either side (color figure available online).



Figure 5. Photograph of the remains of the Mehrib in Hayan Mishref Mosque (color figure available online).



Figure 6. Photograph of the decorative carvings in the Qibla and Mehrib wall in the mosque of Fudayn as founded by excavations in 1999 (Photo from al-Housan's photo collection) (color figure available online).



Figure 7. Photograph of the Qibla and Mehrab wall in the Fudayn Mosque showing the stucco decorations after restoration (color figure available online).



Figure 8. Photograph of the ablution (*Wudoo*) place at Fudayn Mosque (color figure available online).

- **Minaret:** Mosques did not contain the minaret as an element existing to date. However, some evidence suggests a minaret in some mosques, such as the western Shbeka Mosque, which contains the remains of a structure adjacent to the mosque from the northeast, a square form with side length of 2.5 m, believed to be the base of a minaret. Also a base was detected in the northwest corner of Sa'ad southern mosque Figure 9.

6.3.4. Building Materials and Construction Techniques The discovered mosques in the Province of Ma'fraq varied in the use of building materials and construction techniques. Analysis of the discovered mosques revealed that the materials used in construction were generally natural and were available in the region in general, while the natural limestones are the most commonly used substance in constructing walls since they are available in the region, easy to obtain, cut, trim, and form. Other building materials were used in constructing walls, columns, and ceilings, such as mud from sand and straw, as well as tree trunk as rafters. Also used were plaster and brick in small quantities, especially in decorating mosques from the inside.



Figure 9. Photograph of the remains of walls and Minaret base at Sa'ad Mosque (color figure available online).

The style of using natural stones varied. Also, stones varied in shapes and colors, depending on types available in the region where the mosque was built. Due to the availability of limestone in the western regions of the province, most of the discovered mosques were built with this stone, while most of the mosques in the eastern regions are built of basalt stone because of its availability in those areas. The mosques located in boundary areas, which combine between the characteristics of the two regions—the natural and geological elements—have commingled in the use of these two types of stones. As they are available in the same region, the most dominant was primarily used.

The construction of some mosques relied on the use of stone monuments in the region, such as churches and castles, and also houses as residential structures. Especially used were the ready stones that had been prepared in advance, such as those used in the sides and tops of openings (doors and windows). Thus, the mosque of Fudayn, which was built in Fudayn archaeological site (*Khirbet al-Fudayn*), contains the remains of different civilizations. Finally, some of the mosques were entirely built on the ruins of churches, such as Rehab, Um Ejmal, Um Sarb, Sama Serhan, and Khirbet Samra mosques (Figure 10).

6.3.5. Roofing Systems Through analyzing of the remainder of the physical evidence in the discovered mosques, the researchers revealed a clear diversity in the roofing methods used in mosques:

- *Use of stone arcs (Qantara)* based on stone walls and columns, which carry the rafters and trees. This method was common in the Umayyad mosques, such as Znaia and Medwar mosques (Figure 11).
- *Roofing using vaults*, which was popular in the Ayyubid Mamluki mosques, such as Rehab, Sa'ad, and Hayan Mishref.
- *Roofing system using the cross vaults*, such as the Fudayn mosque. This style was also common in roofing of residential homes, and castles in the region in the Ayyubid and Mamluki periods.
- *Roofing with stone pillars (columns)*, which carries rafters (beams) to hold the plain roof, which is formed by covering the gaps between the bridges by wooden beams or stone slices (pieces), such as in the eastern Shbeka Mosque.



Figure 10. Photograph of the Rehab Mosque apparently after restoration, showing the remains of the walls of the church that the mosque was established on its ruins (color figure available online).



Figure 11. Photograph of the base of Arc Stone (Qantara), which holds the roof in Hayan Mishref Mosque (color figure available online).

- *Temporary roofing using tents made of cloth, wool, or tree branches and grass*, a technique that has spread in roofing the desert mosques. This roofing method was due to the prevailing weather conditions in that region, and to the times of using these mosques, which was seasonal because of the of the population's lifestyle at the time, which was based on grazing and movement, and the occurrence of the mosques on the inner roads of pilgrimage and the trade at the time. An example is the Anoukia Mosque (Figure 12).

The researchers did not find any evidence that the mosques might have contained the dome as an element of the roof, for various reasons, including that the methods of construction used were not appropriate for that approach, except some small domes above Mehrab, such as the case in the mosques of Rehab, Ain Bani Hasan, Hayan Mishref, and Mnifa.



Figure 12. Photograph of the Anoukiah open Mosque (not roofed) in Badia (color figure available online).

6.3.6. Floors Flooring types varied in the discovered mosques. Analysis revealed the existence of the following types and methods in paving floors:

- Floors made of sand or compact mud, which is the common style in most of the discovered mosques.
- Floors paved with natural trimmed and soft stones, such as the case Fudayn and Sa'ad mosques (Figure 13).
- The use of mosaics, which were originally present in the site, especially in the mosques that were built on the ruins of churches and maintained by Muslims since they do not contain any human or animal graphics, such as the case in Rehab, Um Ejmal, and Sama Serhan mosques.

6.3.7. Different architectural details Four types of different architectural details were noted.

- **Entrances:** Most of the mosques contained main entrances in the wall opposite to Qibla wall along the centre of the Mehrab, although some of them contained additional doors in their eastern or southern side. This finding may be due to the existence of some attached



Figure 13. Photograph of the floor paved with natural stones as discovered at Sa'ad Mosque (color figure available online).

utilities at those sides, or dedication to serve the Imam and Mu'azzin since they pass through the mosque, as the case in Fudayn and Hayan Mishref mosques.

- **Windows and oriels:** Some windows and their remains were identified in some mosques, especially in the Qibla wall and the upper side of the Mehrab, and are believed to have used color glass and plaster to decorate some of the mosques, as is the case in Fudayn Mosque.
- **Apertures:** Observed were apertures deep in the walls of some mosques, especially Qibla wall, where some were dedicated for lighting, such as lamps, and others were dedicated to keep the Qur'an.
- **Low front yard:** Observed was a yard level lower than mosque's ground level in front of the main entrance of some mosques, dedicated to worshippers' shows, such as the case in Rehab and Ain Bani Hassan mosques.

7. DISCUSSION

- Jordan in general and the Province of Mafraq in particular, are rich with the existence of many mosques built in the early times of the Islamic state and its expansion, which indicates that the region played a major role at that time in spreading the Islamic ideology for the significance of its geographical and political location.
- The construction and design of mosques in general came as a reflection of the Islamic values and concept of the Islamic architecture, which is derived from the verses of the Qur'an related to building and flourishing. Building and flourishing mosques responded to Sharia requirements for worshipping, so they were built on the natural spontaneous basis following the functional method, which provides the needs of the worshipers and their requirements as stated in the *Holy Qur'an* and Prophetic Hadith.
- The study indicates that the basic features of the discovered heritage mosques were similar in terms of their Sharia implications and functional requirements of the mosque as a place dedicated to prayer and worshipping and the call for Jihad, to teach and study the Qur'an and Prophetic Hadith. Nevertheless, some of the mosques, witnessed the emergence of some evolution in the architectural structure and shape, and the annexes attached to them later, such as Mehrab, Minbar, and minaret and other facilities and utilities, which vary in shape, size, and geographic conditions at the site of the mosque and population's political, social, and economic conditions.
- Because of the distinction Mafraq Province lands as of topographic and geological aspects, and their distribution into two key areas: northeastern Badia and the western region, it is noticed that the mosques built in the northeastern Badia differ in terms of architectural form, construction system, and building materials than those constructed in the western regions.
- Architectural styles of mosques were different and diversified in their architectural elements and methods of building construction due to the diversity of environments of their geographical areas. Despite this finding, mosques have maintained the unity of the overall design with diversity, due to the religious factor, which contributed to the unification of their content, substance, and function, and the use of natural building materials available in or nearby to the surrounding environment, and the prevailing crafts and technical potentials among the population of the area at that time.
- The study also revealed an obvious diversity in the use of building materials and construction techniques to build mosques and in its architectural details, due to the following reasons:

- The vast area of Mafraq Province and the diversity of geographical environments and natural and climatic conditions.
- Different eras and historical periods, during which those mosques were built.
- Variance of social and economic factors of the population.
- Different neighborhoods and the urban fabric of the sites that those mosques were discovered.
- Different political and military circumstances that area experienced throughout the different times and periods of Islamic rule over the region.

The general observation on these mosques is the moderate decorations, with the exception of the constituent and innovative inscriptions, and except the Fudayn Mosque, which is distinguished with plaster systematic plants, and colors used in decorating the walls and glass openings and windows.

8. CONCLUSION

This study revealed that Mafraq Governorate contains 35 heritage mosques, which were constructed since the early Arabic Islamic periods: Rashidi, Umayyad, Abbasi, Ayyubid/Mamlouki, and even the Ottoman era, due to the expansion of the area and its geographic location. The large number of heritage mosques in the region indicates its importance and the role played in spreading Islam to the neighboring regions. These mosques are characterized by simplicity of form and lack of complexity in the architectural vocabulary, and consisted of three main elements: a House of prayer, Mehrab, and Manbar. The diversity of architectural styles, construction methods, and building materials of the studied mosques is due to the variance in periods of construction, political conditions and the characteristics of the surrounding natural environment. This study recommends expanding studying these mosques and urging the people in charge to expedite setting plans to document and preserve them and make use of them in the Jordanian tourism development projects.

9. RECOMMENDATIONS

- Expand studies and research in heritage mosques scattered throughout Jordan since they are illuminating minarets as landmarks in the Arab-Islamic Jordanian history.
- Urged the concerned authorities in Jordan to set plans to preserve heritage mosques, through documentation, maintenance and restoration, and reuse them again to perform their high functions, which have been doing throughout history.
- Promote the locations of those mosques in the Province of Mafraq and put them on the map of tourism of Jordan in general, and utilize them in promoting and developing Islamic religious tourism in particular.

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Appendix 1. General characteristics of mosques

Categories	Geographic Region		Construction Period					Architectural Characteristics																				
								Design Model	Floor Area m. sq.		Architectural Elements of the mosques			Building Materials		Roofing Systems		Floors										
									Without Nave	With Nave	Mehrab and Qibla wall	Platform (Manbar)	Ablution place	Minaret	Limestone	Basalt	mixed	Stone Arc (Qantara)	Vault system	post and beam system	Cross vault system	temporary roofs	mud	stone	mosaic			
Mosque Name	Eastern region (Badi'a)	Western region	Rashidi	Umayyad	Abbasi	Ayubid Manluqi	Ottoman	Unknown	Without Nave	With Nave	Length/ m	Width/ m	Praying house	Platform (Manbar)	Ablution place	Minaret	Limestone	Basalt	mixed	Stone Arc (Qantara)	Vault system	post and beam system	Cross vault system	temporary roofs	mud	stone	mosaic	
1.Ain Bani Hasan		*						*		100	10		*	*	*		*			*					*			
2.Anoukia	*			*				*		27	3	9	*	*				*						*	*			
3.Bala'ma		*	*					*		100	10	10	*	*				*			*			*	*			
4.Bqea'wia	*			*				*		60	6	10	*	*				*			*		*	*	*			
5.Breqa		*				*		*		50	5	10	*	*				*			*		*	*	*			
6. Shbeka (east)	*					*		*		60	6	10	*	*				*			*		*	*	*			
7.Shbeka (west)	*			*				*		80	8	10	*	*		*		*		*	*		*	*	*			
8.Fudayn		*		*				*	*	300	30	10	*	*	*	*		*		*	*		*	*	*			
9.Habbaibah	*							*	*	20	4	5	*	*				*			*		*	*	*			
10.Hamnaneh		*			*			*		50	5	10	*	*				*			*		*	*	*			
11.Hamra Sohaim	*							*	*	18	3	6	*	*				*			*		*	*	*			
12.Hayan Mishref		*			*			*		50	5	10	*	*				*			*		*	*	*			
13.Hayan Rowaybed (east)		*			*			*		60	6	10	*	*				*			*		*	*	*			
14.Hayan Rowaybed (west)		*			*			*		100	10	10	*	*		*		*		*	*		*	*	*			
15.Jada'a	*			*				*		40	4	10	*	*				*		*	*		*	*	*			
16.Khanasri		*			*			*		50	5	10	*	*				*		*	*		*	*	*			

(Continued)

Appendix 1. (Continued)

17.Khatla	*			*		*	100	*	*				*			*	*	
							10											
18.Kherbet Samra	*			*		*	56	*	*				*			*	*	
							4											
19.Medwar	*			*		*	120	*	*				*			*	*	
							12											
20.Mnifa	*		*			*	100	*	*				*	*	*	*		*
							10											
21.Moailig	*		*			*	36	*	*				*				*	*
							4											
22.Qnaia	*			*		*	100	*	*				*				*	
							10											
23.Rehab	*			*		*	50	*	*				*					*
							5											
24.Risha	*		*			*	400	*	*				*				*	*
							20											
25.Sa'ad	*			*		*	122	*	*		*		*					*
							11											
26.Sama Serhan	*			*		*	32	*	*				*					*
							4											
27.Sorra	*	*				*	10	*	*				*					*
							2											
28.Tal Basis	*			*		*	28	*	*				*				*	*
							4											
29.Tlol Ashqef	*		*			*	40	*	*				*				*	*
							4											
30.Um Ejmal	*			*		*	45	*	*				*	*				*
							5											
31.Um Qotain	*			*		*	60	*	*				*	*				*
							6											
32.Um Sarb	*			*		*	55	*	*				*	*				*
							5											
33.Wadi Qasab	*			*		*	45	*	*				*				*	*
							5											
34.Za'atry	*		*			*	50	*	*		*		*	*			*	*
							5											
35.Znaia	*		*			*	10	*	*				*	*			*	*
							2											