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## Research Article:

### The Impact of Heritage Values on Public Perception of Architectural Conservation in Suleimani City

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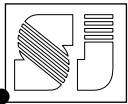
#### Abstract

This paper aims to discover individuals' perceptions of Suleimani city's heritage buildings before and after architectural conservation, as part of a thesis about heritage awareness. Acknowledging that awareness is the ability to perceive and perception is affected by different heritage values that people attach to their built heritage. However, in the architectural conservation process in Suleimani city, some heritage values are neglected, or missing, due to various reasons, and this issue has affected public perception of heritage buildings. Therefore, in this paper, several heritage values have been selected to evaluate the public perception of built heritage in Suleimani city. Because understanding the built heritage and its impact on individual and community heritage awareness depends on how the community perceives and experiences its heritage. This study explores local perceptions of heritage buildings in Suleimani city by using the Semantic Differential Scale (SDS) measure, to analyze the responses of participants in a questionnaire survey. As well as, an evaluation has been made of selected heritage buildings to clarify the reflection of heritage values in Architectural conservation. Different results were found between perceived heritage values in the conserved buildings. By examining local perceptions of architectural conservation, this study contributes to the idea of the built environment's human-centeredness. Assuming that local views of the built heritage directly impact conservation efforts and heritage-driven solutions.

## 1 Introduction

On the relevance of the values associated with cultural heritage, a sizable body of literature has been developed. Distinct experts and organizations have developed different typologies of heritage values, and these typologies vary among different societies and cultures. The development of conservation practice, its methods, and its theories have paved the way for new ideas in the field. The topic of values has recently received a great deal of attention in modern culture[29]. As the significance of heritage values has grown in

prominence, perception has become critical to the heritage field [25]. For understanding the protection of heritage, it is becoming more crucial to comprehend how the public perceives constructed heritage., yet very limited research has been conducted about this matter in the Kurdish context. As UNESCO's statement "the development of conservation programs and management strategies for the long-term preservation of built heritage would benefit from a deeper knowledge of how people use and interact with it"[30]. In the context of this study, the issue of poor conservation practices and false



conservation methods has led to neglecting some important heritage values. Thus, within the framework of an MSc thesis, this paper was necessary to investigate individuals' perceptions regarding a number of conserved heritage buildings, and to know their opinions and awareness of the importance of architectural conservation in the city of Suleimani. However, elites and professional interests still dominate heritage consciousness in such communities. What function does the public do when professionals and academics are in charge, except acting as observers and witnesses to other people's decisions?[29]. This study is an attempt to participate the general public in conservation-related matters, by taking their perception into account regarding the built heritage of this city. There are still enormous efforts to be made on both academic and practical levels of the architectural conservation field. In order to shift the focus to rather human-centered approaches of building conservation and taking the aspect of value more considerably to save the threatened heritage of Suleimani city. This paper consists of a theoretical part of reviewed literature on the subjects of Heritage values and heritage perception of Architectural conservation, then a practical part to measure heritage perception in Suleimani city, using a couple of statistical methods a questionnaire, and an analytical approach, then the results will be discussed to reach the conclusion and recommendation of further research.

## 2 Literature review

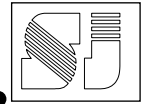
### 2.1 Architectural Conservation

Architectural conservation is the practice of well-thought-out interventions that extend the material, historical, and design integrity of any built heritage [21]. Protecting valuable buildings or architectural values is known as architectural conservation[27]. Another action or process that increases durability is the cautious use of a resource to prevent loss[24]. Examining, documenting, treating, and providing preventative care are among the conservation efforts supported by research and education[12]. Thus, the traditional Euro-American approach to historic preservation placed high importance on authenticity as well as historical and aesthetic elements[32]. Therefore, such an approach laid greater emphasis on the advantages of the historical artifacts themselves and set less

importance on the advantages of preservation for people, since it considered that all values are derived from material evidence of the place[32]. Over the last few decades, a growing variety of preservation approaches and methods have appeared that contest the conventional preservation strategy[1]. Since then, a people-centered approach to preservation has emerged. This innovative method lays special emphasis on "current social, cultural, and personal implications in valuing historic locations and the processes in which places create these values across time"[32]. Without public support and engagement, heritage deteriorates [29]. To involve the many publics that live in our cities, towns, and villages, heritage procedures must go beyond the interests of the specialists in government ministries and the administrators of public institutions. The values of people, institutions, and societies serve as the foundation for such a social and creative process[29].

### 2.2 Values of Cultural Heritage

The definition of value is "principles or norms of behavior; one's assessment of what is significant in life" [8]. Human values are the result of social and behavioral decisions influenced by culture [8]. Furthermore, many scholars in the field of heritage claim that the value or worth assigned to heritage is based less on its inherent virtues and traits than on a "diverse combination of modern values, desires, and even moralities" [16]. Values undoubtedly change with time and may be subject to change[2]. A phenomenon's ability to be valued depends on a variety of criteria, it is possible to refer to biological, psychological, social, and environmental aspects that may be important for a particular person, group, or community[8]. Heritage values maintain the continuity of the knowledge and customs that societies have gathered over time, tying the past to the present and providing a firm foundation for the proper planning of the future[15]. Since value has always been the driving force behind heritage conservation, it goes without saying that no society will attempt to preserve something that it does not value[11]. However, the drive toward industrialization exposed several aspects of human and cultural values to degradation, and it is thought to be an improper movement for the culture of the societies[8]. Therefore, conservation is required due to the threat of their



extinction. [8]. In summary, the value of cultural heritage reflects not only the study, preservation, and use of cultural artifacts but also human social activities and their interconnected social interactions[16].

### 2.3 Categories of Heritage values

According to (Justice Mensah), Heritage values have been divided into historic and aesthetic categories typically. However, the paradigm has been expanded as a result of the limits of the old classification[17]. There are several categories for heritage values, such as Erica Avrami's classification which is: social, spiritual, identity, research, natural, and economic [2]. Another division is Associative, sensory evidentiary, and functional or instrumental, by L. Harald Fredheim, 2016 [10]. This study examines the values that the locals assign to the historic structures using Costin's heritage values. The importance of heritage is taken into account by Costin's heritage values within the context of five values: symbolic, historic, informational, aesthetic, and economic[6].

In this Study, Heritage Values are divided into five categories:

-Historical Values: Heritage is a reminder of past ages and civilizations, and a large portion of this legacy represents a fusion of cultures and customs. [17] The historical value represents the factual judgments of specialists in identifying whether locations are significant[32].

- Cultural values: The historical setting provides meaning to everyday life and aids in defining a sense of place[10]. Its recognition and preservation promote regional, societal, and global uniqueness. As well as, it illustrates the foundations of our civilization and traces its development[16].

-Economic values: The historic environment may significantly boost economic growth by promoting tourism, but more broadly, it also helps thriving communities by fostering favorable circumstances where individuals will want to live and work [16]. Heritage sites are a major draw for local, national, or worldwide tourists, creating jobs and income[17].

-Aesthetic values: a piece of work with creative or design merit It "may be significant because it is an exceptional example, or it may be crucial or illustrative"[32]. Historic structures significantly improve the recognizable sight of historic cities and villages and add historical depth and appeal

to the countryside, improving townscapes and landscapes[16].

-Symbolic value: This value stands for objects or settings that express and spread significant cultural meanings. [16]. Heritage promotes pride in cultural identity and awareness of it[17].

### 2.4 Heritage Perception

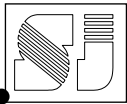
As the importance of heritage-related values has increased, perception has become crucial to the heritage discipline[25]. Each heritage building has its own values or cultural heritage importance, and different stakeholders have varied perceptions of those values[4]. This allows for subjective assessments of heritage that are heavily affected by individual and communal preferences and opinions, which directly affect attitudes toward architectural heritage [31]. Built heritage conservation has become a dynamic process by focusing on valuation and perception[25]. As even if the proper item is not physically remarkable, it is the people's conceptions of monuments that produce the notions of something beyond the normal, something monumental, thus the concept of constructed heritage completely depends on perception.[4]. Today, the public and professionals are responsible for determining the heritage importance of a site[3].

### 2.5 Understanding public perception

It is challenging to define the phrase "public perception" since it covers a wide range of ideas and can alter over time and in various situations. [3]. From a practical standpoint, it may be described as the total of the individual opinions of a group of randomly selected individuals on a particular subject at a certain moment as determined[23]. Besides to, it has long been recognized that perception and behavior are strongly correlated. As a result, how people perceive architectural heritage affects how they engage with it and behave toward it[23]. The significance of community involvement in the process of determining the values and managing heritage locations has been emphasized in several conservation guidelines, statutes, and charters[3]. For this reason, it has been stated: "what value—if any—the public actually attaches to it?"[23].

### 2.6 Values and Heritage Perception in Conservation

Values that are fundamental to the concept of heritage serve as a foundation for the concept of



built heritage[32]. Because heritage values are being emphasized significantly, perception became important in the heritage discipline[25]. This allows for subjective assessments of heritage that are severely impacted by personal and communal preferences and opinions, which directly affect attitudes toward the preservation of constructed heritage[25]. The necessity for public participation in cultural conservation initiatives is widely acknowledged in the literature. It encourages the notion of shared responsibility by strengthening the community's commitment and ongoing participation in the program[3]. Public Participation in heritage conservation is crucial because it may allow people to share their expertise, contribute to finding a solution or decision, and increase awareness of the importance of heritage[3]. Built heritage conservation has become a dynamic process by focusing on valuation and perception[25]. In today's world, heritage has become transdisciplinary; its concentration on conventional conservation and archaeology has given way to a strong engagement with educational, economic, and cultural enrichment processes[29].

### 3 Research Problem, Aim, and Hypothesis

In the architectural conservation process in Suleimani city, some heritage values are neglected, and this issue affects the public perception of conserved heritage buildings. This paper aims to discover individuals' perceptions of Suleimani city's heritage buildings before and after architectural conservation. As well as, this study is an attempt to participate the public in conservation-related matters, by taking their perception into account regarding the built heritage of this city. With the hypothesis that local perception of the built heritage directly affects conservation efforts and heritage-driven solutions, for successful Architectural conservation.

### 4 Research Methodology

After reviewing the literature, and establishing a theoretical part, the practical part of the study begins. In this part, the study used a quantitative approach to survey questionnaires and a qualitative approach to analyze case studies to understand public perception of heritage values associated with heritage buildings before and after conservation. The practical part of the study

has two dimensions:

-First: A questionnaire was designed using google Forms and conducted via an online link and manually. Over 350 responses were collected, to evaluate the public perception of heritage values before and after heritage conservation in the city, using the semantic differential scale (SDS), as a comparison measuring tool for measuring public perception.  
-Second: The induction methodology used, which includes graphical analysis for three case studies. The analytical approach criteria are based on the main and secondary variables of the study, each building has been analyzed through an evaluation of the main heritage values (historical, aesthetic, economic, and symbolic) reflected in the architecture of the building, then different heritage variables were selected for perceiving each building before and after conservation. The final result was derived from both aspects of the practical study.

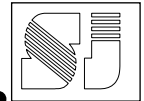
#### 4.1 The Population and the research sample

According to the nature of the research subject, and the total population of Suleimani city the research population is estimated at (400) individuals. The researcher was able to retrieve (372) questionnaires for the sample, which represent (93%) of the distributed forms, and after retrieving the questionnaire forms it was found that (27) of the forms retrieved are not valid for analysis, so those forms were excluded and (345) questionnaires valid for analysis and subject to research were kept, which represent (93%) of the recovered forms and (86%) of the forms distributed for the sample.

#### 4.2 Case studies

Three different conserved buildings in Suleimani's heritage city center, have been selected as case studies, namely the Sarai building, Hotel Farah, and Ali mama sheikha house. To analyze the heritage buildings before conservation and evaluate the conservation process. Each selected building has a different function, all of them were built around the same era and conserved in almost the same period.

1. Sarai building: The Sarai building is situated in the center of Suleimani's historic district Shekhan neighborhood [7]. The building is a historical and cultural monument for all Kurds, not only those who live in the city, and is situated next to the well-known Bardarki Sarai (or Sarai Square) [14]. The



- first Sarai building was built in 1786. Baban Emirate House was the first formal building built as a political and governmental basis for Ibrahim Pasha Baban, the prince who created Suleimani in 1784 and gave it his father's name, Suleimani Pasha[28]. The existing structure was modified by the British into a two-story building between 1926 and 1928 utilizing British materials and architectural design. The building also well reflects the architectural design, building methods, and materials used in the early twentieth century[14].
2. Hotel Farah: The Farah Hotel, which was established in the early 1920s and is the oldest hotel in Sulaymaniyah, is located in the heart of Mawlawi Street's historical district. During the previous four decades, the hotel was abandoned. The hotel was bought by the Directorate of Antiquities of Sulaymaniyah in 2006, and substantial restoration and refurbishment work was done in 2013 until was finished in 2015. The Revival of Kurd's Heritage Organization received the upper (or first floor) in order to showcase its collection, thereby turning it into a history museum, and the ground floor has remained as shops [13].
  3. Ali Sheikh Mahmood (Ali mama Sheikha) house: The house was built in 1932, it was owned by a Jewish family after the Ali mama sheikha family. The area of the house is about 150m<sup>2</sup>, and consists of two stories, and five main rooms, surrounding a courtyard, in an L- shape arrangement. The house was sold to the heritage directorate and renovated in 2016. The distinguished characteristic of the house is its covered balconies or (al-mashrabiya). That gives privacy for the family, as well as the covered corridors with wooden arched decorations [18].

#### 4.3 Measuring Perception

Environmental psychology was the first discipline to propose measuring perceptions and attaching meanings to constructed surroundings[19]. Referred to as the semantic differential scale (SDS), many academics interested in human-environment interactions eventually embraced it [25]. In the majority of situations, SDS resembles bipolar opposite adjectives assessing visual stimuli due to their perceptual content based on knowledge, as visual

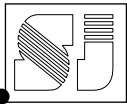
perception retains a dominating position in human-environment interaction[20]. The meanings that people attach to environments are both perceptual and emotional in structure, according to Russell and Pratt's (1980) theoretical structure of affective variables, which was suggested and tested[22]. A study carried out by Sektani and Khayat, about heritage buildings in Erbil city and well-being, has used the measurement model to compare modern and heritage buildings in Erbil city, and the perception of two different groups measured[25]. Depending on the purpose of the study, the adjective variables change. In this study, five emotional variables of heritage values have been selected to evaluate the resident's perception of conserved heritage buildings in Suleimani city

### 5 Evaluation criteria and graphical analysis

#### 5.1 Relating (intangible) heritage values to physical structures

To support the process of measuring perception a matrix has been developed, to categorize and analyze the heritage values in the architectural form of each heritage building. This instructional tool was created to directly connect intangible values to the built environment, the architect's area of influence[5]. As has been presented in Tables (1,2,3,4,5,6). A number of architectural variables have been selected, such as Architectural (Form, Elements, and relationship with context) as physical variables, they have been evaluated using a number of intangible heritage values such as (Identity, Authenticity, Attachment, Recreational, and Pride) values. Then, a graphical analysis of each building was presented comparing the previous evaluation criteria between the buildings before and after conservation to clarify the evaluation process. As shown in

- Identity value: The idea of identity is multidimensional in many ways, and to define identity is to take into account an object's uniqueness; in other words, to identify the characteristics that set an object apart from others[2]. Part of one's identity can be found in the city, workplace, or house[27]. Because historical monuments are composed of shared experiences, they may reflect our collective identity. In other words, historical sites serve as a conduit for the expression of shared memories and



- experiences[27].
- Authenticity value: An important consideration in evaluating historical artifacts is authenticity. At its core, "authenticity" refers to a determination of how "genuine" or "false" historical structures, locations, and things are[32]. Being authentic may be interpreted in terms of the creative process that was used to develop it as a genuine artifact of its period, which includes the impacts of the passage through the historical time[27]. In this sense, a heritage item is said to be authentic when it has concepts or meanings that have been accepted by culture or society and can exist apart from physical reality[32].
  - Attachment value: Specific locations can evoke powerful emotions in people. This value, also known as "place attachment," is based on how a person feels about a place based on certain environmental signals, which are frequently abundant in historic locations[27]. While it is widely assumed that the first reaction to a structure or environment is emotional [32]. A building or area of the city is given a certain set of values that are formed by situating itself in a certain location, such as a sense of place, civic engagement, worth, connection, and other values[27].
  - Recreational value: Recreational activities are "a significant element of people's everyday life and experiences"[32]. Many historic settings provide a variety of recreational opportunities[32]. The utility gained by present and future generations from visiting the location is referred to as recreational value[27].
  - Pride value: It is produced when a monument exists in a society and people feel honor and pride in themselves[27]. Heritage may foster a more positive sense of place among residents, strengthening the feeling of community and boosting civic pride[32].

## 6 Result and Discussion

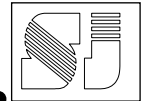
### 6.1 Discussing Results of Evaluation and graphical analysis

The findings of this evaluation depend on the architectural form of the heritage buildings before conservation, and the method of conservation, in relation to the heritage values, and perceived emotional values they create:

- Authenticity level has declined in some conserved buildings, this is because of the new building materials, also at some points usage of contrasting building styles in some details, which makes the originality of the conservation in doubt.
- Identity creation has a proper level in all the conserved buildings. Because, the original forms have been preserved, the addition of some decorative elements which are derived from Kurdish Architecture, also supports this notion. However, if this addition was excessive and unnecessary also will affect the sense of identity creation, or will lead to loss of identity, Hotel Farah's interior addition of some decorative treatments is an example.
- Pride value compared to recreational value, has taken higher consideration for what a heritage building can give with its existence and architectural essential form.
- Recreational values of Hotel Farah, has a high level, because of its everyday usage by a variable number of users. However, the other two buildings scored lower.
- As for Attachment value, the Sarai building has shown a high level, while Ali mama Sheikha's house scored lower, everyday use of the building is one of the factors.

### 6.2 Discussing Results of the questioner

Tables (7,8, and 9) show the weighted mean and standard deviation of each item of the variable **(Residents' Perceptions of heritage Conservation)**, the overall weighted mean for this variable is equal to (3.93) with a standard deviation equal to (0.84), the general direction of this variable toward to agree. And the overall weighted mean of this variable is greater than the theoretical mean (3), which is indicate to population responder's agreement with the Architectural conservation and the perceived emotional values that these buildings create after their conservation. whereas (70.2%) of levels (5) and (4) which is strongly agree and agree, but (18.6%) amount of neutral levels (3), (11.2%) with the level of strongly disagree (1) and disagree (2). Each item individually can be summarized as follows: The item **(Y23)(Recreational value of Hotel Farah)** has the highest weighted mean among the rest of other values, which is equal to (4.16), and that is greater than the theoretical mean (3), with



standard deviation is equal to (1.09), this item indicates to (79.1%) of the sample, with the level of strongly agree and agree, but (12.2%) amount of neutral level, the (8.7%) with the level of strongly disagree and disagree. After that item (Y14) (Pride Value of Sarai Building) has the second highest weighted mean, which is equal to (4.15) which is greater than the theoretical mean (3) with a standard deviation of (1.16), also this item indicates (77.1%) with the level of strongly agree and agree, but (13.0%) amount of neutral level, the (9.9%) with the level of strongly disagree and disagree. However, the Authenticity value of (Ali mama Sheikha house, and Hotel Farah) weighted mean is equal to (3.7) and (3.72), considers being lower than the rating of other conservation perceived values of the same buildings.

#### 7 Conclusion

- Proper Architectural Conservation that responds to the positive heritage values can affect the public heritage perception in a beneficial way that encourages further conservational works for saving the threatened heritage.
- The results of the questionnaire that have been discussed above, support the research hypothesis because the wide variety of positive replies about heritage perceived values show the eagerness of Suleimani's population toward built heritage conservation.
- Each heritage building of the selected case studies embody several perceptual and emotional values other than their historic and architectural importance, taking the opinion of the public helps to preserve these values during future conservations.
- As the results of the questionnaire showed, the pride value of these buildings scored higher than other values, in spite of some technical defects in the process of their conservation.
- Attachments Value, ranked the least, among other heritage values, for that several factors are the reason, creating the sense of place attachment with the conserved building, for instance, the current function of the buildings, that don't engage people with the place, is also the reason behind recreational senses, except Hotel Farah.
- Authenticity Value also is in doubt according

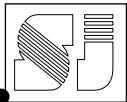
to the findings of the questionnaire inquiry, one of the reasons is using new and imported materials, as well as, adding patterns that are contradictory to the original.

#### 8 Recommendation

- The subject of heritage values attributed to heritage conservation needs more consideration in the theoretical as well as the practical process of building conservation. Because the time of preserving only structures has passed nowadays the success of any conservation work is measured through its sustainable usage and impact.
- Public perception of Heritage conservation plays an effective role in the conservation process, the results of this study indicate the public desire to take part in their heritage, its recommended to engage the public more in conservation-related issues.

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### أثر القيم التراثية على الإدراك العام للحفاظ المعماري في مدينة السليمانية

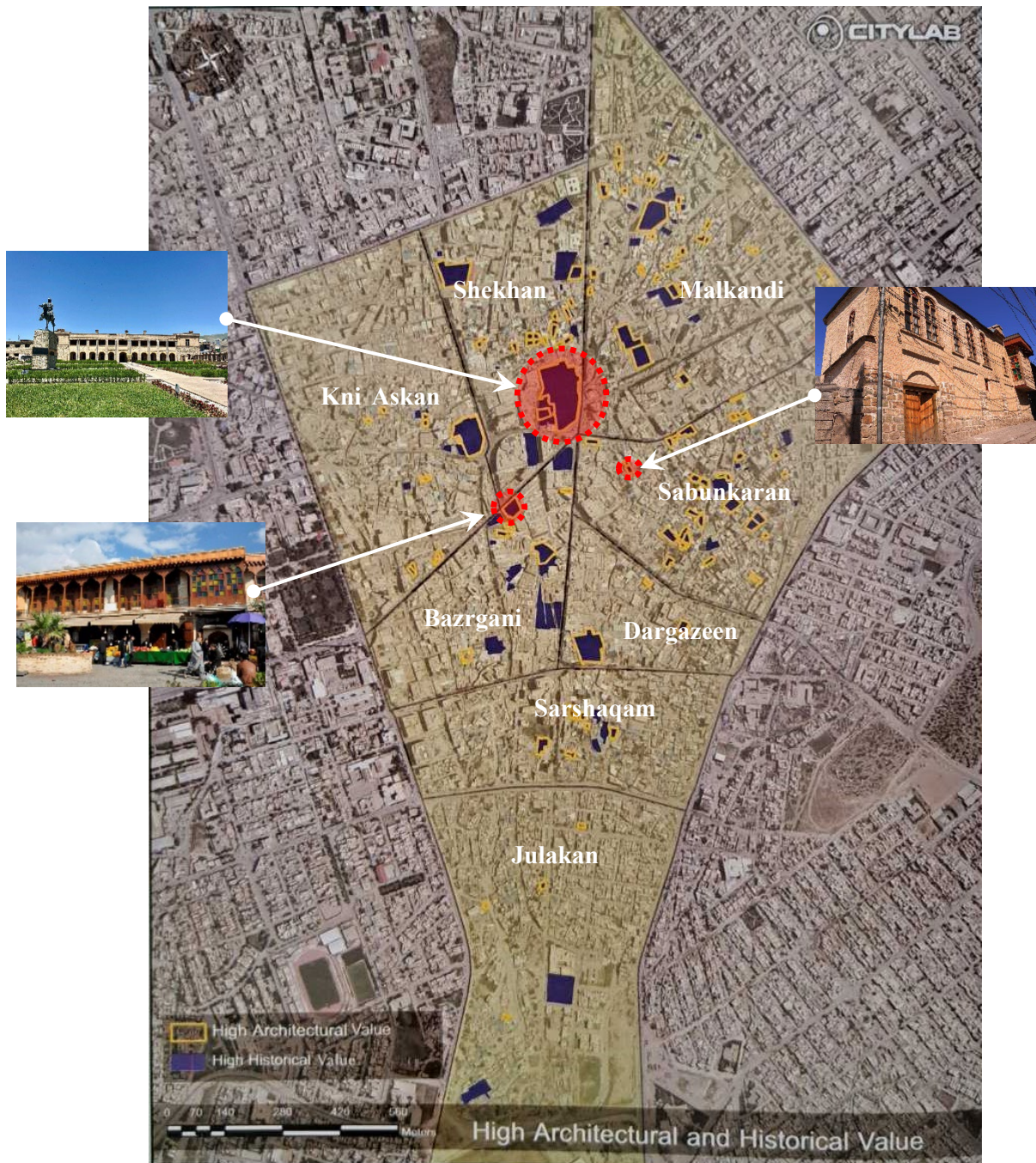
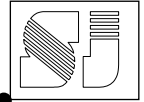
#### المستخلص

تهدف هذه الرسالة إلى اكتشاف ادراك الأفراد عن المباني التراثية لمدينة السليمانية قبل وبعد عملية الحفاظ المعماري ، كجزء من أطروحة حول الوعي بالتراث. لان الوعي هو القدرة على الإدراك والإدراك يتأثر بقيم التراث المختلفة التي يربطها الانسان بتراثه المبني. ومع ذلك ، في عملية الحفاظ المعماري في مدينة السليمانية ، تم إهمال بعض القيم التراثية أو فقدها لأسباب مختلفة ، وقد أثرت هذه المشكلة على الإدراك العام للمباني التراثية. لذلك ، في هذا البحث ، تم اختيار عدد من القيم التراثية لتقييم الإدراك العام للتراث العمراني في مدينة السليمانية. لأن فهم التراث المبني وتأثيره على الوعي بالتراث الفردي والمجمعي يعتمد على كيفية إدراك المجتمع لتراثه وتجربته. تستكشف هذه الدراسة التصورات المحلية للمباني التراثية في مدينة السليمانية باستخدام مقياس التفاضل الدلالي، لتحليل إجابات المشاركين في استطلاع رأي. بالإضافة إلى ذلك ، تم إجراء تقييم لكل مبنى لتوضيح انعكاس القيم التراثية في الحفاظ المعماري. تم العثور على نتائج مختلفة بين القيم التراثية المتصورة في المباني المحمية. من خلال فحص التصورات المحلية للحفاظ المعماري للمباني التراثية ، تساهم هذه الدراسة في فكرة محور البيئة المبنية على الإنسان. على افتراض أن وجهات النظر المحلية للتراث المبني تؤثر بشكل مباشر على جهود الحفظ والحلول القائمة على التراث.

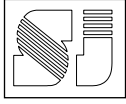
#### الكلمات المفتاحية:

الحفاظ المعماري ، قيم التراث ، إدراك التراث، قياس الإدراك



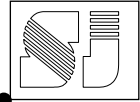


**Figure 1:** The basic Map of the Old Neighborhoods in Suleimani [7]



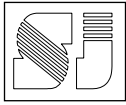
**Table 1:** Evaluation of Ali Mama Shaikha House before Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables	Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment	
Heritage values	Physical Manifestation of heritage values in Architecture		Evaluation of Perceived Values						
Historic values	Era of establishment	1920-1930		●	●	●	○	●	
Economic values	The function of the building	A Tow story house		○	●	○	○	○	
	Purpose	Living space for a well-known family in the city							
Aesthetic values	Architectural style	An original typical Kurdish house with features from other civilizations							
	Form	L-shaped house, with an inside court							
	Elements	Balcony		Brick Shanasheels					
		windows		-Arched windows -Colored glass windows -Rectangular with arch decoration					
		Doors		Arched wooden doors	●	●	●	●	●
		Entrance		Rectangular double door with decorative brick arch					
	corridors	Arched riwaq with pointed Kurdish-style wooden arches							
Building Material	-Brick and stone for the facade -Wood for decorative arches, windows, and doors frames								
Ornaments	-Brick patterns on the wall and above windows, shanasheel, and the entrance -Colored Plaster patterns on ceiling slabs								
Symbolic values	Relationship with context	-Harmony with material and shape with the neighborhood context -Dominance with decorative elements	●	●	●	○	○		
	Scale	Human scale in harmony with narrow street							
	Event or character	Belonging to a rich family							



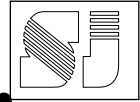
**Table 2:** Evaluation of Ali Mama Shaikha House After Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables	Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment	
Heritage values	Physical Manifestation of heritage values in Architecture		Evaluation of Perceived Values						
Historic values	Conservation period	2014-2016		○	●	●	○	○	
Economic values	Current Function	No function		○	○	●	○	○	
	Purpose of conservation	Unique traditional Architecture		○	○	●	○	○	
	Responsible parties	Suleimani antique Directorate		○	○	●	○	○	
Aesthetic values	Conservation Method			traditional restoration approach					
	Change and addition in Form			Restoring the original form, rebuilding the demolished parts					
	Change and Addition of Elements	Balcony		Original form, new materials For roof and finishing					
		windows		-Restoring the original shape -Addition of colored glass windows					
		Doors		Restoring the original shapes	○	●	●	○	●
		Entrance	Restoring the original shapes						
		corridors	Restoring the original shapes With repair and new materials						
Change in Building Material		-modern gypsum and cement plasters -New paints for top of shanasheel - replacement with new bricks and stones							
Change and addition of Ornaments		-Brick patterns on the wall and above windows, shanasheel, and the entrance, restored and recreated -Adding Colored Plaster patterns on ceiling slabs							
Symbolic values	Relationship with context	Dominance with decorative elements							
	Scale	Human scale in harmony with narrow street	●	●	●	○	●		
	Event or character	Used as small museum							



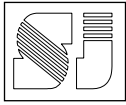
**Table 3:** Evaluation of Sarai Building Before Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables		Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment
	Physical Manifestation of heritage values in Architecture								
<b>Heritage values</b>	Physical Manifestation of heritage values in Architecture								
<b>Historic values</b>	Era of establishment		1910-1920	Evaluation of Perceived Values	●	○	●	●	●
<b>Economic values</b>	The function of the building		First Governmental building In Suleimani city		●	●	●	○	○
	Purpose		All the government institutions were in the Sara building.						
<b>Aesthetic values</b>	Architectural style		British materials and architectural style						
	Form		-Tow story formal shape -Structural frame for the front façade, consisting of arched and rectangular voids						
	Elements	windows	Rectangular with arch decoration		●	●	●	●	●
		Doors	Rectangular with arch decoration						
		Entrance	Simple iron door, between fence columns						
		corridors	Arched brick voids						
	Building Material		Brick and stone						
Ornaments		No ornaments							
<b>Symbolic values</b>	Relationship with context		Dominance with form and character						
	Scale		Human-scale building, with a wide landscape	●	●	●	●	○	
	Event or character		Associated with important figures usage and political and national events, its relation with bardarki sara's square						



**Table 4:** Evaluation of Sarai Building After Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables	Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment
Heritage values	Physical Manifestation of heritage values in Architecture		Evaluation of Perceived Values					
Historic values	Conservation period	2008-2013		●	●	●	○	●
Economic values	Current Function	Museum		●	○	○	○	○
	Purpose of conservation	The first governmental building,						
	Responsible parties	Government						
Aesthetic values	Conservation Method	an authentic treatment similar to that of the traditional restoration approach (restoring the original look of the 1920s)						
	Change in Form	The original form is restored						
	windows	-the form of the windows restored -addition of colored glass windows		○	●	●	●	○
	Doors	Decorative arches were added						
	Entrance	Arch decoration added between fence columns						
	corridors	Restoring the original shape						
	Change in Building Material	--modern gypsum and cement plasters -all the old bricks and stones in the façade were cleaned and repaired or replaced with bricks and stones from Iran						
Modern facility additions	-washrooms and a kitchen -new safety standard requirements -installing a central cooling and heating system - part of the front yard as a traditional-looking cafeteria - Addition of two sculptures							
Symbolic values	Relationship with context	The dominance of the form is restored						
	Scale	Scale and proportion are restored	●	●	●	●	●	
	Event or character	Annual traditional events, digital museum, seminar hall						



**Table 5:** Evaluation of Hotel Farah Before Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables		Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment
	Physical Manifestation of heritage values in Architecture								
Heritage values	Physical Manifestation of heritage values in Architecture								
Historic values	Era of establishment		opened in 1923 and was completed in 1926	Evaluation of Perceived Values	●	●	●	●	●
Economic values	The function of the building		Hotel		○	●	●	●	●
	Purpose		The building worked as a khan, for staying and commercial purposes						
Aesthetic values	Architectural style		A simple two-story building, shops, and hotel rooms surrounding a central courtyard						
	Form		The most used forms in the hotel are the semi-circle arcs and composite arch-colonnade for decoration						
	Elements	Balcony	Wooden arch colonnade (Kurdish-style pointed arches)		●	●	●	●	●
		windows	-Arched windows -Rectangular with iron frames						
		Doors	wooden doors with arched wood decoration						
	Building Material		-Brick and stone for the facade -Wood for decorative arches, windows, and doors frames						
Ornaments		-wooden patterns(Nakhsh) on the above windows, and doors -Colored Plaster patterns on ceiling slabs -ornamented parapets							
Symbolic values	Relationship with context		Dominance with scale and building form and character						
	Scale		Human scale, centrality and attraction	●	●	●	●	●	
	Event or character		The first khan in the region						

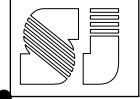
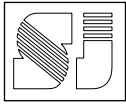


Table 6: Evaluation of Hotel Farah After Conservation, According to Main and Secondary Variables (Researcher)

Main Variables	Secondary variables		Indicators	Perceived Values	Authenticity	Identity	pride	Recreational	Attachment
	Physical Manifestation of heritage values in Architecture								
Heritage values									
Historic values	Conservation period		2013-2015	Evaluation of Perceived Values	○	●	●	●	●
Economic values	Current Function		The ground floor is commercial, and 1st floor is a history museum		●	●	○	●	●
	Purpose of conservation		It was the oldest hotel in the city						
	Responsible parties		Government, UNESCO						
Aesthetic values	Conservation Method		extensive restoration and renovation						
	Change and addition in Form		Restoring the original form, rebuilding the demolished parts						
	Elements	windows	-the form of the windows restored -addition of colored glass windows						
		Doors	The form of the doors restored		○	●	●	●	○
	Change in Building Material		-modern gypsum and cement plasters -all the old bricks and stones in the façade were cleaned and repaired or replaced with bricks and stones from Iran -new wooden arched columns						
Change and addition of Ornaments		--Restoration of the window and above-door patterns -adding patterns and decorating the inside court							
Symbolic values	Relationship with context		The dominance of the form is restored						
	Scale		Scale and proportion are restored	●	●	●	●	●	
	Event or character		Daily commercial usage, national events on the upper floor						



**Table 7:** Means, SD, and MI for Residents’ Perceptions of Sarai building Conservation (Researcher)

Analysis of perceived Values (SDS) scale							Weighted Mean	Standard Deviation	Coefficient of Variance	Relative Importance (RI)
1	2	3	4	5						
No	No	No.	No.	No.						
Fake (Y11)	19	18	75	123	110	Authentic	3.83	1.1	28.73	76.64
	5.5	5.2	21.7	35.7	31.9					
Non-Identarian (Y12)	17	29	61	118	120	Identarian	3.86	1.13	29.39	77.1
	4.9	8.4	17.7	34.2	34.8					
Not-Recreational (Y13)	22	18	40	83	182	Recreational	4.12	1.19	28.88	82.32
	6.4	5.2	11.6	24.1	52.8					
Not Proud (Y14)	21	13	45	81	185	Proud	4.15	1.16	27.94	82.96
	6.1	3.8	13	23.5	53.6					
Detached (Y15)	20	18	66	94	147	Attached	3.96	1.16	29.32	79.13
	5.8	5.2	19.1	27.2	42.6					
<b>Total</b>	<b>99</b>	<b>96</b>	<b>287</b>	<b>499</b>	<b>744</b>	<b>Total</b>	<b>3.98</b>	<b>0.92</b>	<b>23.11</b>	<b>79.63</b>
	<b>5.7</b>	<b>5.6</b>	<b>16.6</b>	<b>28.9</b>	<b>43.1</b>					

**Table 8:** Means, SD and MI for Residents’ Perceptions of Hotel Farah Conservation (Researcher)

Evaluation of perceived Values (SDS) scale							Weighted Mean	Standard Deviation	Coefficient of Variance	Relative Importance (RI)
1	2	3	4	5						
No	No	No.	No.	No.						
Fake (Y21)	29	30	67	108	111	Authentic	3.7	1.24	33.43	74.03
	8.4	8.7	19.4	31.3	32.2					
Non-Identarian (Y22)	19	22	79	97	128	Identarian	3.85	1.15	29.94	76.99
	5.5	6.4	22.9	28.1	37.1					
Not Recreational (Y23)	17	13	42	99	174	Recreational	4.16	1.09	26.28	83.19
	4.9	3.8	12.2	28.7	50.4					
Not Proud (Y24)	17	11	62	107	148	Proud	4.04	1.09	26.88	80.75
	4.9	3.2	18	31	42.9					
Detached (Y25)	21	18	69	93	144	Attached	3.93	1.17	29.77	78.61
	6.1	5.2	20	27	41.7					
<b>Total</b>	<b>103</b>	<b>94</b>	<b>319</b>	<b>504</b>	<b>705</b>	<b>Total</b>	<b>3.94</b>	<b>1</b>	<b>25.41</b>	<b>78.71</b>
	<b>6</b>	<b>5.4</b>	<b>18.5</b>	<b>29.2</b>	<b>40.9</b>					



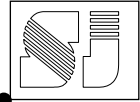
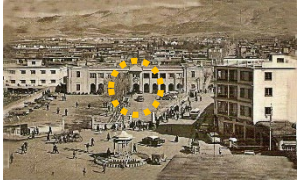


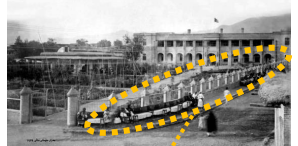




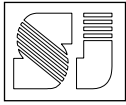


Table 9: Means, SD and MI for Residents’ Perceptions of Ali Mama Sheikha House Conservation (Researcher)


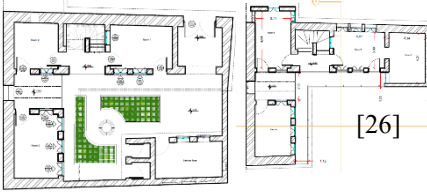


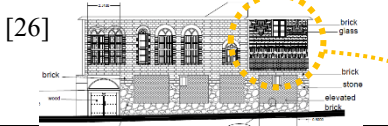
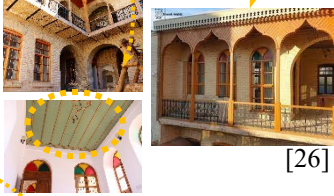

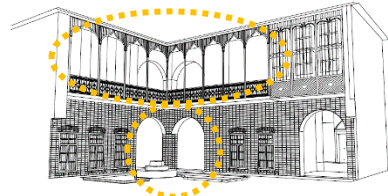

Evaluation of perceived Values (SDS) scale										
	1	2	3	4	5		Weighted Mean	Standard Deviation	Coefficient of Variance	Relative Importance (RI)
	No	No	No.	No.	No.					
	%	%	%	%	%					
Fake (Y31)	29	24	71	111	110	Authentic	3.72	1.22	32.71	74.43
	8.4	7	20.6	32.2	31.9					
Non-Identarian (Y32)	19	27	68	119	112	Identarian	3.81	1.14	29.87	76.12
	5.5	7.8	19.7	34.5	32.5					
Not Recreational (Y33)	15	14	68	106	142	Recreational	4.00	1.08	26.93	80.06
	4.3	4.1	19.7	30.7	41.2					
Not Proud (Y34)	16	10	78	105	136	Proud	3.97	1.07	27.04	79.42
	4.6	2.9	22.6	30.4	39.4					
Detached (Y35)	18	15	73	104	135	Attached	3.94	1.11	28.32	78.72
	5.2	4.3	21.2	30.1	39.1					
<b>Total</b>	<b>97</b>	<b>90</b>	<b>358</b>	<b>545</b>	<b>635</b>	<b>Total</b>	<b>3.89</b>	<b>0.99</b>	<b>25.47</b>	<b>77.75</b>
	<b>5.6</b>	<b>5.2</b>	<b>20.8</b>	<b>31.6</b>	<b>36.8</b>					

Table 10: Graphical Analysis of Sarai Building (Researcher)









Building Form	Plan and Elevation	Architectural Elements
 <p>Sarai Building in 1920 [14]</p>	 <p>[26]</p>	 <p>[28]</p>
 <p>Redeveloped Sarai Building in 1929 [14]</p>	<p>The original form of the complex has been preserved with some minor changes. Addition of new function without extension of the original boundaries.</p>	 <p>[26]</p>
 <p>After conservation in 2013 [26]</p>	 <p>[26] Front Elevation-pathology</p> <p>New building materials with modern treatment have been added. [26]</p>	 <p>Preserving the main structure. [14]</p>

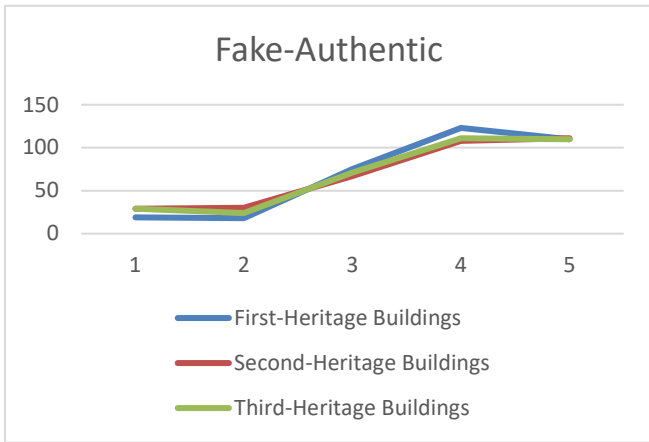
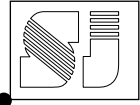


**Table 11:** Graphical Analysis of Ali mama Sheikha’s house (Researcher)

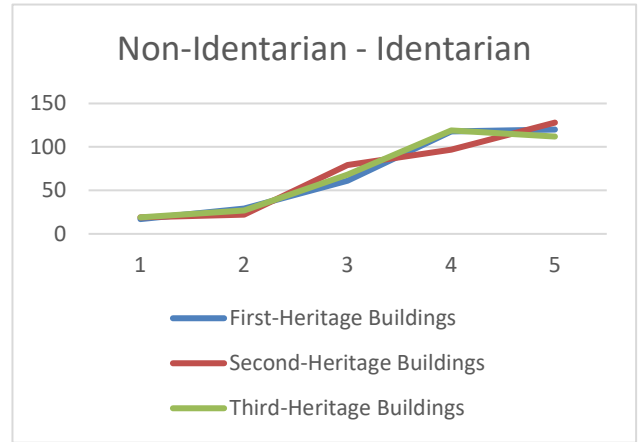
Building Form	Plan and Elevation	Architectural Elements
 <p>Before ruining of side elevation [28]</p>	 <p>Ground Floor Plan First Floor Plan [26]</p> <p>The organization of the house is horizontally oriented over two stories with a central vertical circulation at the intersection of the two arms of the L-shaped floor plan.</p>	 <p>Preserving the arched elements [28]</p>
 <p>the building in 2011 [28]</p>	 <p>[26]</p> <p>brick glass brick stone aluminum</p>	 <p>recreating patterns in ceiling [26]</p>
 <p>After conservation in 2013 [26]</p>	 <p>[26]</p>	 <p>The form and patterns are conserved but the finishing treatment is contrast to the original. [28]</p>

**Table 12:** Graphical Analysis of Hotel Farah (Researcher)

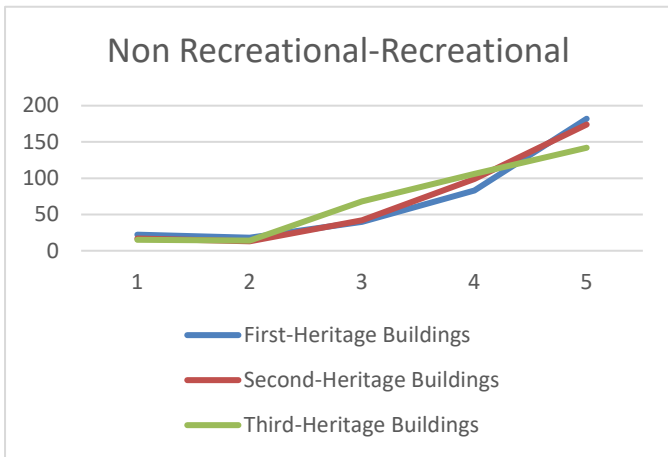
Building Form	Plan and Elevation	Architectural Elements
 <p>Hotel Farah in 1920s [26]</p>	 <p>Hotel Farah Hotel Farah [26]</p> <p>Ground Floor Plan First Floor Plan</p>	 <p>[28]</p>
 <p>Before conservation in 2012 [28]</p>	<p>Hotel Farah consists of two floors:(Ground floor which was used for shopping and the internal court for the Garage). The first floor which was used for Guest rooms-hotel [26]</p>	 <p>the form is modified by using new material [26]</p>
 <p>After conservation in 2015 [26]</p>	 <p>[26]</p>	 <p>Decorative element added [13]</p>



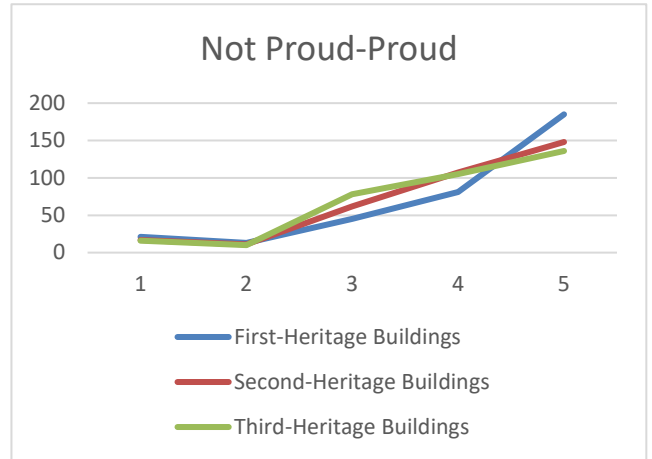
**Figure 2:** Graph of Public Perception of Authenticity Value (Researcher)



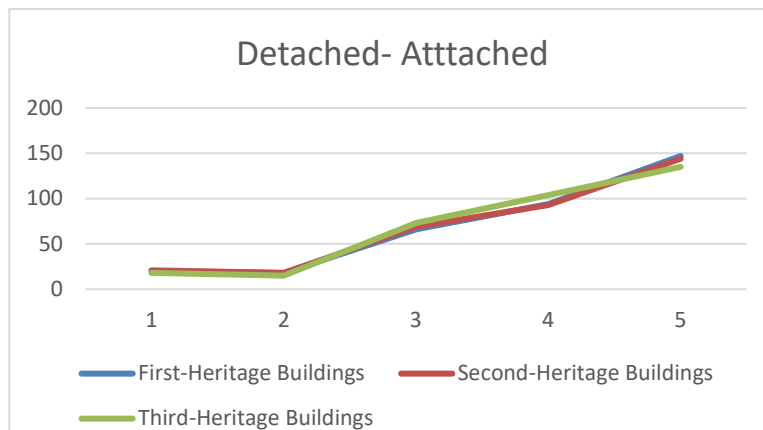
**Figure 4:** Graph of Public Perception of Identity Value (Researcher)



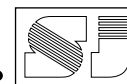
**Figure 3:** Graph of Public Perception of Recreational Value (Researcher)



**Figure 5:** Graph of Public Perception of Pride Value (Researcher)



**Figure 6:** Graph of Public Perception of Attachment Value (Researcher)



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

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### 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

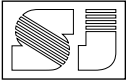
policy and analyze the impact of preserving the architectural characteristics of these buildings. The research concludes with a set of recommendations that can help improve the efficiency of architectural conservation and preserve the original heritage elements of the Kurdish community and increase community 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<sup>[1]</sup>. 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 <sup>[2]</sup>.

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 <sup>[2]</sup>

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 <sup>[3]</sup>.

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 <sup>[4]</sup>.

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" <sup>[5]</sup>.

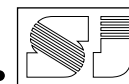
### 2.1. The main Factors of damage and loss of architectural heritage:

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 <sup>[5]</sup>.
- 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 <sup>[6]</sup>.
  - 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 <sup>[7]</sup>.
  - 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 <sup>[5]</sup>

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<sup>[7]</sup>.
  - 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<sup>[7]</sup>.
  - 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<sup>[7]</sup>.
- 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<sup>[8]</sup>.
  - 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<sup>[9]</sup>.
  - 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<sup>[5]</sup>.

## 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<sup>[10]</sup>.

The objectives of preservation can be represented in several aspects:

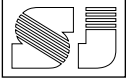
- Maintain the building of ancestors, to serve as a support and a basis to what humans build upon so that to continue the effective construction for the communities from one generation to another<sup>[11]</sup>. It is a fundamental step to ensure its survival as a livestock of the faith and stability in architecture<sup>[12]</sup>.
- 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<sup>[13]</sup>.
- Extend the life of cultural properties, and make them usable in the present time or in the future<sup>[13]</sup>.
- 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<sup>[14]</sup>.

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<sup>[15]</sup>.
- 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<sup>[15]</sup>.
  - Assigning a new function to the building close to the original function, in a way



not creating a big gap between past and present <sup>[14]</sup>

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

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 <sup>[16]</sup>. 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 <sup>[17]</sup>.
- 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 <sup>[18]</sup>. It is imperative to consider that the changes to be the least, in a way not affecting the original character of the building <sup>[15]</sup>.
- c) Complete Conservation: is conserving and keeping the buildings that can be protected with their original shapes, serving the same function <sup>[17]</sup>.

#### **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 <sup>[19]</sup>. 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 <sup>[20]</sup>.

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

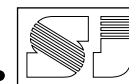
economic factors, and these multiple factors at the level of two axes together directly affect the processes and policies of architectural conservation and affect their efficiency and continuity <sup>[20]</sup>. All of which also require power and administrative, organizational and executive bodies to 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 <sup>[21]</sup>

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 <sup>[22]</sup>. 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 <sup>[19]</sup>.
- 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 <sup>[23]</sup>.

#### **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 <sup>[24]</sup>. 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 <sup>[23]</sup>.



## 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 <sup>[26]</sup>. 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" <sup>[25]</sup>.

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:

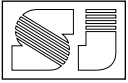
- Intentional: the maintenance and renovation processes conducted in the 1920s and 1940s aiming under the pretense of development and innovation resulted in the loss of the architectural and historic value of the building <sup>[26]</sup>.
- Inadvertent: This is embodied in the lack of awareness of the cultural values of these types of buildings from both the humans and responsible institutions. In addition to the inappropriate implementation of architectural conservation policies <sup>[26]</sup> (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) <sup>[27]</sup>.

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 <sup>[23]</sup>. (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 <sup>[27]</sup>.

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)

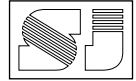
## 6. Discussion

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:

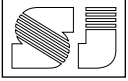
- Results have been reached of each design indicators measured within all characteristics of the case studies and determined by their proportions and repetition to be useful for assessing the efficiency of conservation policy (table 2).
- The study on this aspect examines the use of the Chi-Square Tests 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.



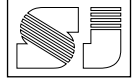
- The renovation of the ornaments and patterns on the walls and ceilings has been conducted in a random fashion in all the cases according to the analysis of indicators.
- This method can be used in analyzing, evaluating and interpreting the architectural conservation of the heritage buildings according 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

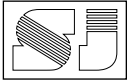
تحتل مسألة الحفاظ على التراث مكاناً متقدماً في سياق القضايا ذات الاهتمام الكبير في دول العالم ، لأنها مؤشر واضح على تقدم الحضارات والتي تستمد منها الأجيال اللاحقة ثقافتها وهويتها المعمارية . ، إن أهمية البحث ليس في توضيح هدف الحفاظ للوقاية والصيانة فقط ، إنما هناك أهمية من ناحية البعد الفلسفي والحضاري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

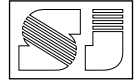
**الكلمات المفتاحية:** الحفاظ المعماري ، الهوية المعمارية ، التوثيق

المعماري ، التدهور ، الترميم ، إعادة التأهيل .



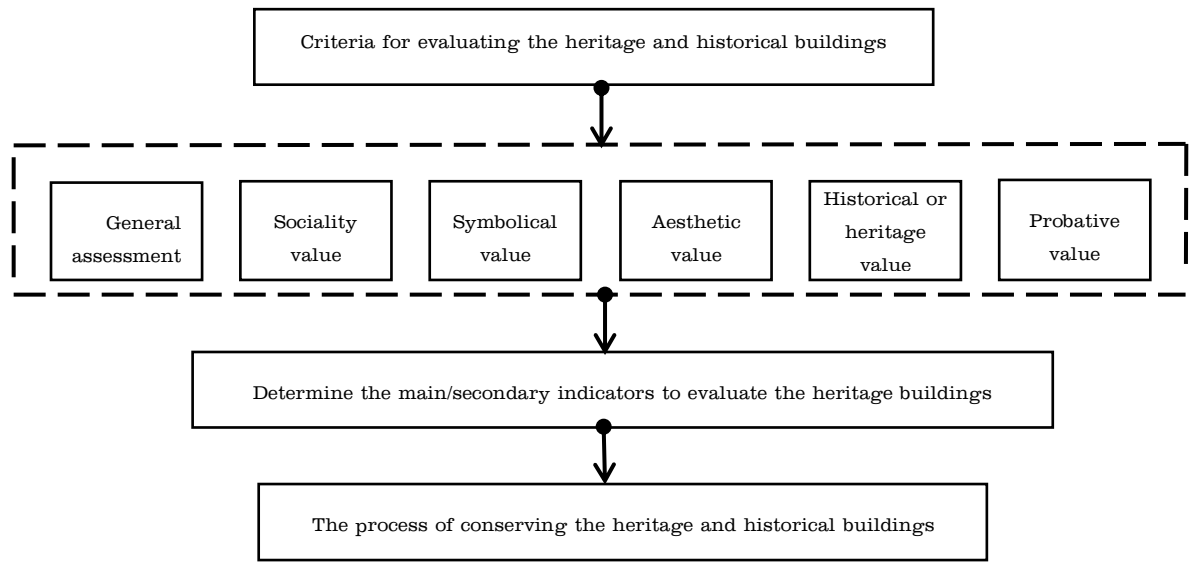
**Table 1: Evaluation form for measuring the main/secondary indicators to revival historical buildings.**  
**Measuring tool for Grand mosque.** (Source: researcher).

	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				<input checked="" type="checkbox"/>	
				Change in colours				<input checked="" type="checkbox"/>	
				Blending Lines				<input checked="" type="checkbox"/>	
		Elements and architectural treatments	Complementary elements	Ornament				<input checked="" type="checkbox"/>	
				Calligraphy				<input checked="" type="checkbox"/>	
		Additions to building	Entrance					<input checked="" type="checkbox"/>	
Height							<input checked="" type="checkbox"/>		
Proportion			Parts together	<input checked="" type="checkbox"/>					
			Part with all				<input checked="" type="checkbox"/>		
Harmony			Functional	<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"/>			
		Functional				<input checked="" type="checkbox"/>			
Transformation		Informal				<input checked="" type="checkbox"/>			
		Volume				<input checked="" type="checkbox"/>			
		Subtract				<input checked="" type="checkbox"/>			
		Addition				<input checked="" type="checkbox"/>			

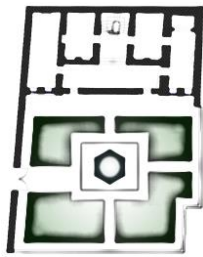
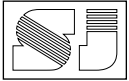


**Table 2 : The results of the analysis of relations between the main indicators.** (Source: researcher)

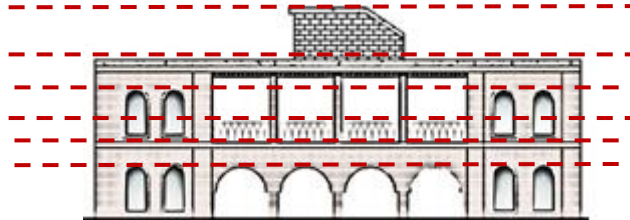
very weak	weak	medium	strong	results	correlation coefficient (R)	Level of significance (Sig)	Chi-squared test	Terms	Terms
		☐		direct relationship	.368	0.00	154.9	Elements and architectural treatments	
			☐	direct relationship	.572	0.00	132.0	Additions to building	Architectural Character
	☐			direct 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



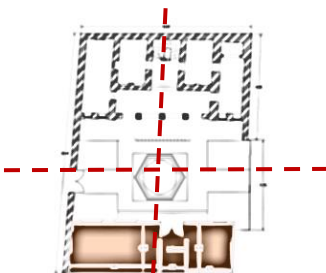
**Diagram 1: Criteria and its impact to determine the indicators for evaluating the efficiency of conservation policy.** (Source: researcher)



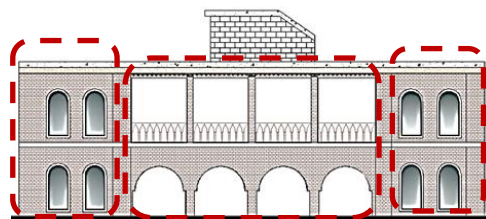
Ground floor Plan  
(before restoration)



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



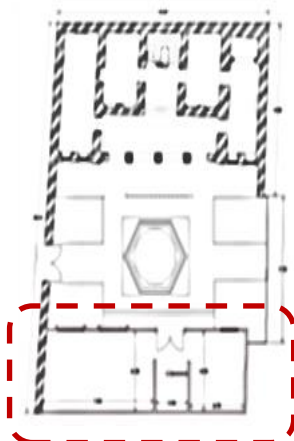
Maintain the general context of  
the mass (after restoration)



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



Merge elements from several  
different styles  
(after restoration).

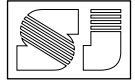


The dominance of the element within  
the overall form with a partial change  
in its original shape (after restoration)



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

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

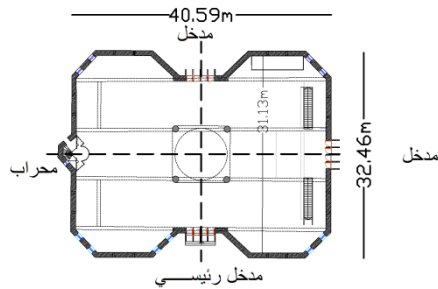
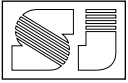


**Fig. 2 : Main Elevation of the mosque after renovation.** (Source: researcher)

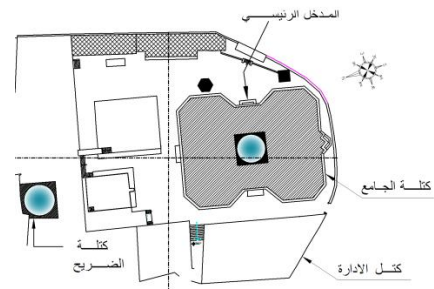


**Fig. 3 : Elevation of the Mosque before Renovation.** (Source: Awqaf archive)

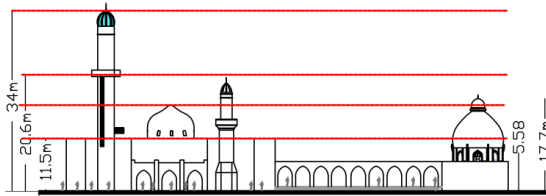




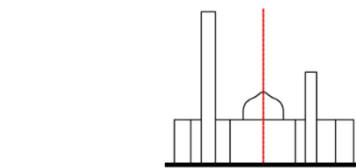
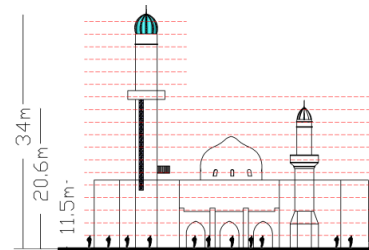
Maintain the general context of the mass.



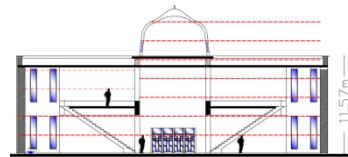
Site plan (after restoration)



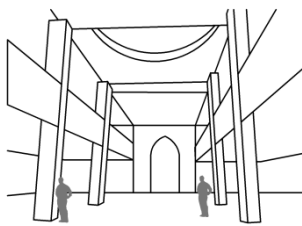
Maintaining appropriate height of the added blocks with the overall composition (after restoration).



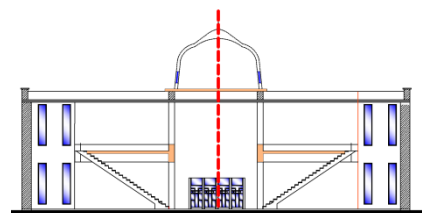
The addition of the new elements (after restoration) led to the creation of an informal balance.



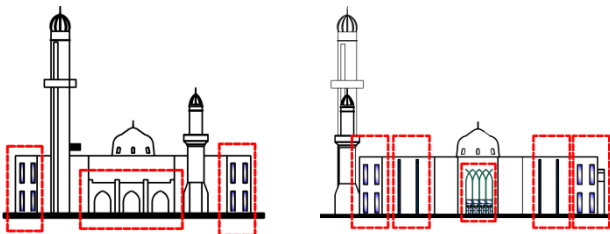
Preserving the human scale in the inner space of the prayer hall (after restoration)



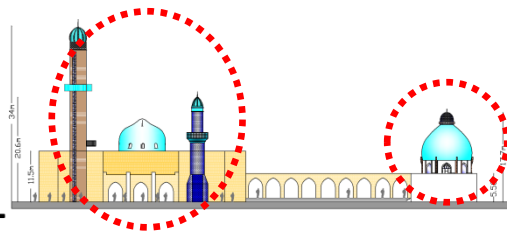
Merge elements from several different styles (after restoration)



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

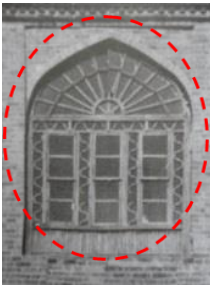
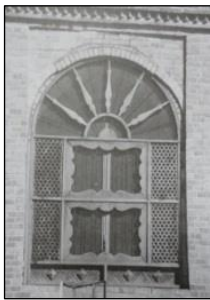
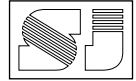


Combining old and modern style in the facade (after restoration).

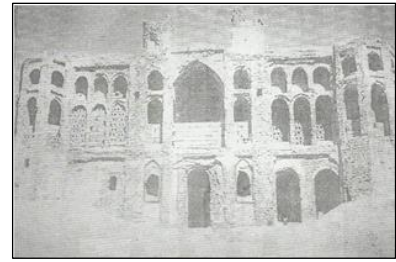


The volumetric transformation of the architectural composition (after restoration) by combining elements of several different styles

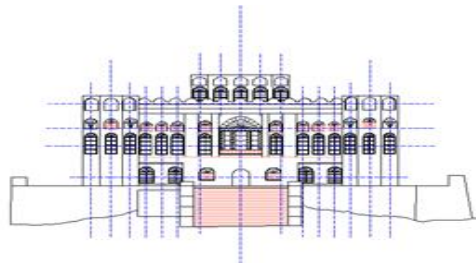
Fig. 4 : Graphical analysis of the great mosque. (Source: researcher)



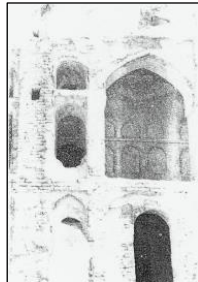
A complete distortion of the original form of the net.



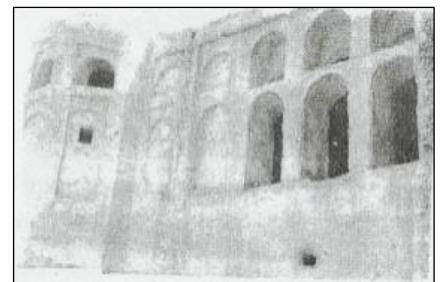
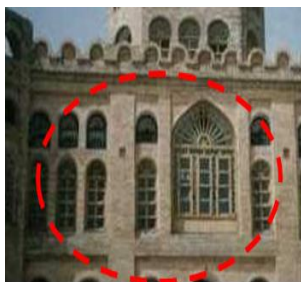
General View of the Sherwana Castle before and after renovation



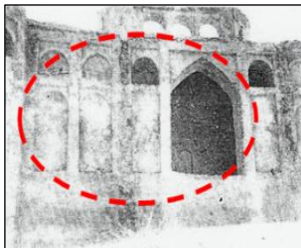
Maintaining the height of the blocks with the general composition (after restoration)



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)