

The impact of architectural conservation policies on the continuance of heritage buildings - Study of conservation in Sulaimani governorate

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Received: 06/05/2019 / Accepted: 04/08/2019 / Published: 22/12/2019

DOI Link: <https://sites.google.com/a/univsul.edu.iq/sjes/issues/vol6no4/sjes-10115>

Abstract



The issue of conservation of heritage occupies an advanced place in the context of issues of general concern to the nations of the world because it is a clear indicator of the progress of civilizations, from which subsequent generations derive their culture and their architectural identity. This paper is important in terms of philosophical, cultural, economic, and educational and sustainability aspects.

The main problem in the research is the deterioration of the architectural character of the Kurdish heritage in Sulaymaniyah, especially in recent decades. The objective of the research is to evaluate and find the best solutions to the policy of preserving valuable heritage buildings and improving their ability to preserve the architectural identity of the city.

The research focuses on the study of the efficiency of the architectural conservation of the old heritage buildings that underwent the process of conservation and rehabilitation, the failure of the architectural conservation and neglect policies by the authorities has resulted in the removal of the architectural values and the loss of the architectural identity of the city, which led to deterioration and distortion of the architectural character of the Kurdish heritage. The research takes an analytical approach and historical survey to contribute the prevention, deformation, and degradation of heritage buildings. The selected heritage buildings are examples of the restored architectural heritage in Sulaymaniyah Governorate. The research was based on analysis of old documents, photographs, detailed indicators of heritage buildings and surveying of buildings with surrounding areas, as well as the creation of a table to evaluate the conservation

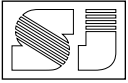
policy and analyze the impact of preserving the architectural characteristics of these buildings. The research concludes with a set of recommendations that can help improve the efficiency of architectural conservation and preserve the original heritage elements of the Kurdish community and increase community awareness regarding the importance of preserving this valuable heritage that left from ancestors to remain etched in generations' memories. The research was able to reach to the results through the analysis of the main and secondary indicators, which are considered as tools of evaluating the conservation process in Sulaymaniyah or anywhere in the world, for protecting the architectural identity and its original characteristic.

Keywords: conservation, architectural identity, documentation, deterioration, restoration, rehabilitation.

1. Introduction

Architectural conservation is considered as one of the scientific fields having special importance in the modern age, due to the fact that architectural heritage hereditary represents a cultural stock which provides positive elements for inspiration and induction in modern building and construction works^[1]. it is described by "Feilden" as a struggle against collapse and decay factors caused to buildings or facilities as a result of multiple factors, mainly by men themselves, whereas men at the time which is a component of construction, are a major cause of destruction for various reasons, the most important reason is





negligence due to lack of knowledge and interest in heritage ^[2].

The idea of successful conservation policy is the homogeneity and integrity of the protection and restoration of the parts that identical with the original parts and the preservation of the archaeological character of the buildings and their details ^[2]

Local architecture in the city of Sulaymaniyah has suffered through different eras of massive deterioration that almost lost its unique features, because of the lack implementation of the policies of architectural conservation, indifference and ignoring of the Kurdish heritage in northern Iraq by the Kurdish communities that reflect its distinctive identity. Therefore, the Kurdish cities, in general, suffer from the loss of their architectural and cultural heritage ^[3].

Sulaimaniyah city could have lost its local architectural heritage completely if the responsible authorities did not intervene, though, at a late time, they acknowledged the immediate need for robust conservation policy and strategy to preserve and revitalize these heritage buildings in accordance with the city's local heritage. It also needs to be simultaneously in line with the requirements of modern life and new emerging technologies that guarantee comfort and decorous living ^[4].

To achieve this, the study will follow the descriptive methodology based on inductive procedure approach and offers a new theoretical horizon for a better understanding of conservation policies as central in transforming the physical image of conservation. Thus, it is an attempt to initiate an effective link between conservation policies and strategies to advance a new clear of conservation policies of addressing the challenges posed by bad conservation policies.

2. Architectural heritage

It is considered as part of the urban heritage. Feilden; "The urban heritage is a physical phenomenon of unique human expression because human is the only organism possessing over the power of abstracting that allows it to think rationally, which is the base of production and creativity". UNESCO; "Architectural heritage is every human phenomenon that shows its activities in a certain era or period, either for

entertainment or pragmatic needs". Iraqi law; "Every moved or not moved possessing younger than 200 years (built before 1700 A.C), that is for public interest to conserve because of its historical national artistic or religious value" ^[5].

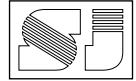
2.1. The main Factors of damage and loss of architectural heritage:

The damage and loss of architectural heritage depend mainly on the existence of natural and human factors that work against areas of the weakness inherent in the used materials of the structure formation. so, the Natural factors in architectural heritage loss, divided into:

- a) Internal natural factors: Which are the factors and conditions within the structure, mainly moisture, since high humidity causes corrosion, cracking, and rottenness, and low humidity (drought) causes cracks, and rapid changes in humidity have significant impacts on the elements and materials used in the structure formation ^[5].
- b) External natural factors: are divided into three types:
 - Natural disasters, having the most impact on the structure among the forces of nature, the possibility of controlling and effects are very difficult, mainly; earthquakes, volcanoes, floods, natural fire, and others ^[6].
 - Climate factors: represent the changes and local conditions of temperature, humidity, wind, sun, and other climatic factors. The most dangerous climatic factor is water in its various forms because it affects the building materials ^[7].
 - Animals and Damaging Insects: insects such as moth, cockroaches, etc. feeding on organic materials. Also, animals such as; mice and rats, the droppings of some animals contain acids damages the structure of the building ^[5]

And also there are many Human Factors in Architectural Heritage Loss and the damages they inflict: are classified into two parts:

- a) Deliberate Human Damages:



- Economic Benefits in modern times, the historical regions are located at the centers of the cities, therefore hundreds of them being removed on a daily basis to set up projects with big economic incomes instead, in addition to removing vast areas of the urban traditional fabric due to the unstudied extensions in the cities^[7].
 - Changes in Styles: in every age, the cultural properties are subjected to specific changes walk together with the sensory or religious or cultural or aesthetic values^[7].
 - Theft or destruction works: Doing theft and destruction are among the most dangerous social diseases and their purpose is to damage the architectural heritage and the desire to destroy and distort cultural property^[7].
- b) Accidental Human Damages
- Wars: in a few days of war, maybe the legacy of heritage and civilization destroyed by humans that thousands of years have been built^[8].
 - Negligence in different shapes, such as; neglecting the periodical maintenance which is weakening the building against external factors and exposure to damages, and exposing the building to Pollution factors as well, such as the construction of factories near the historical places^[9].
 - Bad works and production techniques: the poor selection of building materials and bad works cause big damages to the building, it might be a rich pasture for harmful insects and fungus or the selected building materials are not resistant to time factors^[5].

2.2. Objectives of Architectural conservation:

Architectural conservation is a field that particularly requires specializations, that is concerned with the protection and subsistence of buildings that hold profound importance in terms of the architectural heritage of a given locality^[10].

The objectives of preservation can be represented in several aspects:

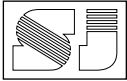
- Maintain the building of ancestors, to serve as a support and a basis to what humans build upon so that to continue the effective construction for the communities from one generation to another^[11]. It is a fundamental step to ensure its survival as a livestock of the faith and stability in architecture^[12].
- Combatant the causes of cultural property damages, and if it is not possible to control the natural factors of the damage, such as floods, earthquakes, etc. so the conservation can reduce the impact of these factors^[13].
- Extend the life of cultural properties, and make them usable in the present time or in the future^[13].
- Architectural conservation is a way to revitalize the communities, intellectually, culturally, and technically, and it is an enrichment tool before being a tool to bring economic incomes for the people through foreign tourism^[14].

Conservation systems should aim to protect the valuable architectural features of the city and to specify what could be developed or changed.

3. Methods of Architectural Preservation:

There are two basic methods in architectural conservation:

- a) Traditional Method of Conservation: Aims to stop and suspend the visual effects of the damages occurred to the building, without treating the causes^[15].
- b) Contemporary Methods of Conservation: The main objectives of these methods are:
 - A guarantee to provide the building with a permanent function through maintenance and rehabilitation, along with protecting its cultural and economic values^[15].
 - Assigning a new function to the building close to the original function, in a way



not creating a big gap between past and present ^[14]

- Considering the original character and objectives of the building before performing any modifications, and considering the relationship with the neighboring ^[18].

The contemporary methods in conservation are in three levels:

- a) Gradual destruction: conserving the foundations as a core to construct the building with the same previous shape ^[16]. This process becomes acceptable only when it is impossible to keep the historical remains of the building for a long time, and when normal maintenance costs are very expensive ^[17].
- b) Partial Conservation (Retention): is a method can be applied on a building that has been maintained but its function is not adequate for present use anymore, therefore slight changes would be applied to rehabilitate it and to find a new function specified according to the needs of the area ^[18]. It is imperative to consider that the changes to be the least, in a way not affecting the original character of the building ^[15].
- c) Complete Conservation: is conserving and keeping the buildings that can be protected with their original shapes, serving the same function ^[17].

4. Factors Affecting the Efficiency of Architectural Conservation Policy

The process of architectural preservation is produced in various Arab and international countries as a result of the meeting of many and varied factors and determinants, which serve as what the process wants to be ^[19]. These factors are forces discovered by the conservation specialist, and then enter into relations with each other to form a power conducive to the process of architectural preservation and highly efficient ^[20].

These include the strategic, organizational, administrative, executive, legislative, and

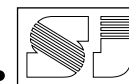
economic factors, and these multiple factors at the level of two axes together directly affect the processes and policies of architectural conservation and affect their efficiency and continuity ^[20]. All of which also require power and administrative, organizational and executive bodies to prepare projects and implement them within the framework of special laws and legislation, so they have the direct impact on the policy of architectural conservation ^[21]

It is a group of factors and influences that are related to the existence of a philosophical and its customs, traditions, legislation, directions and pressures, and the resulting methods used by man in dealing with the phenomena encountered in the conservation process, which is directly reflected on conservation efficiency ^[22]. Where the efficiency of the policies of architectural conservation is linked to two main axes and parallels:

- a) The first aspect represents the local community, which deals with architectural heritage whether it is housing or using it, the many negatives that affect the reciprocal relationship between them are cultural and social factors ^[19].
- b) The second aspect represents the general orientation of the state and its negative aspects in the approach and methodology that governs and directs its interaction with the cultural heritage ^[23].

4.1. The criteria for evaluating the heritage and historical buildings.

There are a number of criteria in different aspects that must be involved before taking the decision to conserve the heritage or historical building (briefed in diagram1). These criteria relate to the value of the heritage, according to its analysis, the indicators were determined to be helpful to evaluate the policy and the method of conservation ^[24]. The indicators include external appearance, the form, style, a pattern, craft, and construction technology. Methods of construction; materials, and finishing, architectural details, and interior details which represent the basic elements of the design (researcher with the guidance of ^[23].



5. Case Studies

After the theoretical aspects of the preservation of architectural buildings were discussed, in the other aspect there is a practical study. The conserved architectural models were selected as a case study in the Sulaymaniyah, analyzing and evaluating the architectural preservation process conducted on the cases and highlighting the strengths and weaknesses points.

5.1. Historical background

The city of Sulaymaniyah dates back to 1784 when it was established by Ibrahim Pasha Baban as the capital of Baban principedom. In 1785, the commercial markets and the governor's palace were completed. In 1919, the Kurdish state was declared by King Mahmud and its independence from the British occupation ^[26]. Sulaymaniyah is one of the cities in the Kurdistan Region of Iraq with unique architectural characteristics, which configurated as a result of historical, environmental and topography and climate conditions. The Kurdish heritage has retained its features and architectural identity for long periods, but with the recent development witnessed in the cities of the Kurdistan Region, most of the buildings and archaeological sites in Sulaymaniyah have been exposed to many risks and demolition, because of factors such as poor implementation of the policies of the architectural preservation and misuse, so many authorities have warned of the seriousness of this matter on the buildings and the significance of those heritage districts.

The first project: ethnographic heritage building

Ethnography is the science of investigating the culture and lifestyle of any particular population (or community). Dictionary-wise it is defined as "a branch of anthropology dealing with the scientific description of individual cultures" ^[25].

The house was subjected to renovation and repurposing in 1920, which led to a partial loss to its original shape. Later, in 1946, another renovation and repurposing of the house took place, eventually, it was bought by the University of Sulaimani in 1969 (Directorate General of Ethnographic Museum Management). The

president of the university ordained the building to host collections of antiques from the city, then after it was officially designated and opened as the ethnographic museum of Sulaymaniyah. The museum assumed an additional function as a directorate and an extension was attached. The added structure lacked any regards for the origin and value of the cultural symbolism and architectural heritage the building represented, it was completely out of touch, the final renovation occurred in 1990 by the German firm Krieg, which resulted in a complete loss of the original façade and the architectural identity of the building (Directorate of Ethnographic Museum).

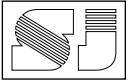
The building has lost its original form and façade due to the following reasons:

- Intentional: the maintenance and renovation processes conducted in the 1920s and 1940s aiming under the pretense of development and innovation resulted in the loss of the architectural and historic value of the building ^[26].
- Inadvertent: This is embodied in the lack of awareness of the cultural values of these types of buildings from both the humans and responsible institutions. In addition to the inappropriate implementation of architectural conservation policies ^[26] (fig. 1)

The second project: The Grand Mosque

The Grand Mosque is one of the historical and most famous archaeological sites in the city of Sulaymaniyah. It is considered the oldest and largest mosque in the city, the first mosque established with the establishment of the city of Sulaymaniyah, built by Ibrahim Pasha Baban (1199 AH - 1784 AD) ^[27].

In the 1960s, cracks and damage were seen in all parts of the complex due to natural and human factors. Then the Sulaymaniyah's Directorate of Awqaf in 1964 attempted to conduct maintenance and restoration but it was not able to continue with these acts for unknown reasons. By order of the Presidency of Iraq the maintenance and restoration work carried out in 2010 ^[23]. (Fig. 2, 3) Architectural preservation at the Grand Mosque is working on two levels:



1. Restoration: The parts of the mosque were restored to recreate the original shape of the mosque, where the previous maintenance works led to the coverage of the historical and artistic proofs of the mosque as the erroneous maintenance works conceal the historical and technical facts.
2. Reproduction: This level is to replicate the already existing architectural elements in the mosque and to make up parts of lost or damaged items, such as the Minaret, the arches and the dome. (fig.4)

The third project: Sherwana castle in Kalar

It is home to Jaff family (tribe) and can be visited by travelers. According to the opinions of many historians such as; (Taha Baqir, Fuad Safar) the castle was built by (Mohammed Pasha Jaff) and still stands till this day. In relation to the year of construction, many believe that it was constructed between the years (1866 – 1874) when Mohammed Pasha Jaff was only 54 years old. The Castle went through many renovation processes. In 1927, it was rented by the Iraqi Government from the Jaff family, and used as an administration office for the district, after being renovated. The major changes affected the top of the towers, and stairs added for vertical circulation. And at the beginning of the 1940s, the castle been renovated by (Karim bag, the son of Fatah Bag), the main modifications were changing the doors, windows and using steel at the penthouse room.

In 1990, the former president of Iraq (Saddam Hussein) visited the district and gave instructions to renovate the castle, in order to convert it to a tourism landmark; the renovation was done by unqualified staff. The last renovation was in 1997, made by the Regional Government – Sulaimaniya administration ^[27].

Although, all the above renovations were done just to maintain the building, yet resulted in the following damages to the building:

- Decrease in the height of the floor to the ceiling due to frequent flooring with different materials [researchers].
- Using new materials led to the effacement of the original materials

- Filling the basement with soil.
- Using gypsum plastering and concrete for inner Spaces. (Fig. 5)

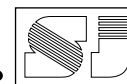
6. Discussion

After the theoretical part and projects presentation, enable us to access (the main/secondary indicators to evaluate the reviving of historical buildings according to these indicators (briefed in table1) the study will discuss these results as:

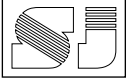
- Results have been reached of each design indicators measured within all characteristics of the case studies and determined by their proportions and repetition to be useful for assessing the efficiency of conservation policy (table 2).
- The study on this aspect examines the use of the Chi-Square Tests to test the existence of the relationship between the indicators and the use of the Spearman Correlation to find the type of relationship between the indicators and their direction, where if the significance level is less than (0.05) this indicates mean there is an effective relationship between the indicators and needed to study these relationships at the level of the main indicators of selected cases and secondary indicators.
- The method of results analysis of case studies are based on the analysis of the main and secondary indicators by a questionnaire and determining the measurement cases that measured in the analysis of case studies based on the statistical analysis system such as the relative frequency analysis and Single analysis of the indicators.

After analyzing the results in (table1):

- The architectural style indicator is most influential and achievable within the indicators of the architectural character in general, which came in the stages of preserving the majority of the use of building materials that contradict the heritage and the forms used also contradict the traditional style.



- The existence of a directly proportional relationship between the architectural style and architectural treatments, when the architectural style changes in the exterior of the restored heritage buildings, it somewhat affects the elements and other architectural treatments and thus affect the efficiency of architectural preservation and the assessment by the recipient.
 - The existence of a strong relationship between the architectural character and additions to buildings, the preservation of the architectural style of the restored heritage buildings reflected on other additions to buildings and therefore greatly affect the efficiency of conservation and the recipient as well.
 - The architectural formation is the second indicator of influence in the indicators of the architectural character in general, and the effect of the combination of the forms derived from different cultures and civilizations, because of tradition and the reproduction of buildings due to wide openness to global style, because of the culture of globalization, which invaded the region recently and also Sulaymaniyah.
- 7. Conclusion**
- The conclusions of this study can be summarized in several points as follow:
- The research concludes that added portions during the renovation and revitalization process in all cases are completely incompatible with the original style of the building and it is considered as a false conservation approach. Therefore, it is recommended to remove these added portions in all cases and add another one which is to be designed and based on the original style of the building extracted from the documentation to protect the style of the building.
 - In addition, lack of a strict penalty regiment for violation of buildings with architectural heritage value led to the distortion and mislay of the architectural heritage.
 - The importance of complementarity between factors affecting architectural heritage, since conservation cannot work independently with the factors affecting it such as (political, strategic, legal, social, cultural and administrative) in preservation projects, thus, it decreases the mistake of the conservation policies.
 - Reliance on unspecialized and not properly trained personnel from architects, project managers, and labor workers results in the destruction of the delicate architectural identity of heritage buildings, as it shows in the cases.
 - The conservation of old heritage buildings is considerably influenced by natural and human factors. The deteriorations act particularly on the structural weaknesses passed through from the early construction stages. Architectural conservation aims to alleviate these detrimental effects so that the building lasted more time and conserving the architectural identity.
 - The methodology of the research is applicable as a basis of any type of conservation endeavors in the Iraqi Kurdistan region whether it is a renovation or revitalization. The methodology is bound to subsist the architectural heritage and preserving the buildings in a way that does not affect the architectural identity and its authentic styles.
 - The concrete reinforcement and cement plastering applied to the façade and the gypsum plaster on the interior walls is incompatible with the traditional Kurdish housing and distorted the style of the building.
 - Further; the adhesive flooring that was applied during the renovation, diminishes the aesthetic and cultural values of the building in all cases according to analyzing and evaluation.



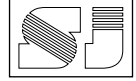
- The renovation of the ornaments and patterns on the walls and ceilings has been conducted in a random fashion in all the cases according to the analysis of indicators.
- This method can be used in analyzing, evaluating and interpreting the architectural conservation of the heritage buildings according to indicators analyzing. These analyses become difficult subjects, due to interfering with other factors, such as the strategic, organizational, administrative, executive, legislative and economic.

8. Recommendation

- The heritage building that has architectural value in all world could be as a tremendous tourists' attraction through enhancing the architectural context and renovating the infrastructure to capitalizing on the tourist activities.
 - The city lacks these types of professional approaches; there are no professional architectural conservation attempts that are on public display. It is imperative to rigorously document every heritage building in the city relying on original historical documents and reliable personal accounts, as was stipulated in the methodology of this research. In addition to putting in place indicators and restricting conditions on the conserving the heritage buildings and the degree of freedom of its usage.
 - The conservation and rejuvenation of the city's architectural heritage is the responsibility of the relevant and academic institutions to infuse a unified approach with the pertinent governmental directorates such as the archeological directorate and Sulaimaniyah University, which will be led by professional experts in the field of conservation and renovation, as it shows in cases.
 - Spread awareness of the importance, preservation, and rehabilitation of heritage buildings.
- The establishment or activation of a local register of historical and heritage buildings, in which all historical and heritage buildings are registered in the region, and those affected and protected from damage are identified by specialized bodies and aware of their historical and heritage importance.

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تأثير سياسات الحفاظ المعماري على ديمومة الأبنية التراثية الحفاظ المعماري في محافظة السليمانية حالة دراسية

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المستخلص

تحتل مسألة الحفاظ على التراث مكاناً متقدماً في سياق القضايا ذات الاهتمام الكبير في دول العالم ، لأنها مؤشر واضح على تقدم الحضارات والتي تستمد منها الأجيال اللاحقة ثقافتها وهويتها المعمارية . ، إن أهمية البحث ليس في توضيح هدف الحفاظ للوقاية والصيانة فقط ، إنما هناك أهمية من ناحية البعد الفلسفي والحضاري والاقتصادي والتعليمي والاستدامة أيضاً.

المشكلة الرئيسية في البحث هي تدهور وتشويه الطابع المعماري للتراث الكوردي في السليمانية وبالأخص في العقود الأخيرة . هدف البحث هو تقويم وإيجاد أفضل الحلول لسياسة الحفاظ على المباني التراثية ذات القيمة وتحسين قدرتها على الحفاظ على الهوية المعمارية للمدينة .

يركز البحث على دراسة كفاءة الحفاظ المعماري للمباني التراثية القديمة التي خضعت لعملية الحفاظ ولإعادة التأهيل ، وكيف أثر عدم تنفيذ سياسات الحفاظ المعماري والإهمال من قبل السلطات إلى إزالة القيم المعمارية وفقدان الهوية المعمارية خاصة بالمدينة ، مما أدى ذلك إلى تدهور وتشويه الطابع المعماري للتراث الكوردي . ويتم ذلك من خلال الاعتماد على الطريقة التحليلية ومسح تاريخي للمساهمة في منع الإساءة للمباني التراثية وتشويهها وتدهورها . المباني التراثية المختارة هي أمثلة للتراث المعماري المرمم في محافظة السليمانية ، حيث أتمت الدراسة على تحليل الوثائق القديمة والصور الفوتوغرافية والمؤشرات التفصيلية للمباني التراثية ومسح المباني مع المناطق المحيطة بها ، بالإضافة إلى تكوين جدول تم توزيعه على المختصين لتقويم سياسة الحفاظ وتحليل تأثير الحفاظ على الخصائص المعمارية لتلك المباني المختارة . حيث يخلص البحث إلى وضع مجموعة من التوصيات يمكن أن تساعد على تحسين كفاءة الحفاظ المعماري والحفاظ على العناصر التراثية الأصلية للمجتمع الكوردي وزيادة التوعية المجتمعية بأهمية الحفاظ على هذا الموروث القيم الذي تركه الأجداد ليبقى محفوراً في ذاكرة الأحفاد . حيث تمكن البحث في الوصول إلى النتائج من تحليل المؤشرات الرئيسية والثانوية والتي تعتبر وسيلة لتقويم عملية الحفاظ في السليمانية أوفي أي مكان ما في العالم ، لغرض حماية الهوية المعمارية وخصائصها الأصلية .

الكلمات المفتاحية: الحفاظ المعماري ، الهوية المعمارية ، التوثيق المعماري ، التدهور ، الترميم ، إعادة التأهيل .

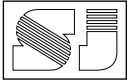


Table 1: Evaluation form for measuring the main/secondary indicators to revival historical buildings.
Measuring tool for Grand mosque. (Source: researcher).

	Main Terms	Secondary Terms	Indicators	100 %	75%	50%	25%	00%	
Evaluate the reviving of historical buildings according to the main and secondary indicators	Architectural Character	Architectural style	Building materials are contradictory to the heritage				<input checked="" type="checkbox"/>		
			Shapes are contradictory to the old				<input checked="" type="checkbox"/>		
		Architectural Composition	Combine forms derived from different cultures and civilizations					<input checked="" type="checkbox"/>	
		General context of the mass	Merge old with modern				<input checked="" type="checkbox"/>		
			Merge elements from several different styles					<input checked="" type="checkbox"/>	
		Unity	Unity in style	Contemporary heritage style	<input checked="" type="checkbox"/>				
				Designer Style				<input checked="" type="checkbox"/>	
		Unity	Unity by Dominance	Element dominance within the overall composition				<input checked="" type="checkbox"/>	
				The dominance of the building within the general context	<input checked="" type="checkbox"/>				
		Colours of the Facades	Formal unity	Change in colours					<input checked="" type="checkbox"/>
				Blending Lines			<input checked="" type="checkbox"/>		
				Type of Color				<input checked="" type="checkbox"/>	
		Elements and architectural treatments	Complementary elements	Ornament			<input checked="" type="checkbox"/>		
				Calligraphy			<input checked="" type="checkbox"/>		
			Entrance					<input checked="" type="checkbox"/>	
Additions to building	Height	Parts together	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			
		Part with all				<input checked="" type="checkbox"/>			
	Harmony	Functional	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			
		Symbolical				<input checked="" type="checkbox"/>			
	Elements Organization					<input checked="" type="checkbox"/>			
	Scale	Human Scale	<input checked="" type="checkbox"/>						
Not Human Scale					<input checked="" type="checkbox"/>				
Balance	Formal					<input checked="" type="checkbox"/>			
	Informal				<input checked="" type="checkbox"/>				
Transformation	Volume					<input checked="" type="checkbox"/>			
	Subtract						<input checked="" type="checkbox"/>		
	Addition				<input checked="" type="checkbox"/>				

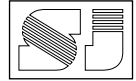


Table 2 : The results of the analysis of relations between the main indicators. (Source: researcher)

very weak	weak	medium	strong	results	correlation coefficient (R)	Level of significance (Sig)	Chi-squared test	Terms	Terms
		■		direct relationship	.368	0.00	154.9	Elements and architectural treatments	
			■	direct relationship	.572	0.00	132.0	Additions to building	Architectural Character
	■			direct relationship	.238	0.00	23.90	Transformation	
■				direct relationship	.048	0.00	118.36	Additions to building	Elements and architectural treatments
		■		direct relationship	.302	0.00	86.67	Transformation	
	■			direct relationship	.247	0.01	13.65	Transformation	Additions to building

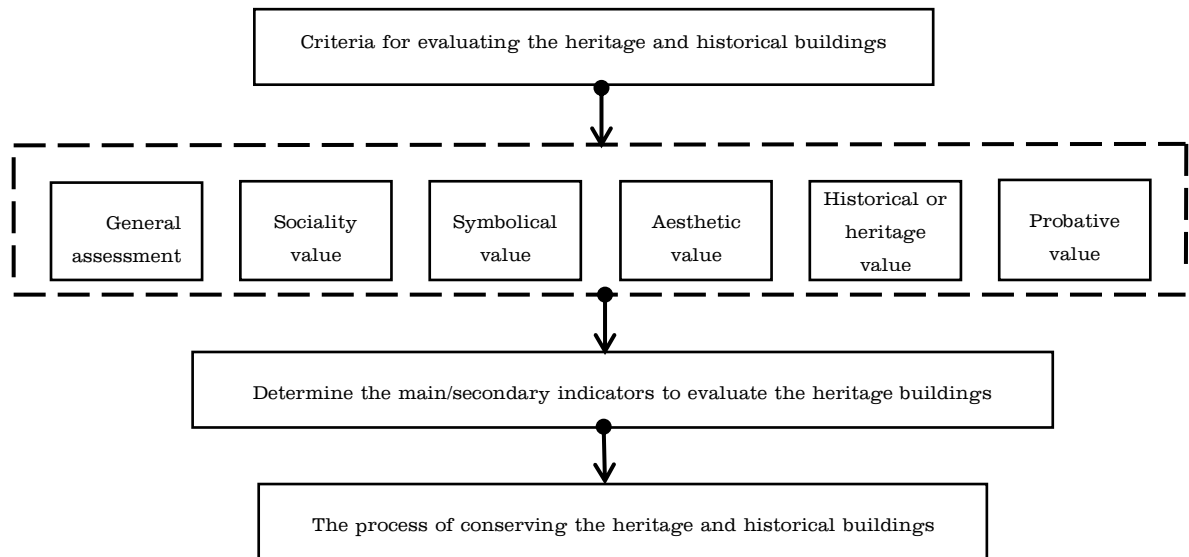
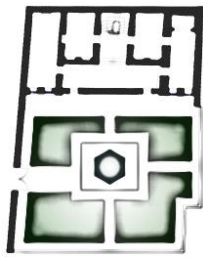
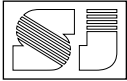
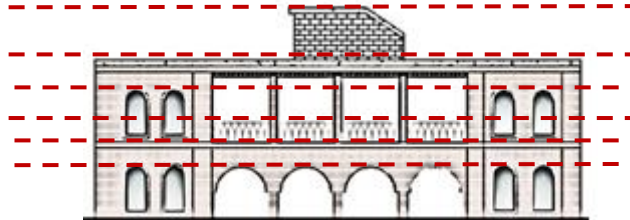


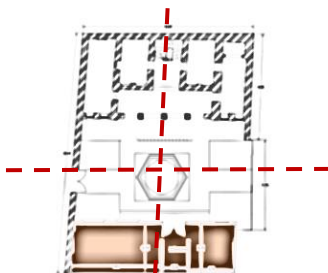
Diagram 1: Criteria and its impact to determine the indicators for evaluating the efficiency of conservation policy . (Source: researcher)



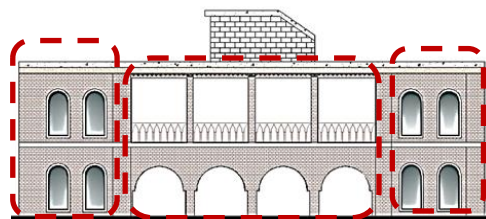
Ground floor Plan
(before restoration)



Maintaining the height of the blocks with
the general composition (after restoration)



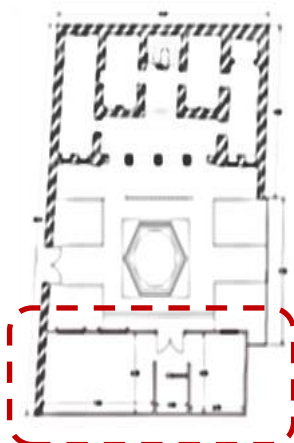
Maintain the general context of
the mass (after restoration)



Combine elements derived from different civilizations
affecting the overall composition (after restoration)



Merge elements from several
different styles
(after restoration).



The dominance of the element within
the overall form with a partial change
in its original shape (after restoration)



Combining old and modern
style in the facade
(after restoration)

Fig.1: Graphical analysis of the Ethnographic museum. (Source: researcher)

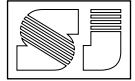
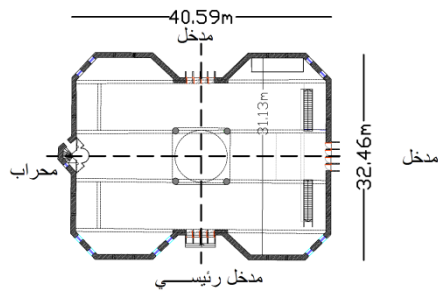
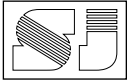


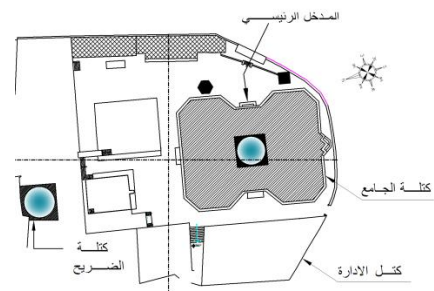
Fig. 2 : Main Elevation of the mosque after renovation. (Source: researcher)



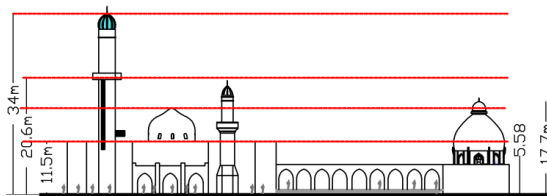
Fig. 3 : Elevation of the Mosque before Renovation. (Source: Awqaf archive)



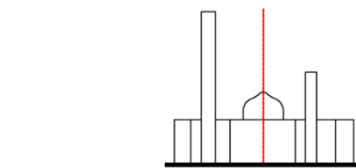
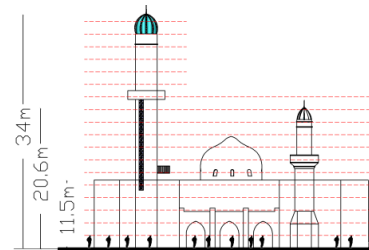
Maintain the general context of the mass.



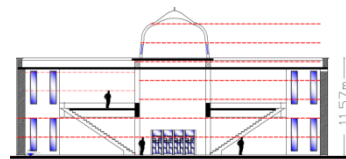
Site plan (after restoration)



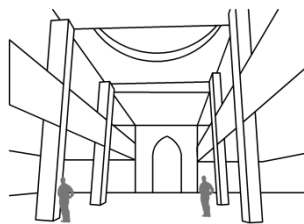
Maintaining appropriate height of the added blocks with the overall composition (after restoration).



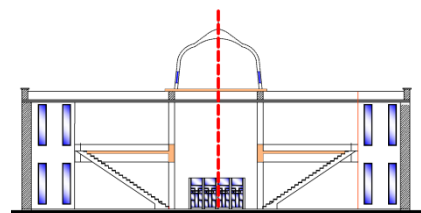
The addition of the new elements (after restoration) led to the creation of an informal balance.



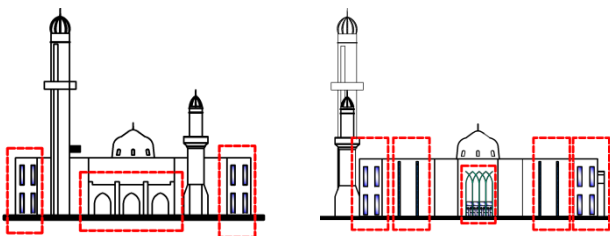
Preserving the human scale in the inner space of the prayer hall (after restoration)



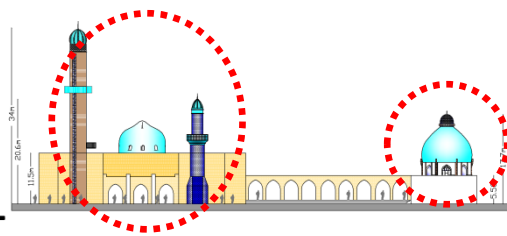
Merge elements from several different styles (after restoration)



Maintaining the formal and functional balance of the prayer house (after restoration)

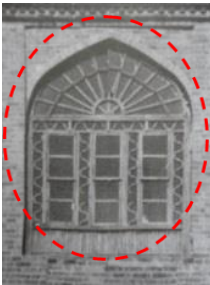
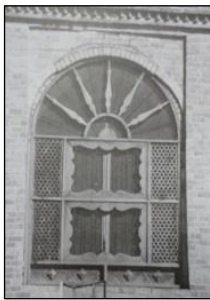
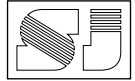


Combining old and modern style in the facade (after restoration).

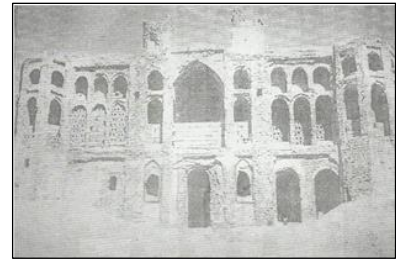


The volumetric transformation of the architectural composition (after restoration) by combining elements of several different styles

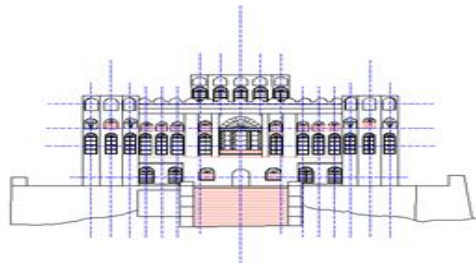
Fig. 4 : Graphical analysis of the great mosque. (Source: researcher)



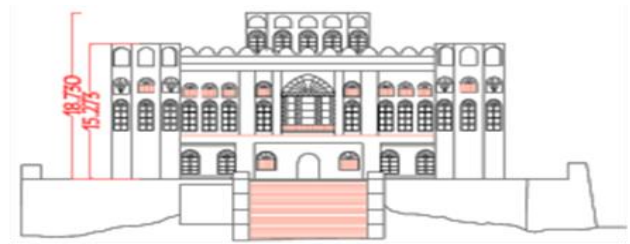
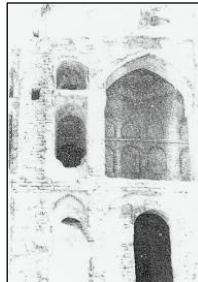
A complete distortion of the original form of the net.



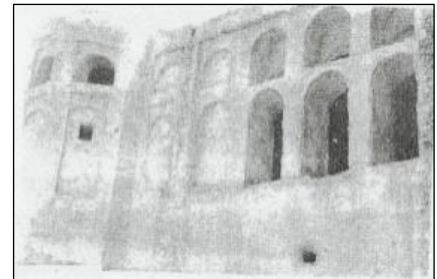
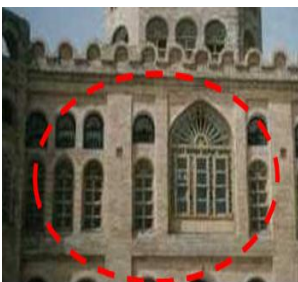
General View of the Sherwana Castle before and after renovation



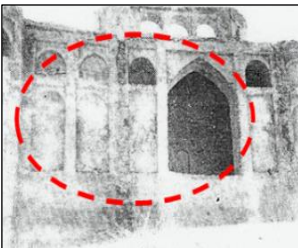
Maintaining the height of the blocks with the general composition (after restoration)



Changing the shape of the main arch



Changing the original features of a part of the building.



Baseless conversion of parts of the façade without proper study of the origin features.

Fig. 5 : Graphical analysis of the Sherwana citadel. (Source: researcher)