

Urban Conservation of Heritage District in Fuwah City, Egypt

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Abstract The research focuses on the importance of the rehabilitation of the urban fabric in urban conservation projects in order to achieve architectural and urban integration with restoration projects. This is especially true in areas that suffer from a change of identity and instability of aesthetic values due to encroachments on the heritage environment of historic buildings as a result of new transportation needs and changes in the social and cultural structure. Based on the analytical approach to the most important urban issues of the heritage perimeter of the heritage buildings in the current situation in Fuwah city and the identification of the heritage perimeter of the heritage building and dilapidated areas through field lifting by observation and photography and comparing them with the plans of the General Authority for Urban Planning (General Structural Plan for Fuwah city), the research aims to develop a plan to integrate the development of the urban fabric with conservation projects by proposing movement axes in the form of a tourist tour to preserve the general character and unified visual qualities. The research identifies a proposal to preserve the perimeter of heritage buildings by merging separate groups of heritage buildings, each with a different urban space with a single axis of movement not interspersed with vehicular traffic, rehabilitation of social and service infrastructure by separating vehicular traffic, proposing pedestrian movement axes, and urban mobilization to improve open spaces to reuse them as gathering areas and tourist services.

Keywords Redevelopment, Heritage District, Rehabilitation, Urbanize Issues, Urban Infill

1. Introduction

The process of rehabilitating heritage buildings is a vital process that aims not only to preserve urban areas to turn them into museums, but also to ensure their survival in a living form that fulfills the purposes and existence of the life of the population while retaining the values associated with them [1], by developing a rehabilitation plan for areas that include a group of historic buildings and developing the surrounding urban environment and linking it to movement hubs that promote cultural and urban continuity [2].

The architectural heritage of the city of Fuwah represents buildings of historical value, a set of buildings and structures (complex relationships between each other and between them and their surroundings) that have survived and proved their authenticity and value in the face of continuous change, which gave them acceptance and respect and became a living record and a visual reference that embodies the relationships between man and his environment [3].

The unplanned population increase has led to the emergence of informal areas and urban encroachment on the heritage environment, which has affected the condition of these heritage areas, deteriorating their conditions, and changing their infrastructure in a large number of their areas, as a result of negligence, excesses, and the lack of a clear and comprehensive strategy to deal with them [4].

There are various policies and processes for saving and revitalizing urban heritage and the methods that can be used to preserve valuable areas, depending on the nature of

the place, whether natural or man-made, and according to its condition, whether it is stable or degraded, and according to the state's policy in managing the place [5], the nature of its population and its importance to the international community, as the state plan is based on:

Passive preservation: The policy of passive preservation aims to keep the building as it is without change through laws, regulations and penalties that allow for any modifications, which prohibit their use and consider them as tourist attractions only [6].

This research aims to convert to positive preservation of areas of historical and cultural value because positive preservation is dual-oriented, the most important of which is directed to the passive preservation of the valuable heritage stock [7], which is already available for most historical buildings, and the other dimension is directed to the active and effective monitoring of the human stock, to ensure continuity in the performance of the tourism function by preserving the urban fabric spaces to highlight the local identity and ensure that encroachments do not reach the heritage environment [8].

Preserving areas of value in the city of Fuwah and areas of the urban fabric that have heritage value and studying the scope of the area in terms of developing detailed designs (Layout- plans- details plans) and is divided into [9]:

1. Planning paths.
2. Determining the locations of buildings and assigning the building line to them.
3. Architectural treatments for building blocks and organizing the open spaces between them.
4. Developing solutions for the historical and heritage urban fabric.

Preservation and rehabilitation standards focus on preserving those materials, finishes, spaces, and spatial relationships that together give areas their historic character.

1.1. Research Problem

Urban preservation projects lack the application of

sustainability standards in the heritage areas of Fuwah city, as the development and preservation of heritage buildings as a separate unit that is not connected to the urban environment have led to the degradation of the urban areas and the failure to integrate these buildings into a connected road network, and the overlapping of uses, paths and random roads, which also led to the encroachment on the heritage environment of these historical buildings and the loss of many historical elements of their identity.

1.2. Research Goal

The research aims to develop a plan to develop areas surrounding heritage buildings, to prevent encroachments on the heritage environment, and to fulfill functional needs through:

Proposing the development of tourist facilities by improving the open spaces for visitors and residents, by increasing the efficiency of social and service infrastructure [10].

Rehabilitating the heritage areas in the city by rehabilitating the areas in an integrated and sustainable manner applied to the urban fabric through roads, movement paths, parking lots, open spaces and distinctive signs that achieve architectural and urban integration, work on the quality of life, and solve social, environmental and economic issues [11].

1.3. Methodology

The research is based on the analytical and applied process to monitor the most important areas in the city of Fuwah that include a group of archaeological buildings and identify the most important urban issues represented in the encroachments on the archaeological surroundings of these buildings and also monitor the issues and difficulty of access to these areas through an urban survey of the current situation through photos and interviews, and through the analytical and applied approach using simulation programs to document these issues. Then propose an urban tourism route that integrates these areas into one tourist tour and preserves these areas from threats, **as shown in figure 1.**

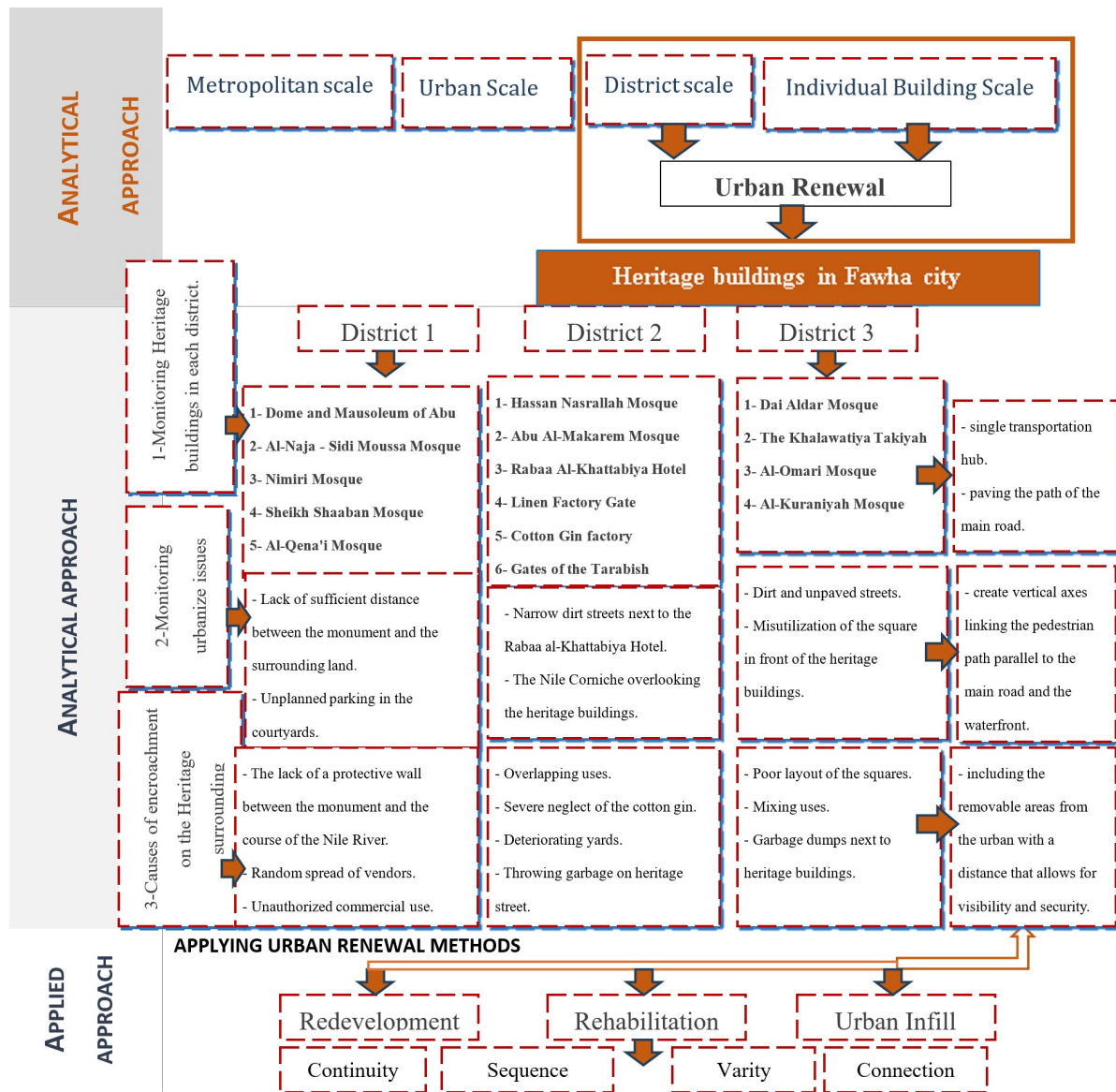


Figure 1. Research methodology, Ref. [researcher]

2. Study Area

The availability of resistances and major tourist attractions can put the city on the tourist attraction map, as the heritage buildings in the city represent the different Islamic eras, represented in religious facilities such as mosques, corners, shrines and takaya of historical value [12]. The urban space of the city was determined on the basis of demographic and urban studies of the strategic plan as shown in figure 2 and the heritage buildings are distributed separately and interspersed with a complex group of side streets, and each group was grouped into buildings that share an urban space and describe the historical significance of each building separately, then analyze and monitor the spatial relationships of the

buildings and the urban problems of the heritage surroundings of these buildings in their current situation.

Each district comprises a group of heritage buildings that share a common urban space and the main traffic hubs that connect them, as follows:

- 1- The current road does not qualify as a tourist destination due to overlapping uses and urbanization issues, so the roads surrounding the historic buildings are mostly spontaneously formed.
- 2- Through observation and field monitoring, they do not continue with a fixed width through users of the surrounding services for easy access and there is no prior planning and interspersed with vacant yards for demolished buildings and used for grilling and storage [13], as shown in figure 3.

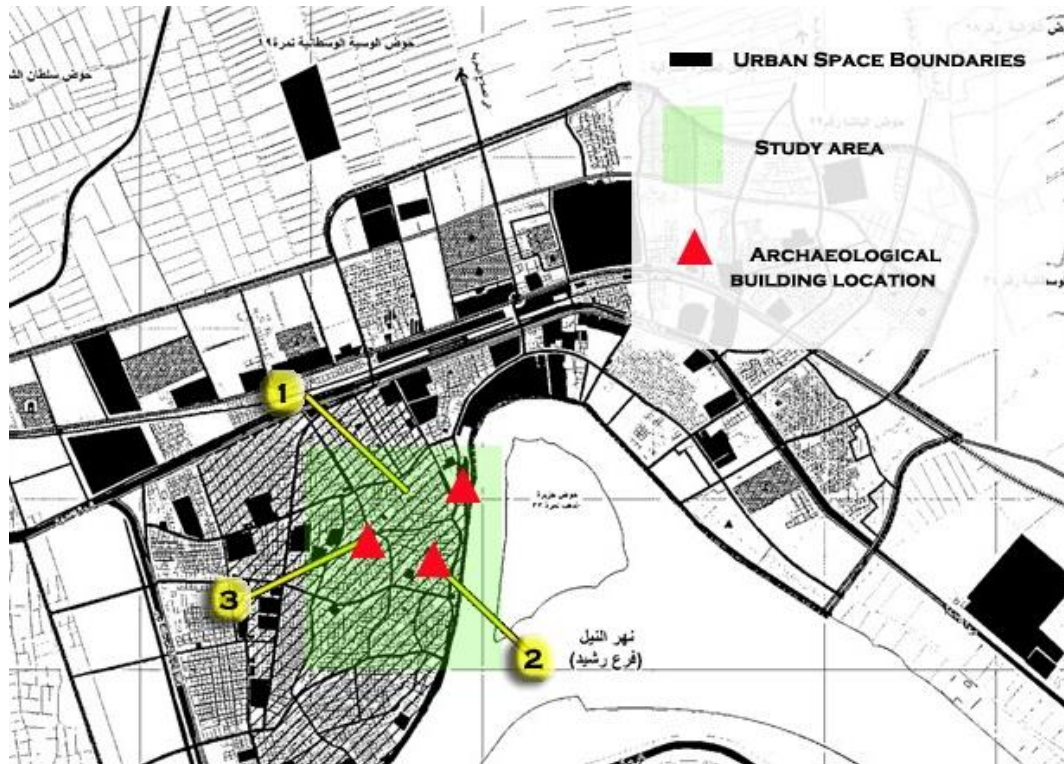


Figure 2. Demographic and urban studies of the strategic plan, Ref. [Preparation of the General Strategic Plan for the city of Fuwah]

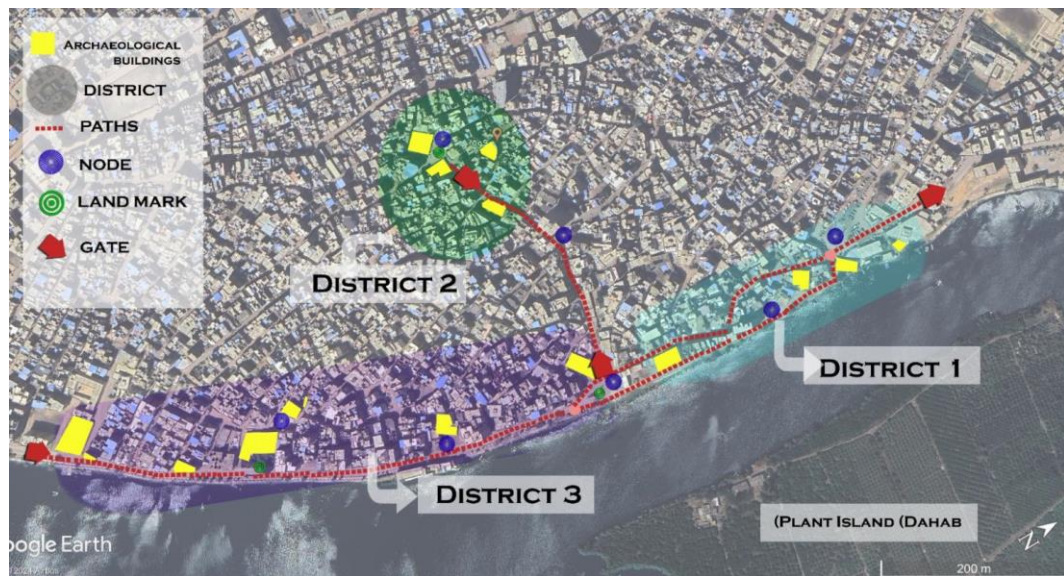


Figure 3. Monitoring the spatial relationships of the surroundings of archaeological buildings, Ref. [researcher]

3. Urban Fabric Analysis of Archaeological District

The city has been divided into three DISTRICTS, each zone containing a group of documented archaeological buildings according to their location in an urban cluster, and separated by main streets [14].

- 1- Monitoring the archaeological buildings and their location in each area.
- 2- The urban issues surrounding them.

- 3- Describing the historical value of these buildings.

3.1. The First Archaeological District

It is characterized by the presence of 5 archaeological buildings [15]:

(Dome and Mausoleum of Abu Al-Naja) (A): located on the banks of the Nile, and the establishment of the sanctuary of Abu al-Naja dates back to the sixth century AH, since he is considered a teacher of Sheikh Abdul

Rahim al-Kena'i, who went to the city of Fuwah to learn at the hands of Sidi Salem Abu al-Naja, while the dome dates back to 1181 AH, the date of renovation, in the era of Ali Mubarak, and includes a minaret that is taller than the minarets of Fuwah, and the mosque was destroyed several times and only the dome remained.

(Sidi Moussa Mosque) (B): located on Gamal Abdel Nasser Street, parallel to the Nile. The mosque dates back to 1200 AH / 1824 AD, and the mosque has four free facades.

(Nimiri Mosque) (C): overlooking the Nile River in Fuwah. The most famous mosque in Fuwah, known as the Al-Khatba Mosque, was established before 1156 AH, by one of the righteous saints, Muhammad Al-Nimiri, according to a document dated the same year, according to one of the documents dated the same year.

(Sheikh Shaaban Mosque) (D): located on the shore of the Nile River, and the pulpit of this mosque was built in 1180 AH / 1766 AD, to the left of the entrance to the mosque is a wooden cabin in which Sheikh Shaaban is

buried.

(Al-Qena'i Mosque) (F): located near the Nile shore. This mosque dates back to the Mamluk era with a high-rise minaret, on the facade of the shops that stood on it, and it also has a beautifully crafted pulpit and a minaret on the roof of the mosque on the walls of the minaret specifying the prayer times.

They were documented by the Antiquities Authority of the antiquities area of the city of Fuwah in Kafr El-Sheikh Governorate, and the map shows the monitoring of the current situation **as shown in figure 4**.

3.1.1. Monitoring Archaeological Buildings and Their Urban Surroundings

The first archaeological district includes 5 distinctive archaeological buildings (Dome and Mausoleum of Abu Al-Naja - Sidi Moussa Mosque - Nimiri Mosque - Sheikh Shaaban Mosque - Al-Qena'i Mosque) with a unique architectural character, **as shown in figure 5**.



Figure 4. The monitoring of the current situation, Ref. [researcher]



(A) Dome and Mausoleum of Abu Al-Naja

(B) Sidi Moussa Mosque

(c) Nimiri Mosque



(D) (Sheikh Shaaban Mosque)

(E) (Al-Qena'i Mosque)

Figure 5. Archaeological buildings in the first district, Ref. [researcher]

3.1.2. Monitoring of Dilapidated (Collapsible) Buildings around the Monument

The first district includes many dilapidated and collapsible buildings that affect the visual image of the urban surroundings of the area and pose a danger to its inhabitants, as shown in figure 6.

3.1.3. A Description of the Main Urban Issues Related to Archaeological Buildings

The first district includes many urban issues that need to be resolved because they affect the urban environment of the distinctive archaeological building, and the issues are shown in Table 1.

3.2. The Second Archaeological District

It is characterized by the presence of 6 monumental buildings [16]:

(Hassan Nasrallah Mosque) (A): located on the shore of the Nile River, and this mosque is a school established by Prince Hassan Nasrallah in 1119:1115 AH, who was born in Fuwah, and merged into the state of the Mamluks of the Circassians, and built this school after an ordeal he was exposed to, then renewed in the Ottoman era, by Suleiman Ergbi, one of the great men of Fuwah.

(Abu Al-Makarem Mosque) (B): This mosque is located on the shore of the Nile, preceded by a garden that was rich in ancient times, and the people of the city consider it one of its important mosques, as it is attributed to one of the great sheikhs dating back to the Ottoman era in the 12th century AH, then renewed in the 19th century AD.

(Rabaa Al-Khattabiya Hotel) (C): located in Abu

Al-Makarem Square, built in the 13th century AH, a building that can be considered a commercial residence or a hotel for merchants who used to visit the city of (Fuwah) during its commercial prosperity, as it was one of the main gateways for trade in Egypt across the Nile, established nearly 1200 years ago, and named Rabaa Al-Khattabiya, after one of the families that lived in it, namely (Al-Khatib).

(Linen Factory Gate) (D): located on the shore of the Nile and the city of Fuwah had two factories for spinning cotton and linen dating back to the era of Muhammad Ali, with machines for spinning thin and thick threads, and only the main gate remains of these two factories, and the people of Fuwah called this gate (Malta), and the two factories used to export part of their production to Europe, and the establishment of this factory dates back to 1820 AD.

(Cotton Gin) (E): located on the Nile River, the gin was established in 1824 AD, and the gin building is represented by two distinctive architectural blocks and reflects a distinctive style of the few remaining industrial facilities from the era of Muhammad Ali.

(Gates of the Tarabish Factory) (F): located on the Nile shore, it was used to make uniforms for the army, during the era of Muhammad Ali Pasha, who on Shawwal 26, 1240 AH issued an order to the headmaster of the Fuwah department, Ahmed Agha, to establish it in Prince Mahmoud Park, and was considered at that time the largest factory for making uniforms in Egypt, and was characterized by easy transportation to discharge its products and gained the people of Fuwah great experience in the textile industries.

The map shows a monitoring of the current situation as shown in figure 7.

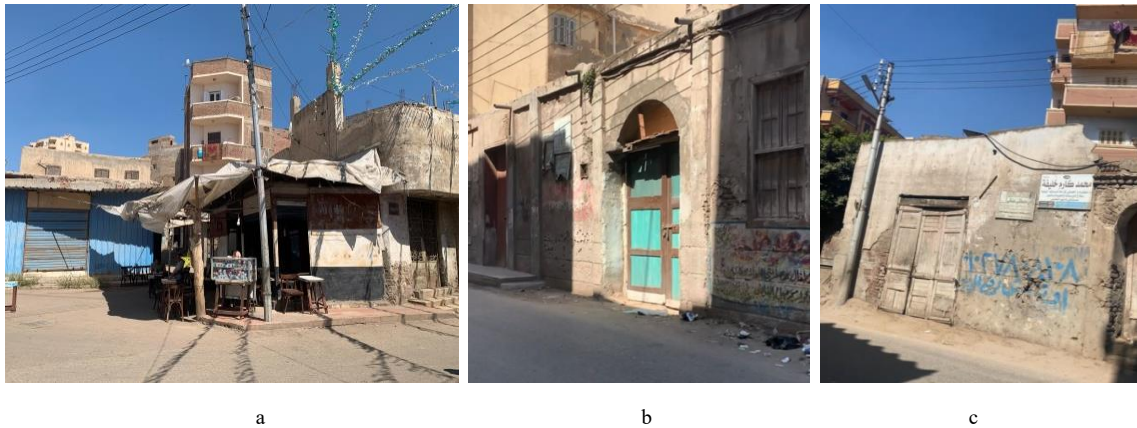








Figure 6. Dilapidated buildings in the first district, Ref. [researcher]

Table 1. The following table summarizes the urban issues from the manifestations of encroachment on archaeological buildings:

Description		Urban issues
		1- Lack of sufficient distance between the monument and the surrounding land to serve as a viewing and observation area for the monument. 2- The lack of a protective wall between the monument and the course of the Nile River, which made the area overlooking it a center for the gathering of small boats, thus making the facade vulnerable to damage.
Relates to numbers 1 and 2 on the map	Relates to numbers 3 on the map	
		3- Unplanned parking in the courtyards in front of the monument. 4- Random spread of vendors on the sidewalks of archaeological buildings 5- Exploitation of vacant land next to archaeological buildings for the transportation of cleaning trucks . 6- Unauthorized commercial use of archaeological building floors.
Relates to numbers 3 on the map	Relates to numbers 4 on the map	
		
5	6	

Ref. [researcher].

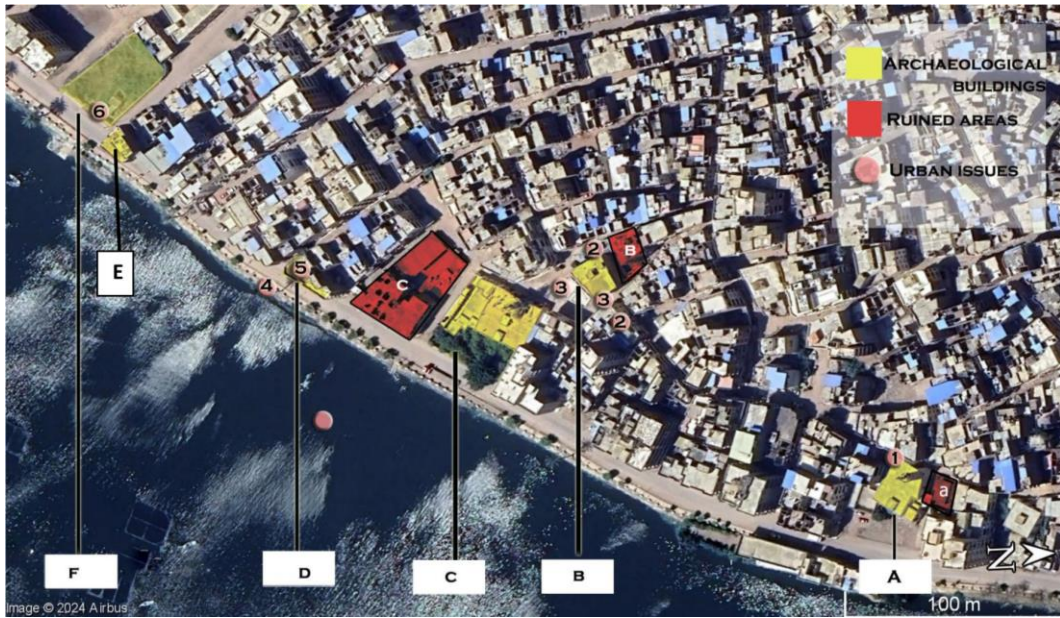


Figure 7. The monitoring of the current situation, Ref. [researcher]



(A) Hassan Nasrallah Mosque

(B) Abu Al-Makarem Mosque

(C) Rabaa Al-Khattabiya Hotel

(F) Linen Factory Gate

(E) Cotton Gin

(D) Gates of the Tarabish Factory

Figure 8. Archaeological buildings in the second district, Ref. [researcher]

3.2.1. Monitoring Archaeological Buildings and Their Urban Surroundings

The second archaeological district includes 6 distinctive archaeological buildings (Hassan Nasrallah Mosque - Abu Al-Makarem Mosque - Rabaa Al-Khattabiya Hotel - Linen Factory Gate - Cotton Gin - Gates of the Tarabish Factory) with a unique architectural character [17], as shown in

figure 8.

3.2.2. Monitoring of Dilapidated (Collapsible) Buildings Surrounding the Monument

The second district includes many dilapidated and collapsible buildings that affect the visual image of the urban surroundings of the area and pose a danger to its inhabitants, as shown in figure 9.

3.2.3. A Description of the Main Urban Issues Related to Archaeological Buildings

The second district includes many urban issues that

need to be resolved because they affect the urban environment of the distinctive archaeological building, and the issues are **shown in Table 2**.

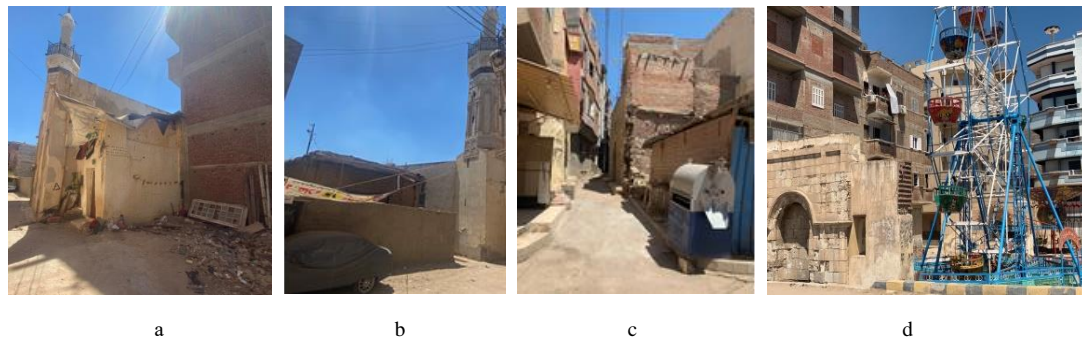










Figure 9. Dilapidated buildings in the second district, Ref. [researcher]

Table 2. The following table summarizes the urban issues from the manifestations of encroachment on archaeological buildings:

Description		Urban issues			
		<ol style="list-style-type: none"> There are no paved roads around the monument and there is not enough distance between the monument and the surrounding land to serve as a viewing area. Narrow dirt streets next to the Rabaa al-Khattabiya Hotel The landscaping of the square in front of Rabaa Al-Khattabiya Hotel and Abu Al-Makarem Mosque does not meet the needs of tourists. The Nile Corniche overlooking the archaeological buildings is degraded and unqualified for pedestrian parking in this area Severe neglect of the cotton gin and the lack of restoration and rehabilitation of the buildings Overlapping uses, for example, there are children's playgrounds in the area of the gates of the Tarabash Factory. 			
Relates to numbers 1 and 2 on the map	Relates to numbers 1 on the map				
					
Relates to numbers 3 on the map	Relates to numbers 3 on the map				
					
3	4			5	6

Ref. [researcher].

3.3. The Third Archaeological District

It is characterized by the presence of 6 monumental buildings [18]:

(Dai Aldar Mosque)(A): located on Abdel Moneim Riad Street, and this mosque was established by Hajj Shehata Muhammad Taifa in 128 AH - 1864 AD, where Ahmed Dai Aldar, one of the Sufis who grew up on the Khalwatiya method in Fuwah, as some documents preserved in the National Document House indicate that the mosque was established before 1149 AH - 1736 AD.

(The Khalawatiya Takiyah) (B): located in Friday Market Square, was founded by Sheikh (Attia Rayhan), who named Rayhan Street in Cairo after his father, and was established in the eleventh century AH, specifically in the year 1000 AH / 1591 AD [19].

(Al-Omari Mosque) (C): located in the Friday Market Square, it was established by the conquerors who made the way of Islam to the city of Fuwah in the year 22 AH, and it was called (Al-Omari) because it was established during the era of the successor Omar bin Al-Khattab, may God be pleased with him, after the conquest of Egypt by the noble companion Amr bin Al-As, may God be pleased with him, and many years after the establishment of the mosque, it was renovated and restored in the 13th century AH, specifically in 1271 AH / 1854 AD.

(Al-Kuraniyah Mosque) (D): is located on Al-Kuraniyah Street, and the mosque is attributed to

Sheikh Ahmed Muhyiddin Al-Kurani, who is buried in a wooden cabin in the southwestern wall of the mosque, and the mosque was established in 1139 AH / 1726.

The map shows the monitoring of the current situation, as shown in figure 10.

3.3.1. Monitoring Archaeological Buildings and Their Urban Surroundings

The third archaeological district includes 4 distinctive archaeological buildings (Dai Aldar Mosque - The Khalawatiya Takiyah - Al-Omari Mosque - Al-Kuraniyah Mosque) with a unique architectural character [20], as shown in figure 11.

3.3.2. Monitoring of Dilapidated (Collapsible) Buildings Surrounding the Monument

The third district includes many dilapidated and collapsible buildings that affect the visual image of the urban surroundings of the area and pose a danger to its inhabitants, as shown in figure 12.

3.3.3. A Description of the Main Urban Issues Related to Heritage Buildings

The third district includes many urban issues that need to be resolved because they affect the urban environment of the distinctive archaeological building, and the issues are shown in Table 3.

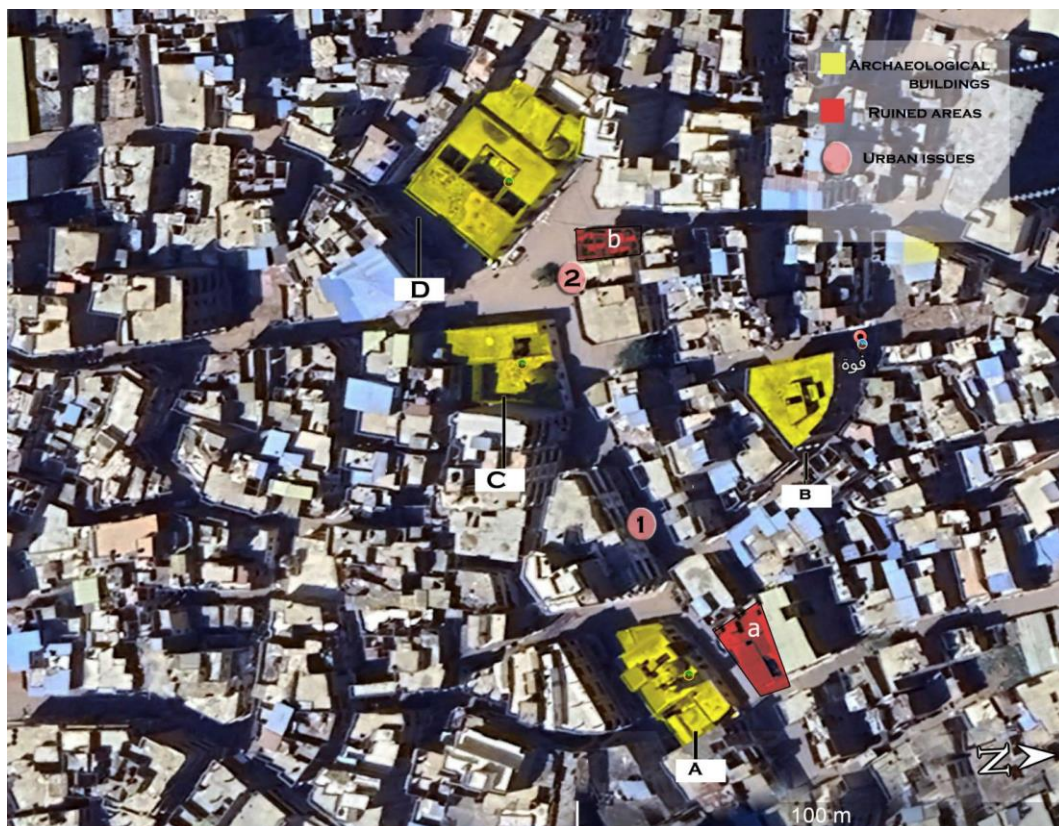


Figure 10. The monitoring of the current situation, Ref. [researcher]






(A) Dai Aldar Mosque (B) The Khalawatiya Takiyah (C) Al-Omari Mosque (D) Al-Kuraniyah Mosque

Figure 11. Archaeological buildings in the second district, Ref. [researcher]



Figure 12. Dilapidated buildings in the third district, Ref. [researcher]

Table 3. The following table summarizes the urban issues from the manifestations of encroachment on archaeological buildings:

Description		Urban issues
 Relates to numbers 1		1- Dirt and unpaved streets 2- Misutilization of the square in front of the heritage buildings.
	 Relates to numbers 2 on the map	

Ref. [researcher].

4. Discussion

The proposed plan for the urban preservation of the heritage buildings of the city of Fuwah depends on the comprehensive rehabilitation of the surrounding urban fabric and linking it to the axes of tourist movement to resolve urban issues observed in the current situation of the archaeological buildings and the surrounding encroachments and monitoring the dilapidated buildings overlooking the archaeological perimeter, **as shown in figure 13**, the proposal was divided into three main items:

1- Redevelopment of the urban fabric:

- Connecting three areas that include heritage buildings with a single transportation hub (AXIS A-AXIS B) to facilitate a path that allows for a tourist tour that connects to the entrances of (GATE 1-2-3), and it is neighboring planned parking areas, and by the end of the round (TOURIST SERVICES) [21].
- Tourist trails are interspersed with A&B Key gathering points (NODE 1), to solve the inefficiency of roads leading to heritage buildings



Figure 13. Final Proposed Map, Ref. [researcher]

2- Rehabilitation:

- Improve and upgrading the urban and environmental level of the urban fabric connected to the heritage area by Paving the path of the main road so that it does not penetrate the historic buildings randomly, as it divides the waterfront into two areas connected by a pedestrian walkway.
- Preserve the group of archaeological buildings in Area 2 so that they are not interrupted by vehicular traffic and create vertical axes linking the pedestrian path parallel to the main road and the waterfront, united by NODE 2 gathering squares, to solve the issues of standardizing the identity of heritage buildings.
- Propose a gathering point C in the middle of the three areas as the starting point of a sea corridor that connects the path to the (Dahab Island) ecotourism area.

3- Urban Infill:

- Fill the gaps surrounding the archaeological areas and include them within the archaeological perimeter of the heritage buildings.
- Propose boundaries for the heritage buildings by including the removable areas from the urban perimeter and with a distance that allows for visibility and security precautions (ARCHEOLOGICAL SURROUNDING) so that the archaeological buildings along the (LAND MARK) become influential in the functional and visual composition of the modern fabric, to resolve issues of encroachment and overlapping uses.

5. Results

Tourists visiting historic cities are attracted by the spatial concentration of historic buildings as a setting for sightseeing and a set of opportunities for cultural activities. The policy of preserving historic buildings through comprehensive rehabilitation in the form of a tourist route helps to understand the urban culture so the study relies on 4 main axes, as shown in figure 14.

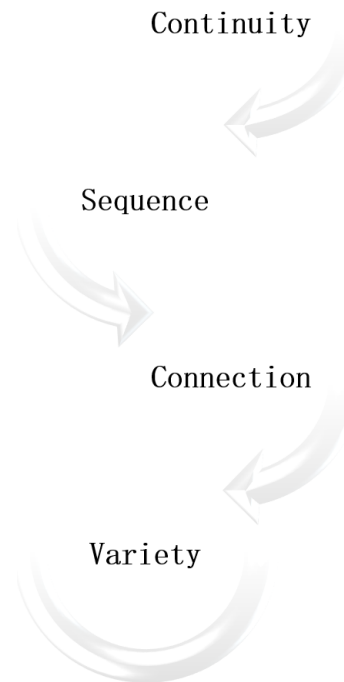


Figure 14. Approaches to the proposed urban conservation plan, Ref. [researcher]

- 1- **Continuity:** By consolidating vehicular traffic into one road A to create a continuous system for the Nile façade and road B to connect the heritage areas.
 - 2- **Sequence:** By proposing a series of recurring open spaces at key points along the corridor, starting and ending with parking lots that may have a private view NODE 2 or may be directly adjacent to major city streets NODE 1.
 - 3- **Variety:** Multiple uses along the pedestrian corridor overlooking the river and ending with a bridge leading to the island of plants (Dahab) and overlooking a number of heritage buildings and proposed areas for tourist services create different user accommodations.
 - 4- **Connection:** Visual and physical connection between spaces along the tourist route, monitoring the demolished areas surrounding the heritage buildings and annexing their lands within the conservation area to preserve them from encroachment and create distinctive views of the buildings.
- The current situation is shown in figure 15, and The Development plan is shown in figure 16.

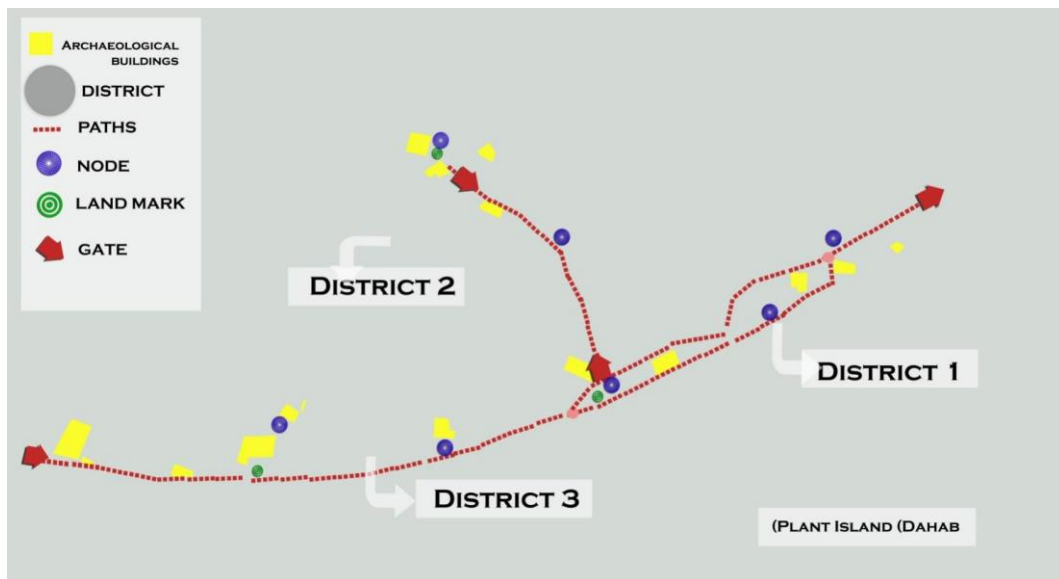


Figure 15. The current situation, Ref. [researcher]

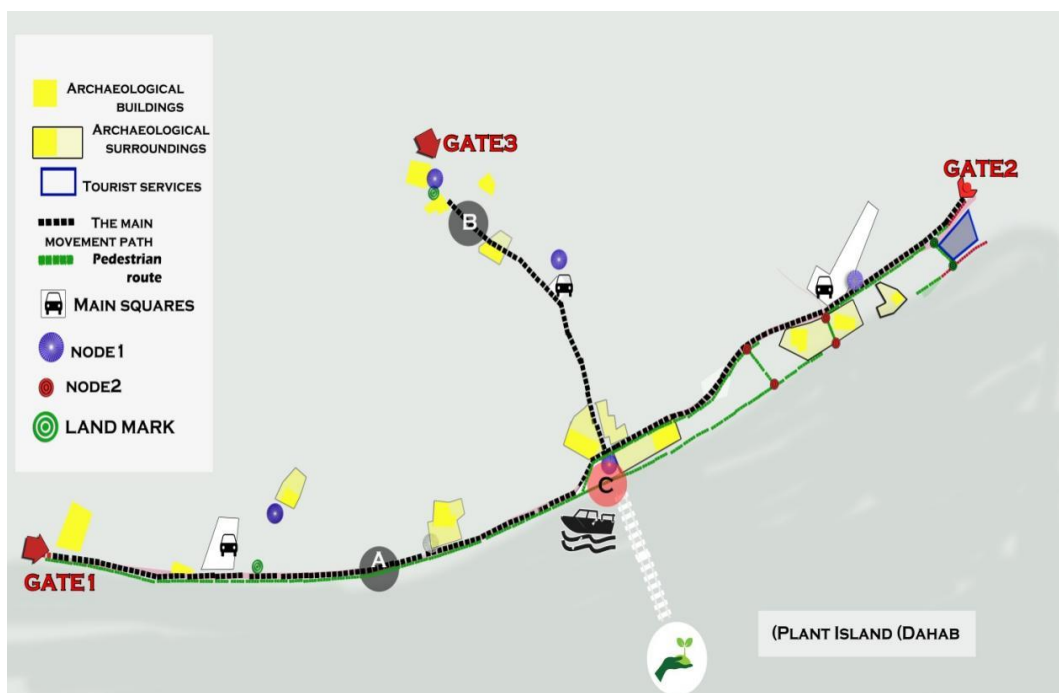


Figure 16. The development plan, Ref. [researcher]

6. Recommendations

- 1- Integrating the historic buildings located in one urban space in Fawah city with a movement network that ensures visual cohesion due to the nature of the city where buildings are scattered in an unplanned manner to ensure visual cohesion and correlation in characteristics and character and introducing functions in the historical urban fabric suitable for the nature of use to generate movement makes it possess a social value.
- 2- Renovating historic buildings with the urban environment can give a permanent identity and applying comprehensive preservation policies for the urban fabric adds a human dimension to rehabilitation.
- 3- Removing deteriorated and collapsible buildings that pose a prevailing danger in the urban space surrounding the archaeological buildings in the city of Fawah, which can be removed and utilized for the benefit of heritage areas, improving the quality of life through the urban development system and improving the visual image.
- 4- Considering the development of a tourist route that ensures the realization of the strategies of (Continuity, Sequence, Variety and Connection), in the plan to develop and rehabilitate historical buildings in Fawah city.

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