



## A Proposal to Rehabilitate Ouda Pasha Archaeological Agency in Historic Cairo Based on the Building's Data and the Needs of its Surrounding Urban

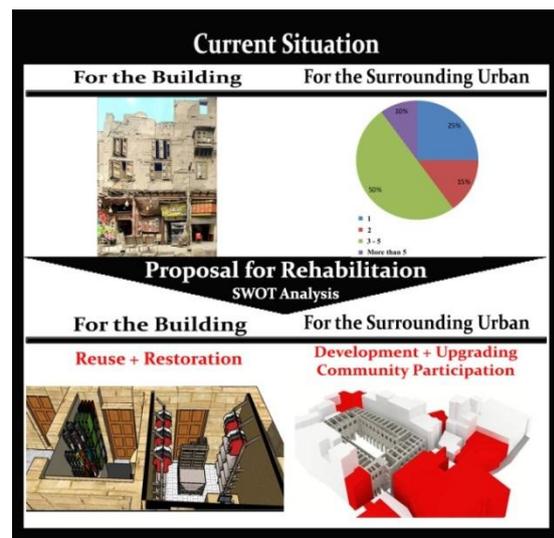
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### HIGHLIGHTS

- Ouda Pasha Agency has many archaeological and architectural values that necessitate the need to preserve it.
- Studies of the current status of Ouda Pasha Agency show the necessity of carrying out structural and architectural restoration works.
- Reusing the Ouda Pasha Agency as a commercial craft center and a hotel with a special character will suit the capabilities of the building and will fit the needs of the urban.

### GRAPHICAL ABSTRACT



### ARTICLE INFO

#### Article History:

**Received:** 11 April 2022.

**Revised:** 19 May 2022.

**Accepted:** 14 June 2022.

**Available online:** 25 June 2022.

#### Keywords:

Ouda Pasha Agency (Wikala), rehabilitation, reuse, architectural restoration, archaeological buildings, Historic Cairo.

### ABSTRACT

Ouda Pasha Agency (in Arabic: *Wikala*) is considered as one of the few remaining Ottoman agencies in Cairo. It has archaeological and architectural values. However, it did not receive enough attention for its protection and preservation despite the rehabilitation works on archaeological buildings in its urban. The Agency suffers from collapse of some of its parts as a result of lack of archaeological awareness, neglect and improper use which threatens the disappearance of its

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remains and henceforth, loss of its values. Therefore, the study aims to assess the current situation of the Agency and propose a specific and detailed study for its rehabilitation, presentation and raising awareness of it. The research findings indicate that the current situation of the Agency, the danger that it is exposed to, and the need for urgent intervenes with the necessary conservation work. Also, reusing the Agency in an appropriate function will help to maintain it and integrate it within its urban, especially since the proposed use as a commercial craft center and a hotel with a special character will suit the capabilities of the building and will fit the needs of the urban.

## 1. Introduction

In the past, an agency (*Wikala*) was associated with people's social life, as the traveling merchants used to stay in them, store their goods, and conduct their commercial deals. Agencies gradually developed as they gained organized planning and had a mosque in the middle of their open courtyard to meet the merchants' needs of worship and prayer [1]. In general, the planning of the agencies in the Ottoman era consisted of a central rectangular or square courtyard surrounded on the ground floor by a group of spaces. The interior spaces were designated for storing goods, and spaces that opened onto the street to display goods, while the upper floors consisted of corridors for housing merchants who came to trade in Cairo [2].

Ouda Pasha Agency (Monument no. 19) is located in the *Jamaliyeh* district. It was built in the Ottoman era in 1084 AH / 1673 AD [3].

The structural system used in the Agency is the load-bearing walls system. Limestone and brick were used as the main building materials [4] in the form of horizontally aligned rows. Limestone was also used in the floor. *Qasromil* (ash mortar) was used as a binding mortar, while wood and metal were used as complementary elements to make doors, windows and *mashrabiyyas* or old Islamic windows.

## 2. Practical Development

### 2.1. Monitoring the Current Situation of the Ouda Pasha Agency

#### 2.1.1. Architectural Description of the Agency

The agency has four facades, the most important of which is the main facade, with the main entrance that leads to a roofed space with two intersecting stone vaults, leading to an open rectangular courtyard whose four

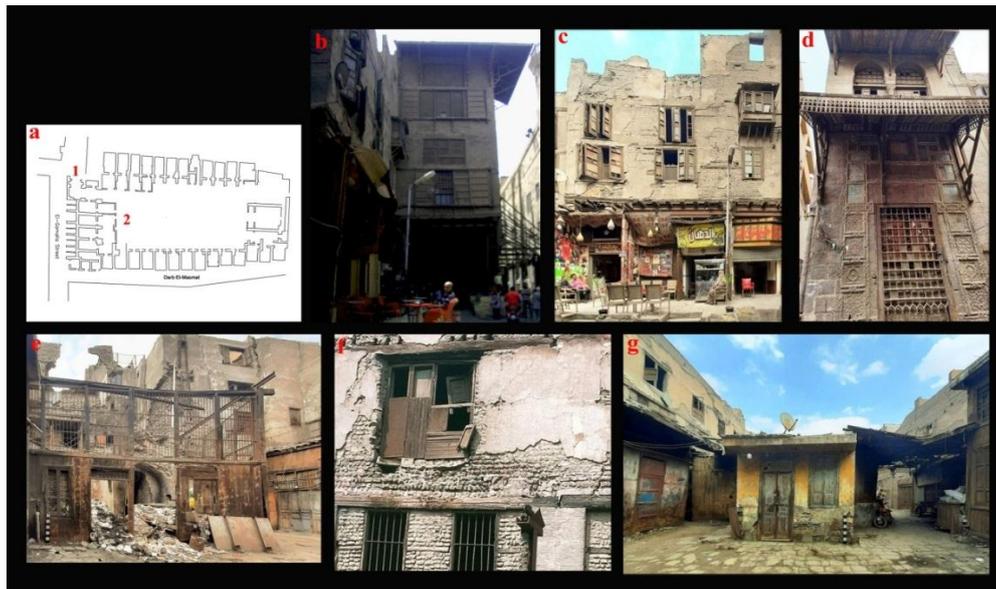
sides are occupied on the first floor with a group of shops that have now disappeared behind the newly built shops and workshops. As for the northern side of the courtyard, several shops appear, each of them is a rectangular space whose floor is covered with stone tiles and roofed with a half-barrel vault, which is currently used by the residents for metal industries. The southeastern side of the courtyard is occupied by several modern shops, and the western side of the courtyard is occupied by two modern shops that hide both sides of the building.

The upper floors that were intended for the accommodation of merchants who came to the agency are now in a state of partial demolition [2].

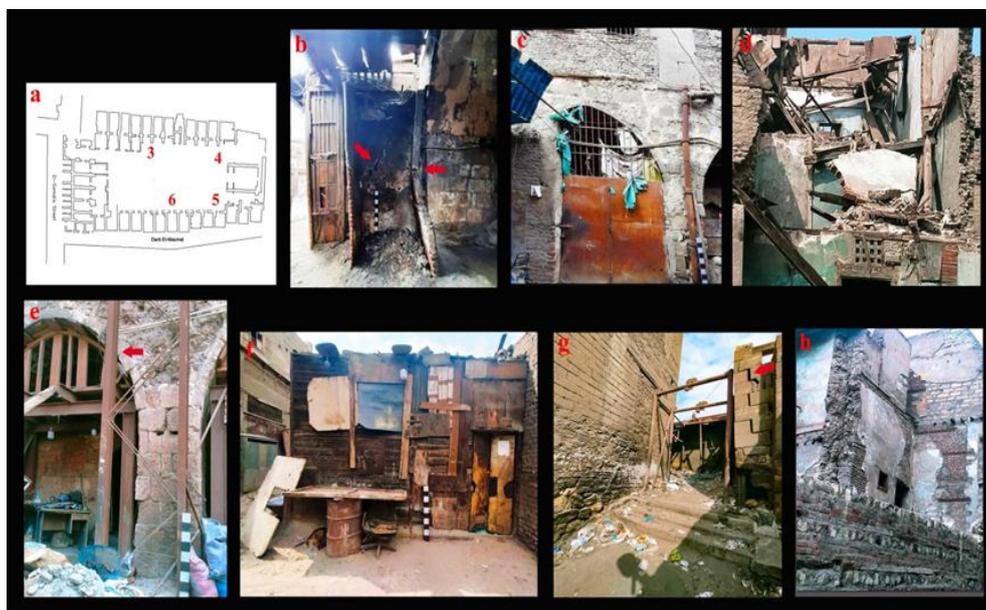
The residential quarter occupies the southern and eastern sides. Its facade overlooks the courtyard from these two sides, and it consists of two floors in a state of partial collapse, leaving only the walls of some rooms overlooking the courtyard with several windows covered with wooden sashes. All the upper floors were used as housing for merchants who came to trade in Cairo. There is a small mosque in the middle of the agency, which is adjacent to a number of industrial workshops and newly established shops.

There are two full-furnished palaces, but there is a difference in the number of accommodation units between 37 or 38 units.

The first palace was at the top of the entrance block on the western side. It consisted of five rooms, a bathroom and a kitchen, overlooking the courtyard. The second palace was above the first, and it consisted of two *iwans*, a *durqua'a* and two side spaces. The architecture did not neglect the work of three skylights to provide light and ventilation for the living units on those two sides [5], [1] (Figs. 1, 2).



**Fig. 1.** (a) Plan showing the location of the documented spaces, (b) Main elevation Facade, (c) Residential Quarter Facade, (d) Sabil Facade, From point 2 (e) The palace on the western side of the agency, (f) Structural and architectural problems in the residential quarter located in the southern and eastern side, (g) The place of the small mosque.



**Fig. 2.** (a) Plan showing the location of the documented spaces, (b) Point 3. shows tendencies, cracks and separation in the wall of one of the entrances, (c) Point 4. internal spaces used as workshops, (d) Point 4. illustrates the serious structural and architectural problems, (e) Point 5. support and reinforcement using metal beams, (f) Point 6. some workshop was improperly added to the courtyard, (g) Back facade showing steel shores and cracks that follow the mortar direction, (h) The back facade shows structural and architectural damage.

### 2.1.2. Deterioration phenomena and factors

The agency suffers from structural and architectural deterioration phenomena as a result of the lack of conservation works and the lack of continuous monitoring and follow-up [6]. These phenomena are represented in: a. the demolition of many of its parts in the lower and upper floors, leaving only the northern and western facades, b. the appearance of vertical and inclined cracks in the remaining parts of the building, c. the separation of most of the architectural blocks, d. all internal stairs on the upper floors are completely demolished, e. The deterioration, collapse and fall of wooden ceilings as a result of fire more than once, f. the slope of the lintel above the entrance, g. using steel reinforcement of most parts of the agency from the main facade, the interior parts and most of the buildings of the ground floor for a long time without follow-up or evaluation of its effectiveness, the construction of modern buildings in the courtyard disproportionate to the value of the building and used inappropriately.

This is in addition to some other deterioration phenomena, such as: a. the fall of layers of mortar, b. the appearance of moisture and salt on the surface of the walls, worn out stone floors, c. deterioration of the doors and *mashrabiya*s, the fall of most of the layers of internal and external paint layers, d. the accumulation of dust and waste in large quantities inside and around the agency, e. random electrical connections, f. Improper crafts such as carpenters and metal works, g. the presence of rust and corrosion of the metals used to cover the window openings. This is in addition to the high street level, which led to the extinction of a large part of the main entrance (Figs. 1, 2).

### 2.2. Monitoring the Current Situation of the Surrounding Urban

Archaeological buildings must be considered within the planning projects and not as individual buildings to ensure that damages do not occur after the restoration and rehabilitation processes. In addition to linking both the archaeological building and its environment with a functional relationship that ensures the

continuation of the maintenance process after the completion of the restoration process.

To develop a plan to rehabilitate Ouda Pasha agency and its urban, it is necessary to study the characteristics of the surrounding community, the nature of the urban in terms of the characteristics of archaeological and non-archaeological buildings, the nature of their uses, and the available services in the area.

The aim of this study is to employ all available capabilities to rehabilitate the building and its archaeological urban, integrating local communities in all stages of rehabilitation plans to ensure their sustainability [7], taking into account the needs of the community and thus striving to achieve them within the proposals of rehabilitation.

#### 2.2.1. Social, Economic and Cultural Characteristics of the Local Community

Ouda Pasha agency is located in the *Timbukshia* region, in the *Jamaliyia* district, which is the northern part of Islamic Cairo. It is the oldest neighborhood in the historical central district and it includes a large part of Fatimid Cairo [8].

The study included conducting a set of questionnaires to study the social, economic and cultural characteristics of the local community in the study area. The study sample was one hundred individuals from the local community, and the results of the study were as follows:

**Social Characteristics:** By analyzing the results of the questionnaires, it was found that 53% of the population had resided in the area since their birth and 47% of them have moved to the area recently. Among the sample of families covered by the survey, it is found that about half of the families consisted of 3-5 members and children represent about 37% of the total population. The *Timbukshia* region is also characterized by its social relations with 67% of its residents having friendly relations to each other (Fig. 3. a, b).

**Economic Characteristics:** Through the survey it was found that the majority of the population of the region estimated to 61% work in government jobs or various unstable activities in the region and do not own work-

shops or shops there. About 16% of them work in the craft activity and therefore a large number of families will not be affected by the process of moving this activity outside the old city and the large and unstable percentage of their work must be considered through the development plans for the region.

Thirty percent of the population are employees with a fixed income. This sample includes workers in local activities, 30% of the pensioners, while 40% of them have different incomes to work in crafts and trade and the class of the wealthy or those with high incomes does not appear in the region (Fig. 3. c).

**Cultural Characteristics:** By surveying the views of the local community, they were aware of the importance of the area [9] and they unanimously agreed on the need to preserve the archaeological buildings and remove the violations on them by providing alternative places for the owners.

Most of them also agreed on the necessity of improving the road network, internal paths, and restoring archaeological buildings, while giving the area a touristic nature by providing the necessary services for that.

**Archaeological Buildings:** The proportion of archaeological buildings (Fig. 4. a) represents about 20% of the built area in the *Timbukshia* region, and the rest is non-archaeological. The archaeological buildings in the urban of the agency date back to different historical periods (Fatimid, Mamluk and Ottoman eras) and their uses vary between mosques, schools, agencies, *sabils* and shrines. Some of these buildings were reused such as the agency of Bazara'a [10] which was reused as an international center for traditional and artistic crafts, as well as hosting a group of distinguished artists in this field to hold workshops and benefit from their artistic expertise. It was also used as an administrative office of the Ministry of Tourism and Antiquities.

**Urban Fabric and Non-Archaeological Buildings:** Data related to the urban fabric and non-archaeological buildings were collected through a number of site visits and choosing one map to sign the uses of buildings and the uses of its ground floor, the na-

ture of public services and its distribution, the heights and the status of the buildings, the structural system.

**Characteristics of the life activities:** When studying the characteristics of life activities and their distribution in the urban, it was found that the majority of the residential buildings and the ground floor of them were used for commercial purposes (Fig. 4. b), due to their proximity to the famous *Al-Muizz* Street. However, these buildings and their shops are in a deteriorating condition and suffer from lack of space, and lack of parking lots for transporting goods.

**Characteristics of Services:** With regard to the distribution of services (Fig. 5. a), it is noted that most of the region's needs of public services such as health, cultural and recreational services, transportation and accommodation services are located outside it, with the availability of some religious and educational buildings. It is also noted that there was a lack of water and sewage networks, which represents a danger in preventing disasters that may occur such as fires, especially with the collecting of garbage in some ancient buildings and spaces [10], [9].

**Building Heights:** The majority of buildings consist of only a ground floor or two floors (Fig. 5. b). These buildings include old agencies and some small factories. While the heights of some modern buildings reach 3-5 floors or more, which are inappropriate heights that negatively affect the stability of ancient buildings and the general nature of the historical area.

**Structural System and Building Status:** The structural system in the region varies according to the age of the building. The archaeological buildings are built with the load-bearing walls system while the modern buildings are built with the skeleton system (Fig. 6. a). Their status vary according to the same consideration. Most of the archaeological buildings are in a degraded or dilapidated condition while the modern buildings are in good structural condition (Fig. 6. b).

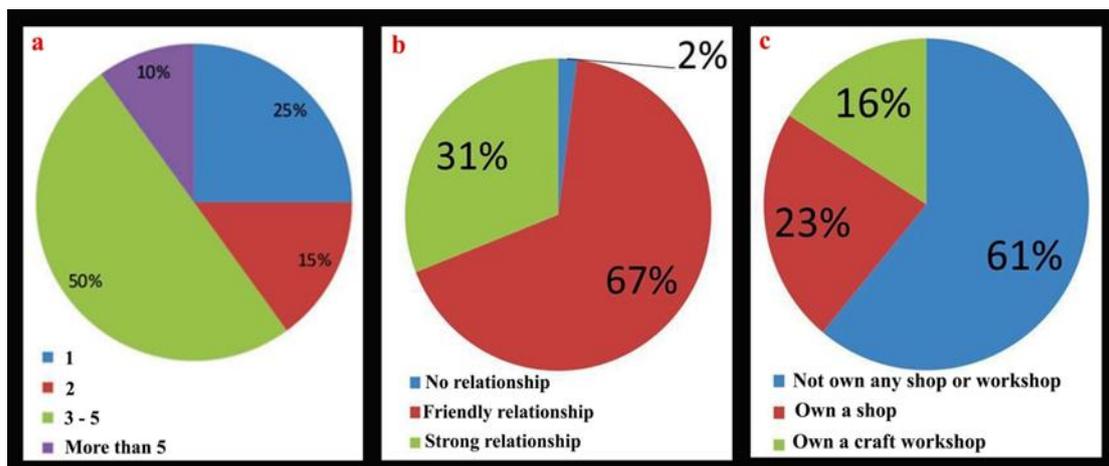


Fig. 3. Diagrams showing (a) The average number of family members for the area's population, (b) Social relations among the inhabitants of the area, (c) Ownership by residents of shops and craft workshops

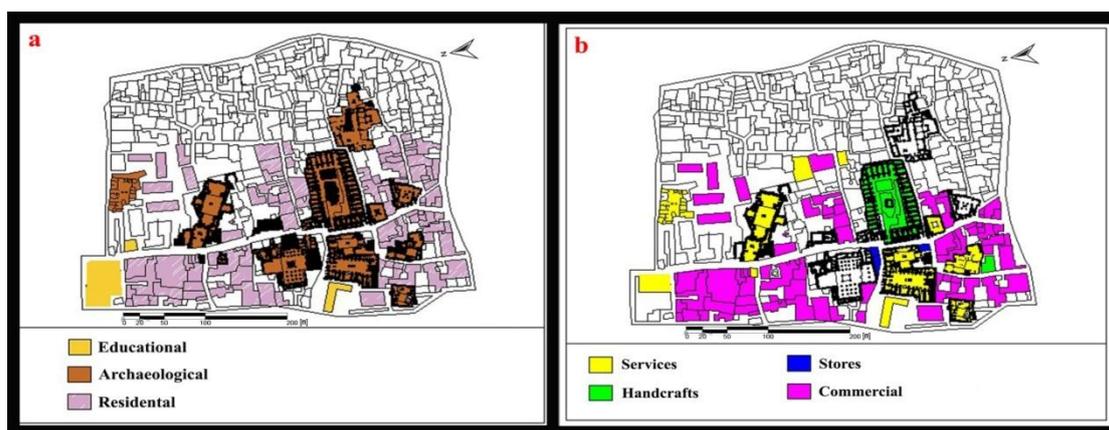


Fig. 4. Maps showing (a) The prevailing uses in the Timbukshia region, (b) Uses of the ground floor

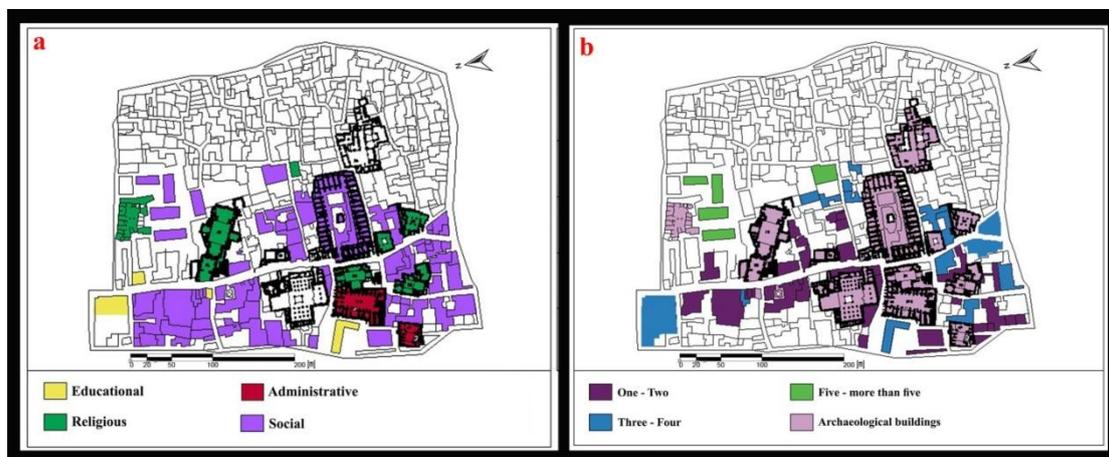


Fig. 5. Maps showing (a) The nature of public services in the Timbukshia region, (b) The heights of the buildings

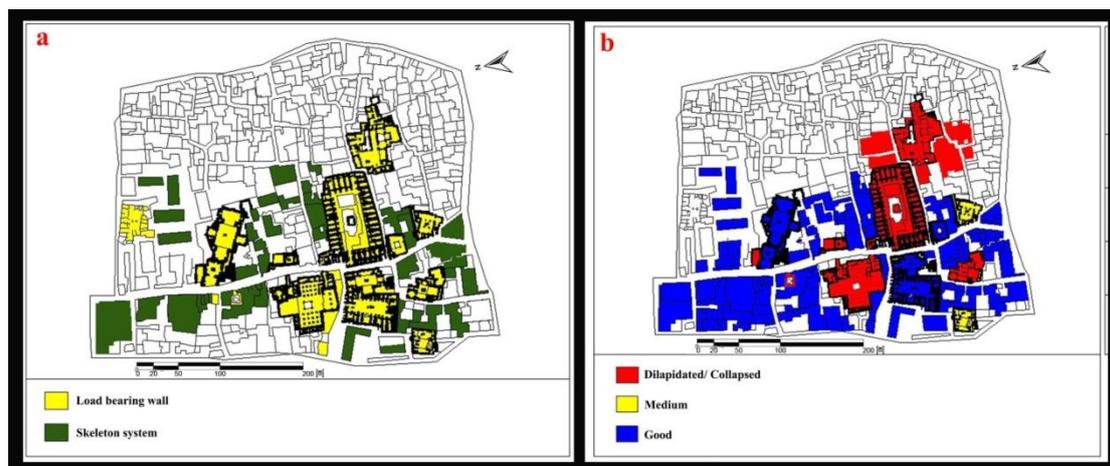


Fig. 6. Maps showing (a) The structural system in the Timbukshia region, (b) Status of the buildings

### 2.2.2. The main Problems and the Deterioration Phenomena in the Surrounding urban

Ouda Pasha agency suffers from many problems that negatively affect its surrounding urban, the most important of which are the following: a. Vertical expansion near the building for the purpose of establishing residential facilities, which is a widespread phenomenon in all archaeological areas, resulting in vibrations during construction and negatively affects the skyline of the historic city. B. Fires and distortions resulting from negligence such as using the building for inappropriate purposes as industrial workshops which cause severe damage to the building. C. Neglect and lack of awareness of the value of the studied agency and other archaeological buildings in its urban. D. The passage of cars in the archaeological area whose streets were not designed to accommodate this, which negatively affects the movement in the site as well as negatively effecting the archaeological buildings due to the large amounts of dust and polluting gases and the vibrations caused by heavy transport vehicles while passing next to the monument. These vibrations disturb the soil resulting in an irregular partial subsidence.

Most of the archaeological buildings such as the *sabils*, agencies and *tekias* are usually subject to change or modification in their structural system to suit their new functions.

### 2.3. Proposal to rehabilitate the Ouda Pasha Agency and its Surrounding urban

#### 2.3.1. Planning by SWOT Analysis

Using SWOT analysis is to form a comprehensive view of the site and its needs, to assess the strengths, weaknesses, opportunities and threats. The strengths and weaknesses are among the internal characteristics of the site while the opportunities and threats result from the external conditions of the site [12]. The elements of the SWOT analysis included the following:

The strengths are represented in: a. The large area of the agency and the number of its spaces, b. The agency is registered as an archaeological building belonging to the Ministry of Tourism and Antiquities, c. The proximity to *Al-Moez* Street, which is one of the most important archaeological and heritage sites in Egypt, d. The presence of many main services within the *Jamaliya* neighborhood including a sewage network, electricity and water.

Weaknesses are represented in: a. Neglect and lack of awareness of the value of the building, b. Using the agency in an inappropriate use as a blacksmith's workshop, c. Weak foundations, demolishing the second and third floors and large parts of the agency, d. The negative impact of the 1992 earthquake on the area.

Opportunities include: a. Take advantage of the space in the reuse project, b. Develop a

plan for the rehabilitation to ensure its continuous conservation, c. Benefiting from the awareness programs recently adopted by the Egyptian state to introduce the agency's values.

Threats include: a. Exposure to the effects of natural, mechanical and biological deterioration factors and human encroachments, b. The loss of many parts of the agency in the absence of urgent intervention, c. Lack of societal consideration with the building to maintain it.

This is followed by the development of an action plan showing how to achieve the objectives through a series of specific actions or services. These tangible results are also known as outputs. The action plan should specify the outputs in terms of budget, entities responsible for implementation, time required for each action and other resources (Human, intellectual, organizational and equipment). Also, the sequence in which actions will be carried out and should consist of annual and long-term activities.

The action plan may be a series of strategies or plans such as a visitor management plan, a conservation plan, a disaster risk management plan, or a monitoring plan.

At this stage, a matrix is made that includes the goal, its means, the implementation entities, the required cost, and the required time, as shown in (table 1), except for determining the required cost because of the need to seek help from the competent authorities, and the cost varies according to the actual implementation period. It is necessary to ensure the harmony of the work movement and that all parts of the work are moving at a close speed so that there is time coordination, financial coordination and coordination of tasks [12].

**Implementation Plan:** After defining the activities and means to reach the desired goals, here comes the stage of developing a strategy for the implementation of these activities by the various concerned authorities. Continuous evaluation should be taken into account to monitor and collect information and measure the rate of progress in implementing the rehabilitation plans [13].

### 2.3.2. A Suggested plan to Rehabilitate Ouda Pasha Agency

#### 2.3.2.1. Study of the Adaptive Reuse of the Agency

Some researchers [14], [15] added the word adaptive to the word reuse to become adaptive reuse to give the meaning of reusing with adapting the building to the new function without disharmony [16].

It means modifying, transforming, or changing the function of heritage buildings that have lost their original function while being in a good structural condition to other new uses that suit the current needs and ensure the protection of the building. The process of reusing is often accompanied by structural and architectural restoration according to its new function [17]. The main goal of rehabilitation work is the continuous conservation of the building and integrating it with the economic and social fabric of the city instead of being a closed monument bearing in mind that any changes that occur to the building are minimal [17], [11].

#### a. Building data that qualify it for reuse

The Ouda Pasha Agency is located in the *Jamaliyia* district with its main northeastern facade on the *Jamaliyia* Street, its northwestern facade on *Habs Al-Rahba* Street towards *Jamal Al-Din Al-Estadar* archaeological Mosque, and its southwestern facade on *Darb Al-Masmat* towards *Mahmoud Muharram* archaeological Mosque, while its southeastern facade overlooks *Al-Mosafer Khana* archaeological agency.

**The Original Use:** It is clear from the plans and from the nature of the agencies that the original use of Ouda Pasha Agency was a commercial use as the spaces of the ground floor were used as stores and shops for goods, while the spaces of the upper floors were used as bedrooms for foreign merchants.

**Suggested Use:** Referring to the agency's building's data represented in its total area and different spaces distributed around a middle open courtyard as well as the studies of the surroundings and the community needs, it is proposed to reuse the agency as a commercial craft center and a hotel with a special appeal.

**Table 1. Showing the objectives to be achieved and the proposed action plan.**

<b>Target</b>	<b>The means</b>	<b>Responsible for implementation</b>	<b>Duration</b>
Take advantage of all the available capabilities on the site	<ul style="list-style-type: none"> <li>-Documenting all the available capabilities.</li> <li>-Documenting the owners of famous crafts and professions in the urban and working on refining and developing them and providing the appropriate places and training centers to achieve the maximum possible benefit.</li> <li>-Maintain and develop this potential.</li> <li>-Exploiting all the spaces in the urban and working to adapt them to suit and serve the site and the archaeological buildings.</li> <li>-Enhancing the marketing of traditional hand-craft products at the local and international levels.</li> <li>-Exploitation of urban resources in the archaeological surroundings in order to create an image and a civilized view worthy of the archaeological surroundings.</li> <li>- Exploitation of heritage landmarks as cultural resources in the tourism industry and tourism investment.</li> </ul>	A dedicated team that includes all specialties	Medium-term plan (1-3 years)
Involving the local community in order to achieve sustainable development	<ul style="list-style-type: none"> <li>-Improving the educational level of the population.</li> <li>-Form a customary council for the residents consisting of an administrative committee (stakeholders) of senior and wise men of the region in coordination with the concerned authorities and specific localities, and hold a permanent monthly meeting for this council, in which officials discuss all development plans and needs.</li> <li>-Forming voluntary youth committees or for a simple fee to take role in serving the archaeological surroundings by taking care of the site or guiding visitors to different places.</li> <li>-Establishing charitable societies and motivating them to contribute to social development activities.</li> <li>-Conduct mini-awareness campaigns for children.</li> </ul>	Responsible authorities with the help of young volunteers to conduct educational sessions in the region	Medium-term plan (1-3 years)
Restoration and maintenance of archaeological buildings	<ul style="list-style-type: none"> <li>-Develop a plan for emergency interventions for the monuments of the dilapidated structural condition.</li> <li>-Regular monitoring of site status.</li> <li>-Develop plans for the periodic and continuous maintenance of the urban, including the archaeological sites and buildings, and these plans must be timetabled.</li> </ul>	An integrated team of engineers, architectural restorers, restorers and archaeologists	Short plan (less than a year), medium (1-3 years) and long-

	<ul style="list-style-type: none"> <li>-Provide appropriate budgets for the implementation of all periodic conservation plans.</li> <li>-Monitoring all places of an archaeological and heritage nature in the urban determining what is used and what is not used to develop plans and proposals for rehabilitation.</li> </ul>		term (3-15 years) plan
Improving the infrastructure and superstructure while providing all the necessary services and facilities	<ul style="list-style-type: none"> <li>-Monitoring the superstructure services and providing health, educational and recreational services.</li> <li>-Exploitation of the basements of modern buildings in the work of garages to prevent the congestion in these streets.</li> <li>-Putting a complete infrastructure system, taking into account the drainage of rainwater in a thoughtful manner.</li> <li>-Establishing a complete monitoring and security system.</li> </ul>	Responsible authorities	Long-term plan (3-15 years)
Attracting investment	<ul style="list-style-type: none"> <li>-Providing basic services, utilities and improving the road network, transportation and communication.</li> <li>-Elimination of routine procedures and obstacles.</li> <li>-Facilitate procedures to save time and effort.</li> <li>-Putting up vacant shops and spaces for investment, with the need to respect the conditions and controls of these places.</li> <li>- Accelerating the completion of the postponed restoration projects to ensure the vitality of the place and the operation of all archaeological sites, their reuse and rehabilitation in appropriate jobs.</li> </ul>	Responsible authorities	Long-term plan (3-15 years)

Accordingly, it is proposed to use the ground floor spaces as shops selling traditional craft products and souvenirs with some of these products displayed in halls designated for that while the use of the first and second floors' spaces as bedrooms. The need for bathrooms can be overcome by public bathrooms on the floor serving a number of rooms, or transforming the space separating each two rooms (in the rooms that allow this) into two bathrooms, one for each room.

**B. Suggested Use Requirements:** The proposed use requires the reconstruction of the dilapidated parts and the guidance to complete the missing parts of the agency carrying out the necessary structural and architectural restoration works for the existing spaces. It requires making plans to reuse the ground (Figs. 7, 9), first (Figs. 8, 9) and second (Fig.

9) floors, so that each of them includes the following:

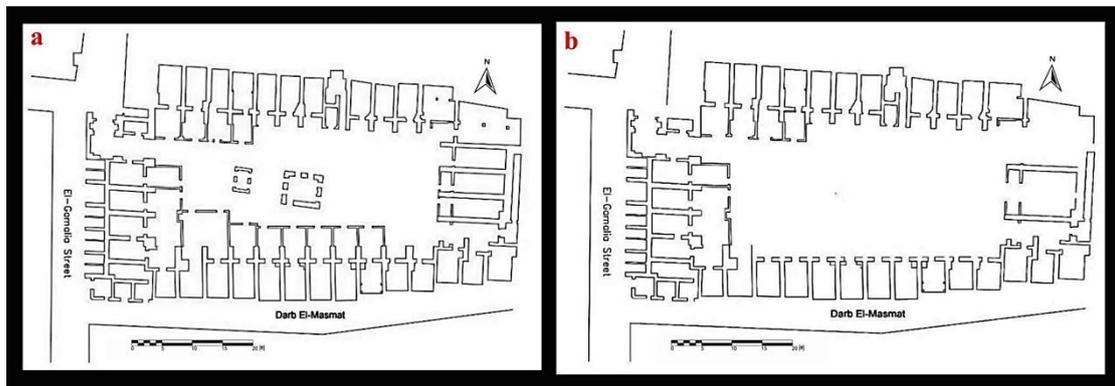
**Ground Floor:** shops and commercial stores, a cafeteria, and a multi-purpose hall.

**First Floor:** exhibition of traditional handicraft products, bedrooms with their services.

**Second Floor:** bedrooms with their services.

### 2.3.2.2. The proposed restoration and conservation plan

Based on the studies that are carried out to monitor the current situation of the Ouda Pasha Agency, based on the proposal to reuse the agency as a commercial craft center and a hotel of a special nature, and based on conducting an intensive experimental study for the building material – in a subsequent



**Fig. 7. The horizontal plan of the ground floor (a) Before the demolition and the effect of deterioration factors, (b) The current situation after demolition**



**Fig. 8. The horizontal plan of the first floor (a) The current situation after demolition with the effect of deterioration factors, (b) Proposal after reconstruction work**

specialized study- to define their chemical composition [18], evaluate their physical and mechanical properties [19], and assess their state [20], the study proposes the following considerations to restore the agency and ensure its sustainability for future generations.

**First: Supporting and temporary protection works**

Based on the aforementioned deterioration of the structural and architectural elements, it is recommended to urgently intervene with shores and reinforcement for the temporary protection of the agency until the intervention with restoration and conservation works start. Ultimately, shores raise the resistance of the deteriorated structural elements to the various factors and forces affecting them and reduce the loads on them by adding temporary elements to ensure the safety of building users and the adjacent buildings [21].

It is suggested that the temporary reinforcement starts from the foundations below the ground level. It is the part that transmits loads to the soil, and then implementing the temporary strengthening of the structural and architectural elements above ground level.

Metal or wooden shores are used in such works, whether in the temporary strengthening of the building as a whole, or of a particular element such as columns or arches [21]. From the visit to the site and the monitoring work that was carried out, it is noted that the shores and reinforcement works (Fig. 10) for some parts of the agency have been implemented for a long period without follow-up and continuous evaluation of their condition. As a result, these shores suffer from deterioration factors that led to the damage of their parts, such as the deterioration of wood panels adjacent to the building, the corrosion of the metal pillars, the corrosion of the metal

bases and other metal parts that make up the shore.

Among the parts that are currently shored in the building are the entrance, the entire

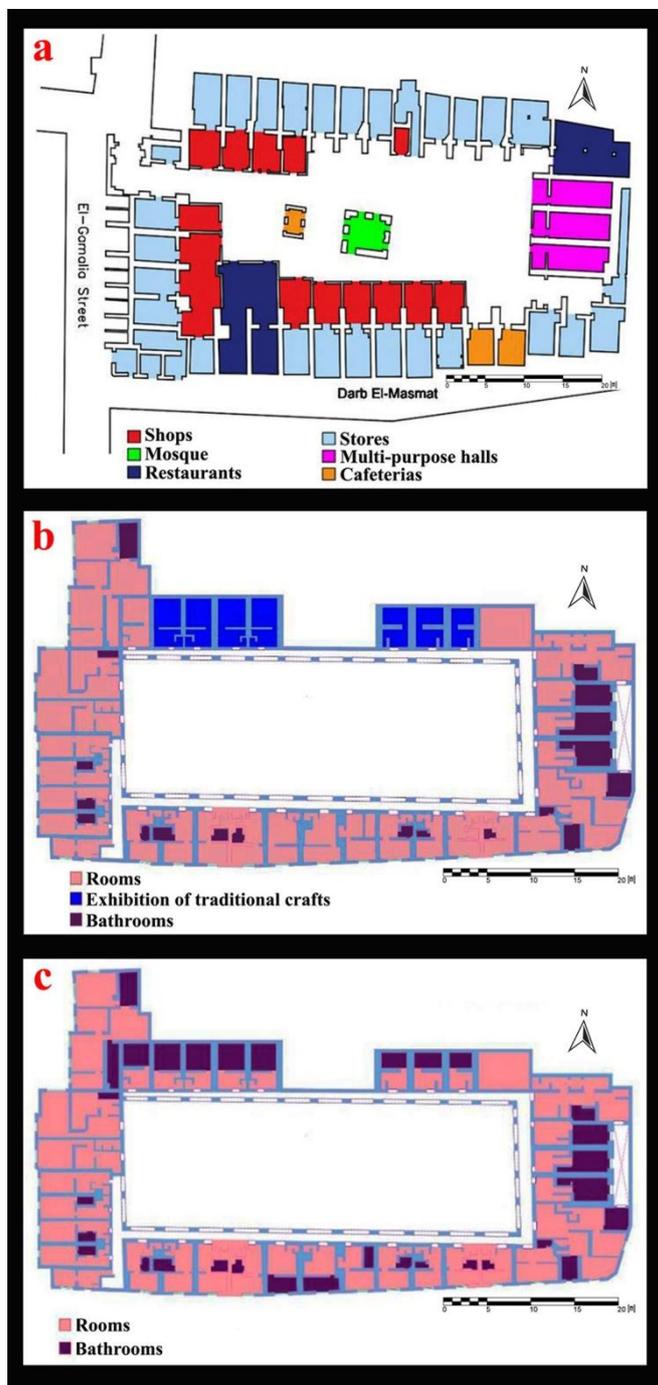


Fig. 9. The proposed plans after reuse (a) Ground floor, (b) First floor, (c) Second floor



**Fig. 10. Current Acting Steel Works (a) The main entrance, (b) Interior stores, (c) Northwest Facade**

northwest facade overlooking *Habs Al-Rahba* Street and parts of the shore resting on the *Jamal Al-Din* archaeological Mosque, parts of the southwestern facade, some internal shops and the remaining external shops.

**Second: Treatment of structural and architectural problem**

The treatments include the use of all measures that enable the preservation of the archaeological building from the dangers that threaten it. The most important of these actions are the following:

**a. Treatment of cracks:** Cracks are generally spread in the walls of the agency, and they are mostly vertical cracks, varying in width and depth, and many of them follow the direction of mortar. There is a deep crack in the entrance mass resulting from the uneven subsidence in the bearing soil. To treat these cracks, it is suggested to fill them with an appropriate mortar or loosen the stones on both sides of the crack and then re-fix them again depending on the width of the crack [21].

**b. Reconstruction of the dilapidated parts:** Archaeological buildings are exposed to multiple dangers that lead to its collapse, or the collapse of some parts as in the case of the Ouda Pasha Agency. Reconstruction work raises controversy and there is no agreement on one principle in this regard, but the general rule that can be followed is what archaeologists have agreed upon, not to reconstruct the old buildings that have been in ruins for a

long time, or what exists in the form of residual ruins that were destroyed in the old eras [22]. However, the reconstruction of buildings that were recently demolished depends on their importance, or the urgent need to reuse them in addition to the availability of any documents that facilitate the rebuilding process [23].

Accordingly, it is proposed to rebuild some of the collapsed parts of the agency as follows:

**Ground floor:** The use of limestone building units, using lime mortar mixed with sand, fired brick powder, and stones; for the bonding between double-sided wall, as well as the inner filling [10].

**The first floor:** The use of building blocks of fired brick, using lime mortar mixed with sand, fired brick powder, and stones; for the bonding between double-sided wall, as well as the inner filling [10].

**c. Completing the missing parts:** Completion operations are considered one of the most important and accurate operations in the field of restoration [24]. Because of what these processes achieve from the continuity of the archaeological building with their architectural and artistic details [23]. Referring to the status of the agency, it turns out that it is necessary to complete parts of the ceiling of the ground floor, as well as the ceiling and walls of the first floor, in addition to the floor of the first and second floors, and the layer of mortar implemented on the main facade.

### 2.3.3. The Suggested Plan to Rehabilitate the Surrounding Urban of the Ouda Pasha Agency

The urban rehabilitation plan (Figs. 11, 12) aims to take advantage of all the available natural, human, urban and economic capabilities to ensure the sustainable development of the site while preserving the archaeological buildings and reusing them in appropriate functions that ensure highlighting their importance and value[7].

Through SWOT analysis, it was found that there is a need to improve the infrastructure and superstructure while providing all the necessary services and facilities, planting and lighting the streets appropriately, studying the transfer of some inappropriate workshops and craft industries outside the area, and providing more suitable activities for the archaeological buildings and community needs, so that the area is placed on the visit plan.

Establishing a group of developmental and educational centers to contribute spreading awareness of the site values with the necessity of the community participation in making decisions, developing small and medium industries for traditional crafts that already exist such as sculpture, and integrating them into the development and rehabilitation plan. This is supposed to raise the incomes of the population.

Providing more job opportunities for locals, whether by working in the services surrounding heritage sites or in archaeological buildings that are reused in new jobs, identifying relationships with stakeholders in the site who have a mutually beneficial relationship with it and should be involved in all stages of the management plan. Stakeholders are the owners of workshops and stores, the local community, the Ministry of Tourism and Antiquities, the neighborhood administration, the governorate, investors and those interested in heritage and tourists from inside and outside Egypt [25].

**Among the site's development work are the following:**

**Upgrading the Infrastructure:** This is done through developing and lighting streets, paving special paths for people with special

needs, developing the sewage network, creating a car parking, regulating traffic and car access to the shops, paving the area with stone floors, provide street landscaping, and moving workshops and stores with inappropriate uses.

**Upgrading the Urban Fabric:** Developing new building facades in line with the site's values, the use of heritage vocabulary derived from the archaeological buildings, the use of architectural and decorative units bearing the distinctive Ottoman character of the area, the unification of storefronts and their paintings similar to the development work that took place on *Al-Moez* Street, the provision of guidance panels, the provision of appropriate lighting systems for the site, the exploitation of squares to provide waiting places and landscape.

### 3. Conclusion

The Ouda Pasha Agency has many archaeological and architectural values that necessitate the need to preserve it. However, its current situation threatens its sustainability, especially in the absence of urgent intervention by evaluating the current shores and carrying out modern reinforcement works that are compatible with the developments of the structural situation of the agency.

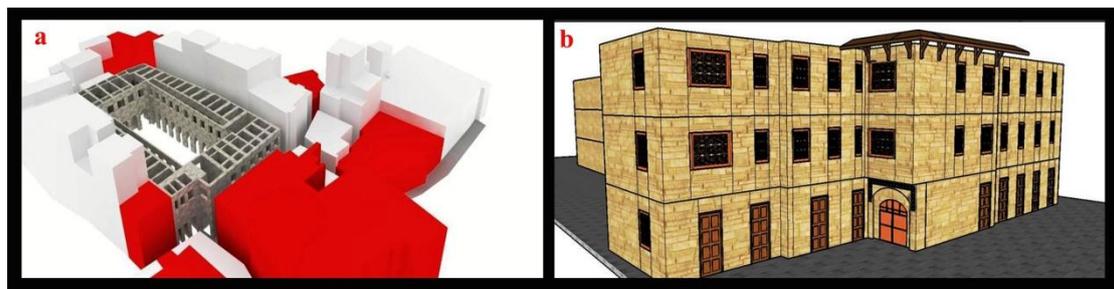
Studies of the current status of the agency and its archaeological and urban surroundings show the necessity of carrying out structural and architectural restoration works reusing it in an appropriate function that ensures the continuity of preserving the building and suits the needs of its surroundings. Restoration also helps to integrate it into community life and achieve sustainable development.

Based on the data of the agency building and the needs of its archaeological, urban and community surroundings, the study suggests reusing the building as a commercial craft center and a hotel of a special character or distinctive nature. The new use aims to preserve the traditional crafts in the area and marketing its products, as it is commensurate with the original use of the agency and so is the case of parts of the upper floor as bedrooms, which is the original use of them.

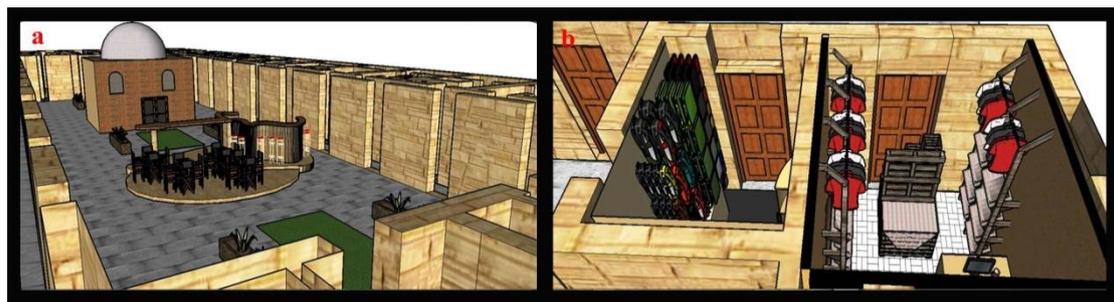
The proposed rehabilitation project helps the agency to hire a group of professionals and

technicians from the people of the region to carry out the restoration work under the supervision of specialized committees with the need to deal with according to the principles and regulations.

Modern means and methods must be used in restoration works, taking into account the distinction between the added and the original parts. In the event of need for completion, this is done for the parts that have sufficient information about its details.



**Fig. 11. Imaginary drawing of Ouda Pasha Agency after rehabilitation (a) The Agency within its urban, (b) The Front facade of the building**



**Fig. 12. Imaginary drawing of Ouda Pasha Agency from inside after rehabilitation, a. The open courtyard, b. Some interior spaces**

## References

1. R. M. Muhammad, *Islamic Agencies and Houses in Ottoman Egypt*. Lebanon: Egyptian Lebanese House, 1993.
2. I. A. M. Al-Ratail, "The Remaining Ottoman Agencies in Cairo, an Archaeological Architectural Study". MA. Thesis, Department of Islamic Archaeology, Faculty of Archaeology, Cairo University, Vol.1, 1993.
3. (Brochure of the Committee for the Preservation of Arab Antiquities of the Ouda Pasha Agency), monument number 19.Egypt: princely presses, 1902.
4. A. Ali, E. Al-Banna, "Study of the archaeological building materials on Farasan Islands, Kingdom of Saudi Arabia, and their relationship with the islands' local and climatic environment", 3rd International Conference, Defence Sites: Heritage and Future (DSHF 2016), Vol 158, WIT Press, doi:10.2495/DSHF160091.
5. M. H. Al-Husseini, *The Ottoman Sabils in Cairo, 1517/1798 AD*. Cairo, Egypt: 1988.
6. F. Refaat, H. M. Mahmoud, B. El-Sabbagh, A. Brania, "Evaluating Thermal and UV Stability of Some Protective Coatings for Historical Murals in Egypt", *Advanced research in conservation science*, Vol 1, No. 2, 2020, pp. 31-47. doi: 10.21608/ARCS.2020.28415.1003 .

7. E. M. Elbanna, A. G. Ali, "A Study of the Farasan Islands' "Saudi Arabia" Cultural Heritage Conservation and their Characteristics for Touristic Rehabilitation", *Advanced research in conservation science*, Vol 2, No. 2, 2021, pp. 35-59, doi: 10.21608/ARCS.2021.95285.1018 .
8. The Arab Bureau – Upgrading and Rehabilitation of the Gamalia Quarter, 1983.
9. A. A. M. Abdel-Dayem, "A study of the restoration and conservation of archaeological houses in Cairo and their re-use with the application on the Saray Al-Musafirkhana (the Ottoman Era)", MA. Thesis, Conservation Department, Faculty of Archeology, Cairo University, 2001.
10. B. M. Mustafa, "Studying the effect of the planning and urban surroundings on the architectural implications of archaeological buildings and methods of restoration and conservation with the application on the Agency of Bazara and its surroundings - Fatimid Cairo, MA.Thesis, Conservation Department, Faculty of Archaeology, Cairo University, 2000.
11. A. G. M. Ali, "Evaluation of alternatives in relation to data in the reuse of archaeological buildings - An evaluation scientific study in restoration and conservation applied to an archaeological building in Cairo", MA. thesis, Conservation Department, Faculty of Archaeology, Cairo University, 2013.
12. A. G. M. Ali, A. A. Elsheikha, E. M. Elbanna and F. J. M. Peinado, "An approach to conservation and management of Farasan islands' heritage sites, Saudi Arabia", *International Journal of Conservation Science*, Vol. 9, No. 2, 2018, pp. 245-256.
13. A. G. M. Ali, R. O. M. Al-Shazly, R. O. M. Al-Baroudi, M. J. M. Othman, N. K. A. Ahmed, H. A. K. Fadel, "Monitoring, documenting the case and a proposal for the rehabilitation of Ruqayya Dodo Sabil and its surrounding in Historic Cairo", *Journal of the Faculty of Archeology*, Vol. 11, No. 25, 2022, pp. 397-418. doi: 10.21608/jarch.2022.211930 .
14. I. Serageldin, "Very special places, The architecture and economics of intervening in historic cities". *Bibliotheca Alexandria with the world bank*, 2002.
15. D. Osman, "A methodology for developing urban pathways of historical districts in Egypt" Ph.D. Thesis, Department of architecture, Faculty of fine arts, Helwan university, Cairo, Egypt: 2009.
16. H. F. Abu Al-Fadl, "Re-employment of Old Buildings" M. A. Thesis, Department of Architecture, Faculty of Fine Arts, Alexandria University, 1998.
17. S. M. Y. Khamis, "Adaptive Reuse of Valuable Heritage Buildings Within The Scope of Urban Development of Historic Areas Applied on Bab Al Shariyya District. M. E. thesis, Architecture Department, Faculty of Engineering, Cairo University, 2009.
18. W. A. Mohamed, N. M. Mohamed, "Using Examination Methods and EDX Analysis to Study the Archaeological Vitreous Enamels", *Advanced research in conservation science*, Vol. 2, No. 2, 2021, pp. 25-34. doi: 10.21608/ARCS.2021.88897.1017 .
19. Y. Y. Abdel-Aty, H. S. Mahmoud, A. A. Al-Zahrani, "Experimental Evaluation of Consolidation Techniques of Fossiliferous Limestone in Masonry Walls of Heritage Buildings at Historic Jeddah, Kingdom of Saudi Arabia", *Advanced research in conservation science*, Vol. 1, No. 1, 2020, pp. 16-33. doi: 10.21608/ARCS.2020.111205 .
20. F. M. Helmi, Y. K. Hefni, "Estimation of Deterioration Aspects of Granitic Columns at the Mosque of Al-Nasir Mohamed Ibn Qalawun, Cairo, Egypt", *Advanced research in conservation science*, Vol. 1, No. 1, 2020, pp. 34-51. doi: 10.21608/ARCS.2020.111213 .
21. M. H. Ahmed, S. M. Hemida, M. A. Mohamed, (The Scientific Encyclopedia of Structural and Architectural Restoration Techniques for Archaeological and Historical Building). 1st ed. Cairo,

- Egypt: The Egyptian Company for Marketing and Distribution, 2019.
22. B. M. Mostafa, "The Role of Reconstruction Operations in Preserving Archaeological Buildings and Historical Sites", *Journal of the General Union of Arab Archaeologists*, Vol. 10, No. 10, 2009, pp. 100-152.  
doi: 10.21608/jguaa.2009.2679.
  23. E. M. El-Banna, *Historic Cities (plans for their restoration and conservation)*. 2<sup>nd</sup> ed. Cairo, Egypt: Zahraa Al Sharq Library, 2009.
  24. M. M. Ibrahim, H. M. Mohamed, "Conservation of an Egyptian Pottery Sarcophagus from Saqqara excavation- A Case Study", *Advanced research in conservation science*, Vol. 2, No. 1, 2021, pp. 1-9.  
doi: 10.21608/ARCS.2021.47406.1010 .
  25. A. G. M. Ali, "Orientation and vision for the sustainability of heritage sites, a case study of Port Said city", *International Journal of Conservation Science*, Vol. 12, No. 4, 2021, pp. 1343-1354.