Architectural Heritage in Medium and Small Syrian Cities: Management Advanced Strategies for Postwar Recovery


MSc. Hussein ALTAH[1], Prof.Dr. Salah HAJISMAIL[2]
Master Student, Ankara Yildirim Beyazit University, Graduate School of Natural and Applied Sciences*, Ankara, Turkey*
Professor in Ankara Yildirim Beyazit University, architecture and fine arts faculty*, Ankara, Turkey*
Department of Post-Disaster and Post-War Reconstruction and Rehabilitation
husseinaltaha87@outlook.sa [1], sismail@ybu.edu.tr [2]
https://orcid.org/ 0000-0002-5898-3121, https://orcd.org/0000-0001-6682-6663
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Abstract: During Syria's war, the architectural heritage suffered significant damage in many cities, ranging from minor damage to complete destruction. Moreover, the poor or absence of advanced heritage management that supports the recovery of these cities, especially in medium and small cities where attention has been focused on large cities, exacerbated the problem. The paper suggests directing attention to medium and small cities with traditional fabric. The city of Ariha, which has a population of 80,000, was chosen to study its current status, defining its architectural heritage and applying advanced architectural heritage management strategies that depend on advanced techniques and information technology. Reviewing International cases and extracting the best methodologies compatible with the Syrian context, such as reuse, GIS, laser scanning, and 3D modeling, which will contribute to preserving this heritage and help to make decisions to support the recovery of these cities during and post-war era.

Keywords: *Heritage, Management, Syria, Medium City, Ariha*

Orta ve Küçük Suriye Şehirlerindeki Mimari Miras: Savaş Sonrası Toparlanması için Gelişmiş Yönetim Stratejileri

Özet: Suriye savaşın sırasında, mimari tarihi eserleri birçok şehirde küçük hasarlardan tamamen yıkıma kadar geniş bir şekildede hasar gördü. Ayrıca, tarih eserlerin büyük şehirlerde odaklanması, küçük ve orta büyüklük şehirlerde ihmal edilmesi neden oldu ve bu sorunu büymesine neden oldu. Bildiri, geleneksel dokuya sahip olan orta ve küçük şehirlere dikkat çekilmesini önermektedir.80.000 nüfuslu Arihaa şehri, mevcut durumunu incelemek, mimari mirasını ve tarihi eserleri belirlemek ve ileri teknolojiler ve bilgi teknolojisine dayalı mimari mirası yönetmek için ileri stratejiler uygulamak için seçildi.Uluslararası geçmişteki vakaları göz önünde bulundurarak ve Suriye kültür ila uyumlu bir şeikilde çıkarmak üzere yapılacaktır. Yeniden kullanım şekilleri , lazer tarama, 3D modelleme gibi çalışmları yaparak mimari mirası ve tarihi eserleri kurunacaktır,Bu çalışmalar, mimari mirası ve tarihi eserleri korunmasına katkıda bulunur ve savaş sırasında ve sonrasında bu şehirlerin toparlanmasını desteklemek için kararların alınmasına yardımcı olur.

Anahtar kelimeler: Miras, Yönetim, Suriye, Orta Şehir, Eriha.

1. INTRODUCTION

Architectural heritage is the cultural properties and physical assets of cities, which explains the history and culture of the city as well as the aesthetic, architectural, symbolic, and urban identity aspects. Architectural heritage is a critical component that indicates the civilization experienced by the community and the events that have occurred in cities. We must preserve them and consider them in any intervention in the field of urban design and planning [1]. Neglecting the architectural heritage is a significant reason for its destruction [2]. The difficulty of accessing this heritage increases its deterioration. On the contrary, the ease of access supports the recovery of origin and the development of societies [3]. HBIM of the architectural heritage plays a vital role in preserving this heritage. It also reduces the risks of physical interventions in the future [4], and the responsibility for facilitating access to this heritage lies with the administrations and governments [3]. Information and communication technology play an essential role in accessing and developing cultural heritage [3], which constitutes a cornerstone of strategies for preserving architectural heritage. With this experience, awareness has emerged in Europe to reuse architectural heritage while preserving originality [2].

On the other hand, reusing architectural heritage causes a loss of originality in some cases [2]. Placing cultural heritage preservation on the priority list of politics and people is a new phenomenon [3]. Each traditional building was built to perform a specific function. Still, with the development of life, the change of use was an inevitable result of the operation of the building, which led to transformations and changes that occurred in this architectural heritage [2], and this is what makes digital 3D modeling a complex and challenging process [4]. To solve this problem, we must rely on tools to reconstruct in reality this heritage. It has an outstanding contribution to improving our understanding of this heritage and reduces errors to a large degree in the process of rehabilitation [4]. The reuse of the architectural heritage enhances the continuity of this heritage and its ability to live for more extended periods [2]; it has a significant impact on improving the economy of societies [2]. As a result, Architectural heritage management develops and becomes more efficient when it relies on advanced management tools and information technology development [5].

1.1. The Context

Uprisings in Arab Spring ousted or destabilized administrations while simultaneously exposing institutional fragility and cultural heritage vulnerability. In many cases, institutional structures and knowledge of cultural heritage protection were deficient, and regional turmoil weakened these institutions and procedures [6]. More than 30 armed conflicts have occurred in the Middle East alone since 2004 [7]. The war that took place in Syria in 2011 affected the country and its people at all levels. The cities had the largest share of destruction, and the architectural and urban heritage constituted an essential part of its fabric [7]. In most conflicts, Architectural heritage, representing specific religious, historical, or ideological traditions, is targeted indiscriminately as the reality right now in Syria [6]. Cultural heritage is considered representative of the identity of any society with its values and history. Therefore, its preservation is a critical issue linked to respect for the originality and nobility of the past [7]. Preserving urban and architectural heritage requires keeping society's values at all levels. Great awareness has emerged for all countries of the world in maintaining their values, of which the architectural and urban heritage represents the most significant part [7]. Literature reviews in Syria regarding the attention to architectural heritage and its management during the conflict seemed shallow and few. These were directed toward large cities. Also relied on traditional strategies in most of them. As a result, the deterioration of the architectural heritage increased. Its exposure to loss day after day, especially in North-Western Syria, the study's subject (revolution regions), where the bombing of cities and towns continued. The architectural heritage constitutes an integral part of its urban fabric, such as the city of Ariha, Sarmin, and others. Ariha was chosen as a case study. It is a medium-sized city which people were according to 2010 statistics, amounted about 80,000 people. It contains a traditional

canter and an urban fabric still inhabited by a large part of the population. It contains many architectural edifices such as mosques, baths, markets, and traditional courtyard houses. It is about five kilometers away from the conflict borders. The conflict and the bombing destroyed a part of this architectural heritage, in addition to the displacement of a part of its inhabitants. Thus, this heritage was neglected. Furthermore, the municipality's and concerned authorities' weaknesses and a lack of expertise and capabilities to manage this heritage add to the city's (municipality's) burden and, as a result, the difficulty of its recovery.

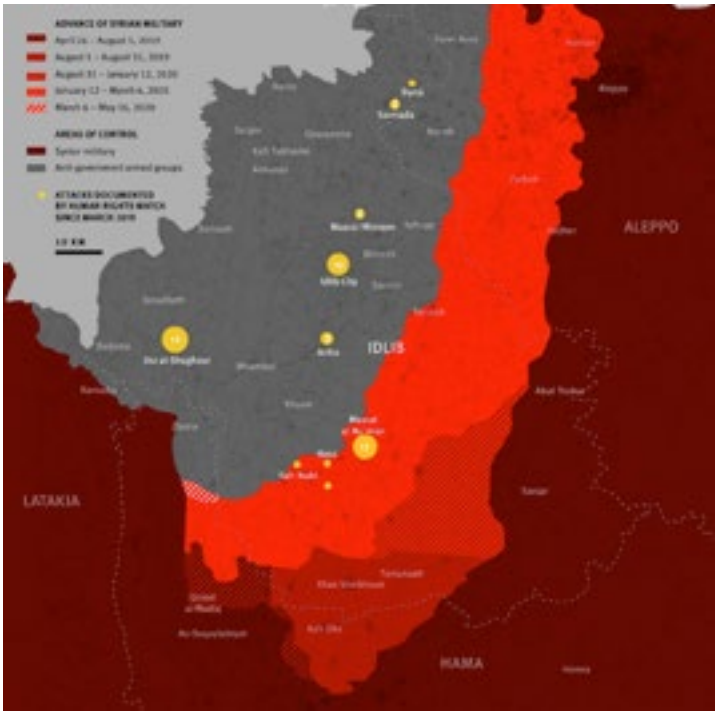

Figure 1. Areas of control in and around Idlib governorate.Human Rights Watch, Oct. 15, 2020

1.2. The Research Objectives

The research's primary goal is to draw attention to architectural heritage and its management in Syria's medium and small cities, which represent assets lost daily Because of the erratic nature of the situation and conditions in Syria, and the role these assets play. Advanced strategies based on modern and digital technology have been employed. This can provide multiple techniques for maintaining and managing these assets and finding alternative solutions compatible with potential conflict scenarios.

2. MATERIALS AND METHODS

- The research methodology is based on the following points:

Starting with a literature review of the advanced management of architectural heritage using modern technological techniques and the contexts of heritage management projects using these techniques and their applications at two levels, the first level is in Syria, where the study gap is identified, and the second level is global level to find out the best-advanced strategies used in the management of architectural heritage to determine the method that corresponds with the Syrian context and to set the priorities accordingly.

- Studying the case of Ariha city in terms of:

Knowledge, recording and understanding the site, mapping the architectural heritage (collecting data by field survey and observation, interviews, and Municipal records)[5]. Analysis of the current status of the Architectural heritage in the case study and assessing the damages of the architectural heritage caused by several factors: conflict, neglect, laws and legislation, and the interventions.

Value appraisal: Evaluate the historical, cultural, aesthetic, social, and other values of this heritage to see if we need a management plan (MP) or not (based on the evaluation criteria for social, historical, esthetical, and symbolic values)[5]. Evaluate the risks that architectural heritage may exposed to according to the risk analysis tool, developed by (Romão X, Paupério E, Pereira N "A framework for the simplified risk analysis of cultural heritage assets") Fig 2, to integrate into the suggested management strategy.

- Suggest methodologies that correspond to the case study.

Figure 2. Up. Proposed risk analysis methodology: Assessment of the level of vulnerability of the cultural heritage unit. Down, Proposed risk analysis methodology: Assessment of the level of risk of the cultural heritage unit.

3. LITERATURE REVIEW

3.1. In Syria

Researchers, Kousa and Pottgiesser, published their article *"Post Syrian-war material recovery, reuse, and transformation in the Old City of Aleppo"* on the historical center of Aleppo and the current state in terms of assessing the devastation during eight years of war, proposing in the paper some strategies for the recovery of the historical center by reusing and recycling the demolition and integrating it into the reconstruction plan for buildings of high cultural value such as the Great Mosque [8].

Researcher A. Belal published his article entitled *"Heritage in the challenges and solutions of the post-war period"*. He discussed the protection of cultural heritage and property using the geographic information system and historical mapping. Which will give a picture of the current status of this heritage and the possi-

bility of using it in the reconstruction process. The study was applied to the historical center of Homs city, and the methodology of the study consisted of several stages:

- Identification of cultural and historical sites
- Inventory of cultural and historical property
- Determining the degree of damage to cultural and historical sites
- Prepare a planning list and historical and cultural destruction database [9]

Also, in 2021, he published his article *"Post-war Planning for Urban Cultural Heritage Recovery"*, which Discussed the basic principles for the reconstruction phase, in which the city's historic properties and cultural identity are preserved. And developing countries, including Syria, suffer from poor experience in restoring architectural and urban heritage in historical cities and towns, especially after conflicts and wars. Therefore, they followed a particular methodology to recover this heritage. The process is represented in four axes: *"1- Documentation 2- Assessment of damage 3- Planning 4- Regulations of the legal framework"*. The author of his study suggested using an intervention algorithm to determine how to revive and reconstruct cultural heritage based on four factors: *" Degree of historical and architectural significance; Degree of damage/Physical condition; Functional use; Property rights and regulations* [7]". After reviewing the literature published on Syrian cities during the conflict period, which is related to architectural heritage management, most studies were directed toward large cities such as Aleppo, Homs, and Damascus. Only some of them relied on advanced tools such as geographic information systems to conduct a heritage survey, but there is a lack of other advanced tools such as reliance on satellites, laser scanning, 3D modeling, and virtual reality, and here the research gap appears.

3.2. Around the World

In their article *"Scan to BIM for 3D reconstruction of the papal basilica of Saint Francis in Assisi in Italy"*, the authors discussed the methodology and results of protecting architectural heritage. "The Papal Basilica and the Sacred Convent of Saint Francis in Assisi in Italy are "Using laser scanning technology to build more robust and practical tools for managing this heritage, such as BIM. Moreover, this site is characterized by complex features that make the issue of the safety and security of visitors a point of interest. Therefore, Internet of Everything (IoE) technology was developed to create an integrated system for security management and site safety. The interventions required to restore the architectural heritage require specific techniques and precautions. The restoration process includes a few steps:

- The starting point of assistance in all its details
- A comprehensive study of the developments that this heritage has undergone over time
- Develop and manage a strategy for interventions

For the project's successful management of the architectural heritage interventions, building information modeling must be used. Because it can prepare digital objects that achieve the possibility of linking with higher standards, operating rules, and connectivity between the different components and the structure. During the initial phase of assistance, surveying and management based on the BIM methodology led to producing a single database of this architectural heritage, thus facilitating the management and monitoring of interventions, and constantly updating the information [10].

We believe that using the building information modeling approach and Internet of things (IoT) technology is very important. It enables the production of digital objects and improves the safety status of an architec-

tural heritage site, especially in war and conflict environments where the risk is very high, as in the case study. In their article *"Advanced Geomatics and Conservation Management Plan for Preserving 20th Century Architectural Heritage"*, the author discussed the relationship between advanced management techniques and the conservation management plan, as well as the role and contribution of these technologies in preserving architectural heritage over the past decade (e.g., Laser Scanner, High Dynamic Range, GIS, intelligence vs. abundance, BIM, VT/IM, etc.). And the pros and cons of each approach with the objectives of the conservation plan are:

- Knowledge
- Value assessment
- Data sharing and dissemination of results
- Support for conservation and restoration activities
- Support for the planned conservation of buildings/facility management over time

One of the most important results of the study is that the implementation of the conservation plan using advanced techniques should be on two levels, the first: at the site level in general and the second: at the level of the architectural object [5]. It shows us the role of each of the advanced management tools. Thus, it determines the most appropriate means in the case study. On the other hand, it is critical to work at both the site and architectural object levels for an integrated approach to heritage management. In their article *"The virtual reconstruction of architectural heritage and its methodological application*" the authors say the virtual reconstruction of the architectural heritage alleviates the problems that occur in the actual reconstruction and restoration and gives a clearer picture of how to intervene appropriately. The changes that happen over time in architectural heritage make the study of virtual reconstruction so complex. It needs to depend on tools (elements of architectural graphic language as a starting point for the investigation of the patrimonial architecture: The essential elements we use in the architectural language are geometry, light, color, texture, space, function, and context) to reconstruct the architectural heritage virtually; also, it increases our understanding to this building and mitigates from mistakes in future reality rehabilitation.

The methodology of this article followed those stages:

- Starting from contrasting historical data that refer to the studied architecture's formal aspects. According to a chronological, structural, and typological order.
- Creating a digital database of graphic documents based on historical-graphic data and archaeological documents.
- In the case of missing buildings, consider the investigations and archaeological data as formal references.
- Research hypotheses will be formulated according to the consulted filed documentation, the digital database, and the analysis of archaeological remains if they exist.
- The digital models will be generated according to a degree of geometric abstraction that allows the proper understanding of the studied group of buildings.
- The digital modeling will allow rethink, flexibly, morphological aspects which were deducted from the initial hypothesis. So, conclusions that lead to further investigations could be established.
- Recovering history, in an updated graphic way, virtual images of non-existent assets.
- Allowing disclosure in scientific areas [4].

The use of virtual digital documentation is significant to ensure the preservation of the remaining fabric of the city and the possibility of its restoration in cases of destruction or various damages in war and conflict environments as a primary point. Secondly, rehabilitating the destroyed section in whole or in part is a step to restore it realistically. In their article *"Experiencing the Inaccessible A Framework for Virtual Interpretation and Visualization of Remote, Risky or Restricted Access Heritage Places"* The authors discussed the importance of databases and expertise in strategies for preserving architectural heritage significant role in strengthening the economies of countries. The importance of access to this heritage is of considerable importance in the development of societies and the heritage itself. This matter is not available in all cases of architectural heritage, as in the case of the Catacombs of San Vitorino, where the environmental situation is complex. This article confirms the critical role of information technology and communications with advanced management techniques in securing access to this heritage and its development, as the laser scanning technology was relied upon. Then the point cloud was processed by several programs [3] The use of laser scanning technology may be helpful in the long term to discover the caves located under the ancient city, which may be a city that was buried in previous eras, according to the testimonies of some residents and specialists.

4. THE CASE STUDY

4.1. Ariha City

The city of Ariha located in northwestern Syria in a strategic place that connects the interior to the coast and the presence of Jabal Al-Arbaeen, which completely overlooks the Idlib governorate and on the main roads M4 and M5, which also gave it tourist importance. It is 73 km away from Aleppo, 13 km from Idlib, 114 km from Lattakia, 25 km from Maarat al-Numan, and 329 km from Damascus. Its population in 1986 was about 28 thousand people, and in 2004 its population reached about 40 thousand people, according to the Central Bureau of Statistics. It covers an area of 1.5 km2, while the remaining historic fabric of the old city covers an area of 0.3 km2 and is located on the city's southeast side. Moreover, it contains Al-Arbaeen mountain, which adds tourism value to the city.According to some archaeological findings, the city of Ariha is an old city, as its history dates to the first millennium BC [11]. There is an archaeological mound that has not been officially excavated yet. One of the most important archaeological findings is a silver tray inscribed with the Last Supper of Christ; peace be upon him. There are also archaeological findings, including a group of pottery and glass dating back to the pre-Roman era.

The old city contains a mixture of buildings dating back to different eras, some dating before the Islamic conquest in 637 AD. Others were renovated during the Ottoman era. A large part of its historical fabric was utterly removed due to the organizational scheme in 1980, including khans, specialized roofed markets, Caesareas, and others.

Figure 3. Ariha map and the old city.

4.2. The Architectural Heritage

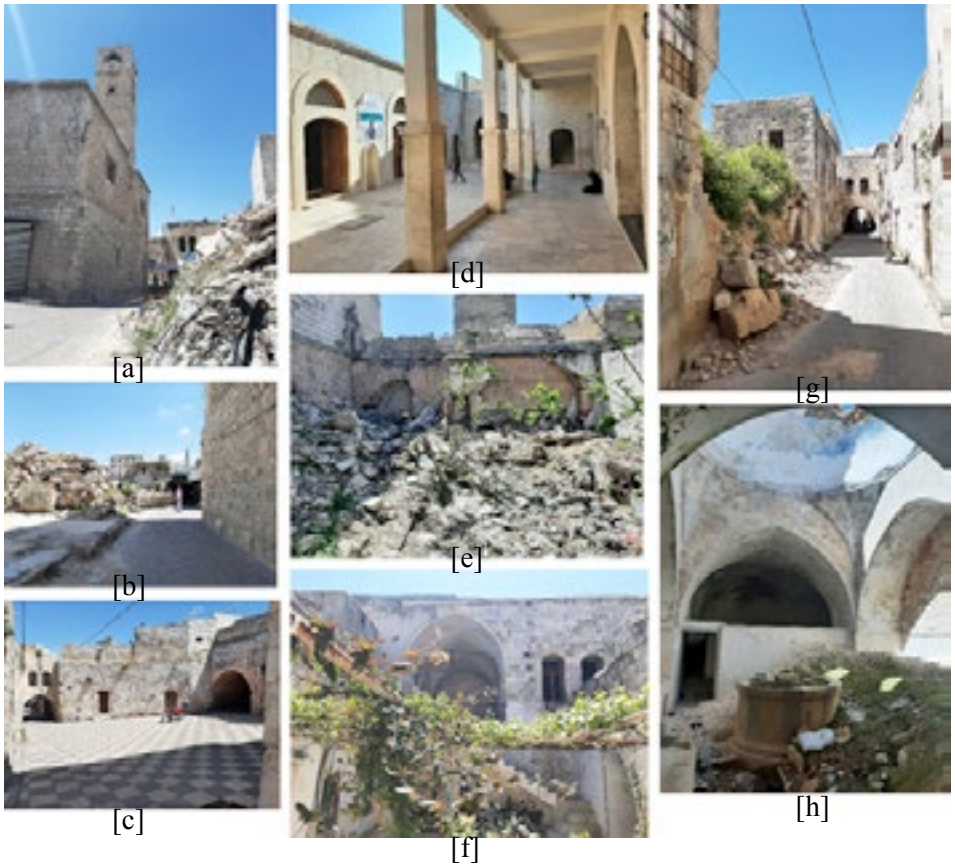

Figure 4. Architectural Heritage in Ariha city (current state)

Mosques

Grand Mosque's construction dates to before the Roman period when it was used as a temple, then a church, and then a mosque after the Islamic conquest. Some distorted inscriptions still lie on its walls, indicating that it was a building that preceded the Islamic conquests. But the mosque in its current form dated back to the Ayyubid period and was renovated in the Mamluk and then Ottoman eras, and it was newly restored in 2008. Adding a block covering half the courtyard area from the northern side of the mosque affected the historical value; furthermore, light damage to the northern facade due to the indirect bombing (Figure 4,5.a, d.1).

Al-Shebani Mosque its construction dates to the Mamluk period. Some of the interventions that affected the historical value of the building, such as the plaster works (Figure 5.2). Al-Takia Mosque its construction dates to the Ottoman period. It was obliterated, and the municipal replaced it with a new Mosque (Figure 5.3).

Ancient baths

There are now two historical baths in the city containing the elements of the Islamic bath. The first is called (The Small Bath), and it is still functional (Figure 5.4), and the second is called (The Wastani Bath) and it is severely damaged due to neglect (Figure 4,5.h.5). The largest hammam (bath) in the city, called (the Great Hammam or Al-Fawqani Hammam), was removed entirely due to the new organizational scheme in 1980 (Figure 5.6).

Zawiya (Small Mosque)

They are small mosques distributed within the alleys. They consist of a prayer hall, a small courtyard, an Iwan, and a group of rooms intended for residence for worshipers and Sufis, often with a water fountain, a well, trees, and plants in the middle. Including Al-Bayania, the widest, Sheikh Dweik and Sheikh Muhammad, and others. Some of them are still functioning, and others are neglected (Figure 5.7,8,9).

Sibat

It is the structure that covers areas above the streets of the old city in several structural ways, including the bed vault or the two intersecting vaults, and on top of it are rooms prepared for housing that open with windows on both sides (Figure 4.c,g). And now, there are remaining 11 Sibats spread in the streets and alleys of the old city.

Squares

There are three historic squares in the city. The first is called (Al-Armoutia) which still exists now, bordered by Sibats. And the city's residents still use it to hold popular events and meetings (Figure 4,5.c.10). The second one is called (the tanning square), a large square surrounded by a group of shops specializing in tanning leather. After implementing the organizational plan and opening a road at the edge of the square, most shops opened a gate on the road, which led to its neglect and the destruction of a large part of its landmarks (Figure 5.11). The third is called (Old Market Square), which was breached by the organizational chart, and a corner remained of which the old shops still surround it now (Figure 5.12).

Khans (Caravanserais)

A Khan consists of a vast yard surrounded by shops, topped by accommodation rooms, used for merchandise and trade. Three of them were removed entirely according to the organizational plan in 1980. Khan Al-Suq is the largest, with an area of 1,800 square meters, followed by Khan al-Qaysaria with 800 square meters, and then Khan al-Bazaar (Figure 5.13,14,15).

The old market

It consists of specialized roofed markets with a length of about 100 m that were entirely removed by the organizational plan in 1980 AD. In the east of the old city, near the Great Mosque, an unroofed market consisting of a group of trading shops distributed on both sides of the alleys. It was severely damaged due to the bombing, some of which continue to work (Figure 4,5.a,b.16,17).

Caesarea (industrial facility)

It is a specialized facility in the industry. It consists of a square surrounded by industrial stores, such as the manufacture of soap, leather, flour, grape molasses, and others. There are several Caesareas in the old city, some of which are under work and have light damage, and others are neglected. Several them were removed during the urban expansion in 1980. The most critical Caesareas are the first is Bit Abd Al-Kareem's Caesarea which was heavily damaged by the bombing. The second is Al-Harsone's Caesaria which is affected slightly by local community interventions (Figure 5.20,21).

Traditional residential homes

It forms most of the city's fabric. In general, the traditional house consists of an inner courtyard surrounded by residential rooms on two floors, a place for making bread, a cellar, and a groundwater tank. It was previously fed from the springs located in Jabal Al-Arbaeen by Roman channels. The bombing destroyed a large part of the residential fabric (Figure 4.e). Some houses have a large area and a spacious courtyard containing a water fountain, various plants, and an Iwan (Figure 4,5.f.19).

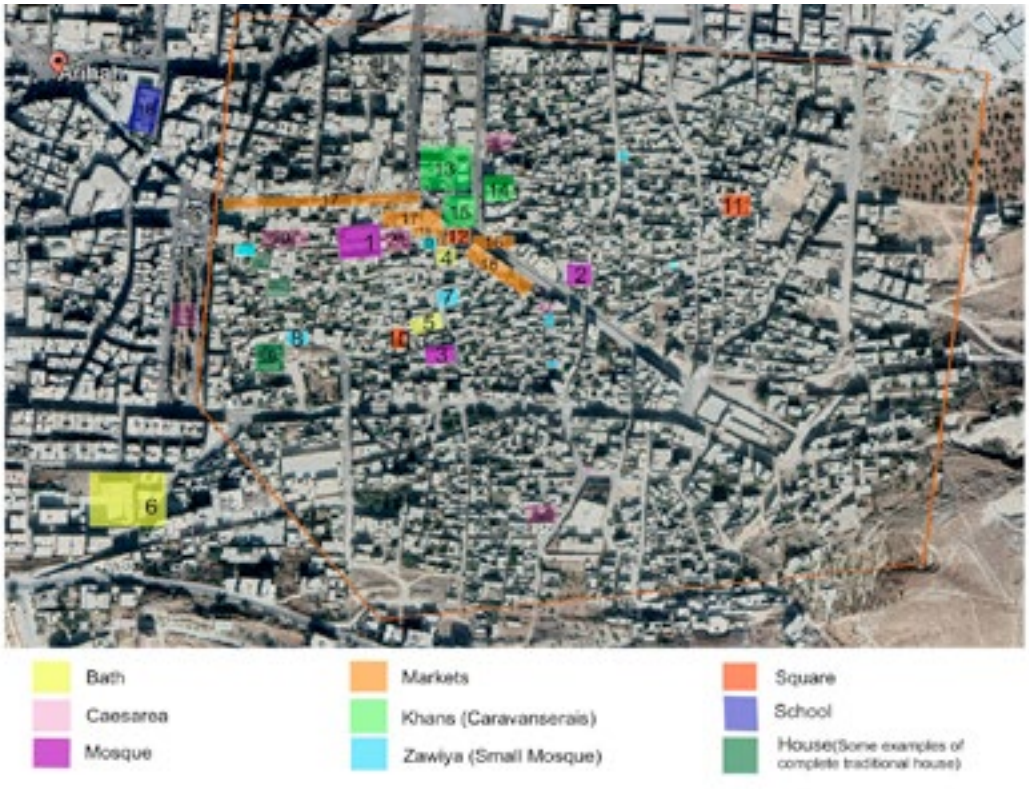

Figure 5. Distribution of architectural Heritage in Ariha city (the numbers correspond with table 1)

4.3. Assessment of Damage and Value

Assessment of architectural Heritage (the assets) in three categories (working - not working - removed). Damage is assessed according to 4 levels (slight – Medium-Heavy - Completely) as following:

- Light damage corresponds to the case where the cultural heritage unit only exhibits nonstructural damage (i.e., damage that will not affect the resisting system and the overall stability of the cultural heritage unit) [12].
- Medium damage corresponds to the case where the cultural heritage unit exhibits more severe nonstructural damage and suffers moderate structural damage (i.e., damage that will affect the resisting system of the cultural heritage unit without compromising its overall stability)[12].
- Heavy damage denotes severe structural damage to the cultural heritage unit that can make it unstable (i.e., the overall stability of the cultural heritage unit is jeopardized) or causes a partial or total collapse of the cultural heritage unit [12].
- Completely corresponds with the nonexistent of the building or destroyed 100% due to bombing or removal.

The cause of this damage according to 4 factors (negligence - conflict - law - intervention)

The value represents the local community's point of view about the architectural heritage assets.

Table 1. Assessment of Architectural heritage units (the current situation, Damage level, the reason, and value)

Assessment of Architectural Heritage Damage and Value														
N	Architectural Heritage	Name	The current situation		Damage				The factor				The value
			W	N-W	S		H	C	con	neg	leg	Inter	
1	Mosques	Great (Al-Kabeer)	•		•				•			•	historical, architectural, and religious
2		AL-Shebani	•		•							•	historical and religious
3		AL-Takia			•						•		memorial and religious
4	Ancient baths	The Small	•		•					•			social and historical
5		The Wastani		•		•				•		•	social and historical
6		Al-Fawqani						•			•		memorial value
7	Zawiyas	Al-Bayania	•		•					•			historical and religious
8		Sheikh Dweik	•		•					•			historical and religious
9		Sheikh Muhammad	•		•					•			historical and religious
10	squares	Al-Armoutia	•		•					•			social and historical
11		The tanning court-yard		•			•			•			industrial and historical
12		Old Market Square	•			•					•		social and historical
13	Khans	Khan al-Souq						•			•		memorial value
14		Khan al-Qaysaria						•			•		memorial value
15		Khan al-Bazaar						•			•		memorial value

16	The old market	roofed specialized markets							•			•		memorial value
17		unroofed market	•					•		•				socio economic and historical
18	School								•			•		socio cultural and historical
19	House	Kadah	•				•			•				Social, architectural And historical
20	Caesarea	Bit Abd Al-Kareem		•				•		•				economic and historical
21		Al-Harsone	•			•							•	economic and historical

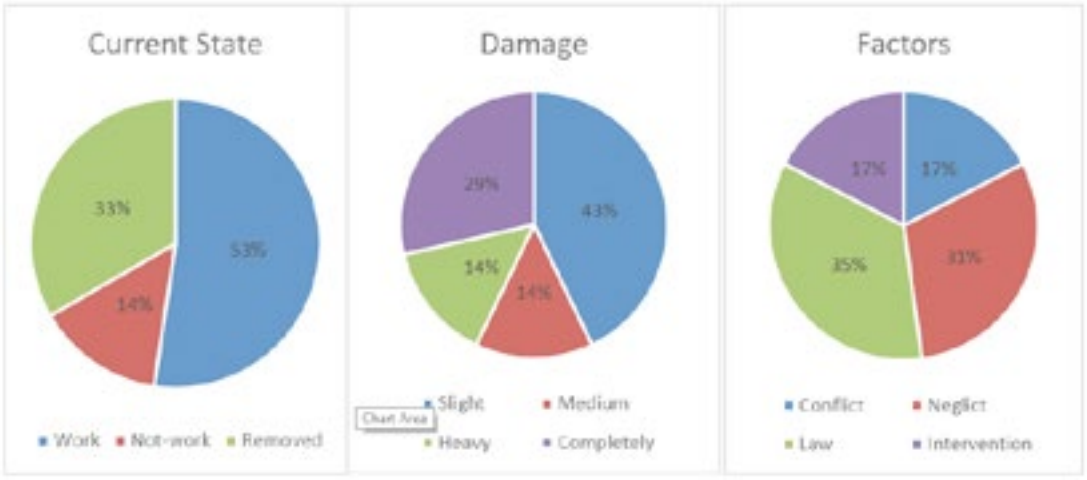

Figure 6. Current state, Damage, Factors (Analysis)

These percentages show:

- The current status of the architectural heritage in the city of Ariha.
- The percentage of damages for each level.
- The percentage of the impact of each factor on the state of the architectural heritage.

It constitutes a primary information base for building any decisions regarding the process of managing this heritage during the conflict period or after its end, on which the architectural heritage management strategy was built for the case study. The value analysis shows the importance of this architectural heritage to the local community and its role in defining the identity and culture of the community.

4.4. Framework for Conflict Risk Analysis on Architectural Heritage Units

We applied the risk analysis framework to architectural heritage units to determine the level of vulnerability first and then the level of risk second. Because of the city's proximity to the conflict border, the risk of bombing and attacks by warplanes is very high. Result of the field survey and evaluation of the city's directly bombarded areas (which included a large percentage of housing units), The damage was great. It cannot be restored due to the impact of the military weapon on the building materials and the original structure. Therefore, the level of vulnerability is the fifth. Since the level of vulnerability is the fifth. Regardless of the probability of the occurrence of the danger, the level of danger is the fifth Rv. As a result, the Rv level corresponds to a situation in which the level of risk is unacceptable and must be addressed as soon as possible. A more detailed analysis of the cultural heritage unit is urgently needed to identify risk mitigation measures.

4.5. The Strategy

The proposed strategy to deal with the heritage of Ariha city is divided into two parts:

Short term: Documentation of Architectural heritage by Digital Advanced tools and establishing a cloud database for the old city to preserve the records from the loss in the state of emergency conflict scenario. This documentation will be on two levels:

- city level, take action to mitigate risks (using GIS tool for collecting all information about the historic city, which does not need to show 3D modeling, design an interactive map, create a building card for architectural heritage).

- building level (create a 3D modeling for the significant historical building based on available tools like Laser scanning to be used in conservation work in the future if the conflict risks happen) .

Long term: Implementation of a protection plan for the architectural heritage that includes:

- Reconstructing the lost architectural heritage in virtual reality and consider the investigations and archaeological data as a formal reference. [4].

- Work on building the capacity of a dedicated team in the use of advanced technologies through training courses by specialists.

- Raising awareness of the importance of architectural heritage as a component of these cities to the community and local administrations through seminars and workshops to integrate stakeholders into the protection plan.

- Reconstruction of the damaged architectural heritage by default to be the basis for the real reconstruction after the end of the conflict.

5. RESULTS

Small and medium cities such as Ariha constitute a large geographical area. Therefore, the proposed plan can play a crucial role in finding solutions to preserve this architectural heritage, not only at the level of Syria and the countries of the Middle East but at the level of conflict areas in general.

At the level of the case study, a comprehensive field survey of the architectural heritage and traditional fabric of the old city in Ariha was carried out, during which all components of the city were documented, such as mosques, baths, Caesareas, traditional houses, squares, the old market, and others. Documenting the architectural heritage, which was completely removed in the past by-laws, a map was created showing the location of the architectural heritage within the city, also a table for this heritage, which was analyzed and concluded with the following results:

- The percentage of architectural heritage within the work is 53%. and this is an essential indicator of the importance of this heritage to the local community.

- The percentage of heavy damage is 14%. Therefore, the need to use advanced management strategies for reconstruction by virtual reality facilitates making appropriate decisions for the community before implementing accurate reconstruction.

- The impact of the conflict on the architectural heritage is 17% in a way that cannot be restored. My reliance on the field survey that I conducted and my experience in this field indicates the importance of developing a short-term plan to preserve the remaining architectural heritage in the city.

• The impact of laws and legislation on the architectural heritage is 35% in a way that cannot be restored. Therefore, the need to develop a long-term plan to integrate the architectural heritage into development plans based on advanced management strategies.

6. DISCUSSION

Architectural heritage management strategies based on advanced digital tools are necessary to document and preserve this heritage because of conflicts, especially in small and medium cities. There was no documentation of this heritage previously. Despite all restrictions, such as weak material capabilities and the absence of expertise in this field, it is applicable in Syria, which may be a promising aspect for more work and plans.

This study adds to a growing body of research that attempts to increase the level of knowledge about advanced heritage management tools and opens the way for new studies at the level of a large geographical area that contribute to the protection of the heritage and civilizations that were previously neglected.

7. CONCLUSION

This paper discusses the importance of medium and small cities that contain a traditional fabric in Syria as an essential component of the architectural heritage. The literature review in Syria showed the interest in large cities and the lack of reliance on advanced digital management except in a few cases and a lack of knowledge in this field. This study shows that these cities contain the same components of architectural heritage as large cities, such as mosques, traditional markets, caravanserais, hammams, and others. It also proved that this heritage was exposed to several factors that led to its removal or damage, such as legislation, neglect, conflict, and the absence of Advanced management. The percentage of damage due to the conflict and the absence of management was the lowest. However, the level of destruction due to the conflict was the highest, foreshadowing the complete loss of these assets. It indicated the importance of documenting. This heritage will be preserved in digital form for future reconstruction and rehabilitation if any of the conflict's risks occur.

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HUSSEIN ALTAH, MSc

Bachelor of Architecture in 2011 at Aleppo University, Faculty of Architecture in Syria. Master student of Rehabilitation of Islamic Historic Cities (First year) in 2012 at the same faculty. Here he worked as a lecturer from 2012–2013. Master student at Ankara Yildirim Beyazit University in 2021 in Turkey Department of Post-Disaster and Post-War Reconstruction and Rehabilitation.

He designed and constructed many buildings in Syria. He has been working in the humanitarian field since 2015.

Salah HAJISMAIL, Prof.Dr

Architect since 2002, master in Architecture 2004, master in civil engineering 2006, Phd in Cultural Heritage from Politecnico di Torino, Italy 2011. Worked as architect/ Engineer in different countries, designed and constructed many buildings in Syria and outside, winning design competitions.Academically, worked in Aleppo University, Faculty of Architecture from 2011-2015, published many researches, books and chapters in Arabic, English and Italian languages. Forced to leave his country, worked in Universidad de Cantabria- Santander – Spain, Sapienza University of Rome - Italy, before moving to work as a professor in Ankara Yildirim Beyazit University, architecture and fine arts faculty- Turkey. His Research fields include Emergency Architecture for Humanity, Post war/disaster recovery and development, rural areas development and the management of cultural heritage for post crisis recovery.