

## Article

# Managing Strategies to Revitalize Urban Cultural Heritage after Wars: The Center of the Old City of Mosul as a Case Study

Safaaldeen Hussein Ali <sup>1</sup>, Mohammed Fareed Sherzad <sup>2,\*</sup> and Ahmed Hameed Alomairi <sup>1</sup><sup>1</sup> Department of Architectural Engineering, University of Technology, Baghdad 10063, Iraq<sup>2</sup> Department of Architecture, Ajman University, Ajman P.O. Box 346, United Arab Emirates

\* Correspondence: msherzad@ajman.ac.ae

**Abstract:** This research deals with the process of reviving urban heritage, especially in old cities after the war, due to their symbolic and moral values in society. By studying the reality of the city and its destructed heritage features, there was a local need to study the integrated strategies of the urban heritage revival process to reach indicators that are drawn from international experiences and the curricula and studies of international organizations (ICOMOS, World Bank, UN-Habitat, IOM) that interested in cultural heritage and to use these indicators in evaluating local projects in the center of the old city of Mosul which was chosen as a case study for this research, due to its historical and civilizational importance, which has contributed greatly to the formation of the city of Mosul through the ages, and as this city has witnessed deliberate sabotage of its urban heritage due to the terrorist acts witnessed before its liberation.

**Keywords:** built heritage; cultural heritage; cultural legacy; reviving



**Citation:** Ali, S.H.; Sherzad, M.F.; Alomairi, A.H. Managing Strategies to Revitalize Urban Cultural Heritage after Wars: The Center of the Old City of Mosul as a Case Study. *Buildings* **2022**, *12*, 1298. <https://doi.org/10.3390/buildings12091298>

Academic Editor: Antonio Formisano

Received: 1 July 2022

Accepted: 17 August 2022

Published: 24 August 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Many studies have dealt with the importance of cultural heritage. Despite this, we note that cultural heritage—especially urban—is always subject to systematic and deliberate destruction and sabotage during wars and armed conflicts, due to its great value, as it represents the history and civilization of nations. Therefore, it becomes vulnerable to sabotage, in order to erase the identity of peoples and their history. As such sabotage acts have a negative and moral impact, considering the recent events that Iraq has been subjected to—in particular, with regard to the center of the old city of Mosul—and from what has been previously mentioned, this research aims to propose a strategy for managing the process of reviving urban cultural heritage through the integration of urban dimensions (economic, social, and cultural) in a manner suitable to reality while leading to the achievement of community interaction and participation, as well as sustainable economic and urban development, benefiting from similar experiences in the field of revitalizing urban heritage. To achieve the goal of this research, several international and Arab examples are studied, such as the case of the city of Warsaw after World War II and the Lebanese experience in the reconstruction of downtown Beirut after the civil war. We extract important indicators from the study of each case, and then use them to create a new strategy for the revitalization of urban heritage, which can be applied to the local reality of the old city of Mosul, taking into account the special circumstances of the city and the social, economic, and urban dimensions affecting it.

### 1.1. Cultural Legacy

Cultural legacy is defined as an integrated group of physical (symbolic or artistic) or intangible (moral) heritage features that are transmitted from the past to the present, which are characterized as being of exceptional cultural or heritage value; these features are an essential part of confirming and enriching cultural identities, considered as heritage

belonging to humanity as a whole, and distinguished by adding a special feature to the associated locations. Thus, cultural legacy is considered the storehouse that contains the history and heritage of humanity and ancient civilizations [1].

The literature has dealt with the cultural legacy as stated in the studies of the ICOMOS; its significance means the cultural legacy value of a place relative to other similar or comparable places, recognizing the particular cultural context of the place, this cultural legacy value means having aesthetic, archaeological, architectural, commemorative, functional, historical, landscape, monumental, scientific, social, spiritual, symbolic, technological, traditional, or other tangible or intangible values, associated with human activity [2].

Cultural heritage includes archaeological sites and objects (i.e., movable or immovable artefacts), such as sculptures, artefacts, and architectural works (e.g., sacred places, urban landmarks, historical buildings, and historical complexes), in addition to practices, activities, events, and elements of knowledge associated with society; it consists of several aspects and values that embody the past, which people have preserved and passed on to the new generation, and can be materially embodied in the form of buildings, uses, symbols, and monuments; be in the form of arts and decorations; or embodied in a non-material manner, such as in the social practices of language, customs, and traditions of society [3].

According to the ICOMOS, the urban areas and urban spaces that have these characteristics are known as Cultural landscapes means an area possessing cultural heritage value arising from the relationships between people and the environment. Cultural landscapes may have been designed, such as gardens, or may have evolved from human settlement and land use over time, resulting in a diversity of distinctive landscapes in different areas. Associative cultural landscapes, such as sacred mountains, may lack tangible cultural elements but may have strong intangible cultural or spiritual associations [2]. The importance of these areas was mentioned in the recommendations of the UNESCO Conference 2011 “Considering that historic urban areas are among the most abundant and diverse manifestations of our common cultural heritage, shaped by generations and constituting a key testimony to humankind’s endeavors and aspirations through space and time” These recommendations showed that cultural legacy in these areas need for special strategies to preserve it through “the need to better integrate and frame urban heritage conservation strategies within the larger goals of overall sustainable development, in order to support public and private actions aimed at preserving and enhancing the quality of the human environment; it suggests a landscape approach for identifying, conserving and managing historic areas within their broader urban contexts, by considering the interrelationships of their physical forms, their spatial organization and connection, their natural features and settings, and their social, cultural and economic values [4].

### *1.2. Impact of Wars on Cultural Heritage*

Many ancient cities have witnessed destructive wars, demonstrating the weakness of urban and human heritage, in general, in the face of the destructive power of weapons and wars, posing disasters and dangers which are the most severe and powerful that can be exposed to cultural and urban heritage. The most prominent example of this is the disappearance of many archaeological buildings during the Second World War. Therefore, global awareness began to increase, regarding the importance of working to preserve urban heritage from destruction. Despite the impact of physical conditions such as time, erosion, extinction, and the other natural factors to which heritage areas are exposed in general, the impact of wars and armed conflicts on these areas is greater, as they lead to the loss and disappearance of many important urban landmarks and archaeological areas. For example, as a result of the wars and armed conflicts that extended from 2003 to the period of entry of terrorist groups into Mosul and the fall of the city in 2015, as well as the ensuing violation of historical and heritage areas, Iraq witnessed the loss of many historical monuments, libraries, and important cultural institutions [5].

### 1.3. Aspects of Impact

The studies and global reports of international organizations have detailed the expected effects of wars on cultural heritage. According to UNESCO, the most prominent of these effects is a loss of the symbolic value of this heritage to society and the national identity associated with it. As the areas most affected during the wars are those historical areas that are rich in cultural, construction, and architectural heritage, the difficulty of dealing with them in the reconstruction process is intended, due to the resulting social, cultural, economic and psychological problems; furthermore, the impacts of these problems multiply if they are not dealt with properly. Thus, this effect takes several forms, as follows: The physical impact. The physical impact of wars on urban heritage is one of the clearest visible effects and is the costliest, necessitating rehabilitation and revival. The urban heritage fabric and its urban heritage, represented by buildings, public utilities, infrastructure, and urban structures, are exposed to sabotage and the loss of distinctive urban heritage characteristics [6].

The intangible impact; this is represented in social, economic, and cultural aspects. Wars leave catastrophic effects on society, as a sense of security is lacking, social customs and traditions are damaged, and the sense of identity and spatial belonging to society is lost, due to the targeting of the urban heritage [7].

## 2. Reviving the Cultural Heritage after Disasters and Wars

The reconstruction and revival of cultural heritage after a war may be understood as a process of rebuilding what has been damaged or destroyed of the physical elements of the urban structure. Thus, the modern concept of reconstruction and revival of urban heritage involves a set of processes and policies that are taken for the purpose of confronting various disasters—including wars—before and after their occurrence, such that these processes and policies are integrated and comprehensive for all aspects of material and immaterial urban life. The concept of revitalization means giving new life to and restoring the effectiveness and vitality of something, whether it is a specific urban fabric or urban heritage, which has been (partially or completely) damaged, or abandoned and neglected; this includes any process of reviving a missing part, no matter how simple, in order to preserve it, driven by the terms and characteristics it carries from the past [8].

The most important thing that the strategy of reviving cultural heritage emphasizes is achieving (urban, social, cultural, and economic) integration by focusing on attention to planning issues by developing a future vision to deal with urban heritage; this involves legislative issues that require flexibility in legislation in a manner that is appropriate to the specificity of the place; administrative issues emphasizing effective urban management to deal with historical buildings and sites; social issues through effective community participation, architectural, and urban aspects; and compatibility with the ancient context and the distinctive urban landscape of the region, all while reviving the functional aspects through the reuse of historical buildings [9].

### 2.1. The Different Directions for the Reconstruction and Revival of the Urban Heritage

In projects dealing with revitalizing urban heritage after wars, there are several directions in which the post-war architecture can be dealt with, some of which focus on practical and functional aspects, while others focus more on the symbolic aspects and are concerned with collective memory and identity. In general, each approach has a certain strategy for implementation.

#### 2.1.1. Revivalism (by Reviving the Old)

This approach focuses on reconstructing the urban heritage that was destroyed by war and returning it to its previous condition, in order to preserve its existence; this approach is called the “formal revival of destroyed historical architecture”. In this case, the building has either been completely or partially destroyed, and the reconstruction process is carried

out on the destroyed parts of the heritage building; this approach aims to preserve the memory of the place and the identity of the local community associated [10].

### 2.1.2. Evolving Trend (Mixing Old and New)

This approach represents an attempt to blend the identity of the ancient urban heritage with the spirit of the contemporary time, in a manner that suits modern developments in the field of architecture without affecting the identity and memory of the place; this trend has emerged in an attempt to address difficulties by achieving advanced thought without abandoning the local cultural identity of the city, by investing in the process of blending in the use of old building methods, and through the revival of the old-style in addition to the facilities of modern building methods, in order to preserve historical architecture patterns [8].

### 2.1.3. Symbolic Trend (Witness to Events—No Change)

This strategic orientation focuses on the importance and symbolism of the event to which the urban heritage is exposed, rather than the importance of its reconstruction; it works to preserve the condition of the urban heritage as it is without change, in order to serve as a witness to the event, without affecting it, such that it remains part of the city's memory. In addition, it reveals the ugliness that wars perpetrate against human and historical values; this tendency is valid only for certain buildings with special symbolism [8].

## 2.2. Previous Experiences of Revitalization after Wars

We deal with previous case studies, in order to draw beneficial elements from them. Each case presents a different experience, and the cases show similar characteristics to the study area in this research; that is, the center of the old city of Mosul.

### 2.2.1. Historic City Center of Warsaw in Poland

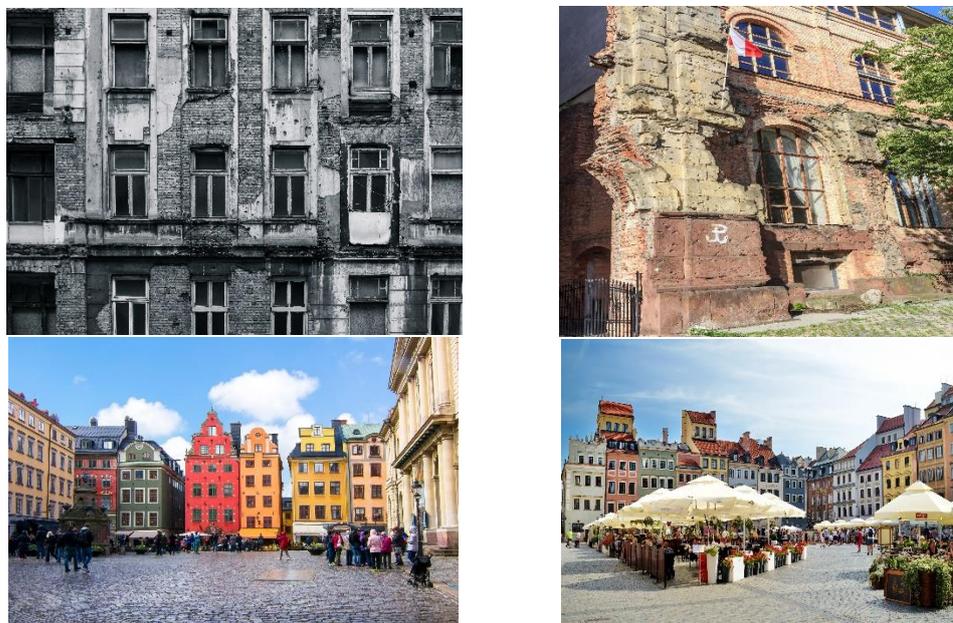
It is the oldest part of Warsaw, the capital city of Poland; it is one of the most prominent tourist attractions in Warsaw, it was established in the 13th century.

During the Warsaw Uprising in August 1944, more than 85% of Warsaw's historic center was destroyed by Nazi troops in the second world war. After the war, a five-year reconstruction campaign by its citizens resulted in today's meticulous restoration of the Old Town, with its churches, palaces and marketplace; it is an outstanding example of a near-total reconstruction of a span of history covering the 13th to the 20th century [11].

**City Revitalization:** The local community started a campaign to restore the city by rebuilding the city while reviving its urban heritage, in order to restore the history of the city and preserve its cultural identity while rebuilding what was destroyed and damaged of unique historical and cultural landmarks, including the careful restoration of churches, palaces, and the old city market; this process was preceded by a large campaign of documentation carried out by a group of architects, historians, planners, and intellectuals, considering the most important landmarks that embody the city's cultural heritage; they collected heritage and art pieces and preserved them, as a step toward documenting the city's architecture in order to restore it to its former form. After the end of the war, the important documents and maps were retrieved and used as a basic reference for rebuilding the city during the period between 1945–1966 AD [12]. The strategy for revitalizing Warsaw after the war focused on: Preparing and planning through early documentation to preserve the urban heritage of the city, in case it was exposed, which is one of the most important factors that helped in accurately rebuilding what had been destroyed in the city. Reviving the identity and memory of the city—the revival strategy focused on preserving the collective memory by rebuilding landmarks, symbols, and buildings in the same style and materials, such that the city was reconstructed by creating an exact copy of its former self.

The urban fabric of the city was reshaped while preserving its urban character, by using the same local traditional building methods and materials in which the heritage monuments were constructed, and with the same details as documented; this was achieved

through the local expertise of craftsmen and technicians, with a focus on conducting the process of training and rehabilitating the local community to deal with these traditional crafts, which contributed to providing them with job opportunities in the reconstruction process. Functional re-balancing through adaptation and reuse of heritage buildings in a manner that suits the provision of the basic needs of society, and in a manner that suits the requirements of the times, while solving the problems that existed in meeting functional requirements and problems of lighting and ventilation at the building level. As for the urban fabric, some uses that did not fit the nature of the heritage area were reconsidered, with the possibility of adding new uses and investing in the urban heritage to revitalize the region's economy through tourism. Strengthening the role of community organizations by activating community participation and its contribution to the revitalization of the city, whether during the documentation process before the war or the process of concealing documents and architectural plans. Thus, they contributed to preserving history, identity, and heritage from loss. Meanwhile, after the war and during the reconstruction process, they had the greatest contribution, as coordinated by civil society organizations; see Figure 1 [12].



**Figure 1.** Some heritage buildings in Warsaw during the war and after the reconstruction process of the city (credit: <https://www.shutterstock.com/> (accessed on 15 August 2022)) [13].

The efforts to rebuild Warsaw were rewarded in 1980, with the recognition of the city's historic center as one of the Cultural Heritage Sites of Exceptional Value on the World Heritage List, for being "an outstanding example of the near-complete revival and reconstruction of an era of history" [11].

We conclude, from the above, that the experience of the city of Warsaw can be summarized in terms of:

Emphasis on developing a plan to manage the process of reviving the urban heritage of the city through the setting of goals and mechanisms to organize work when disasters and wars occur, starting with the documentation and field survey of the most important heritage elements in the city. In addition, focusing on the great role that the local community played before and after the war, the importance of community participation and the high responsibility of the community in restoring its identity and heritage is evident.

### 2.2.2. The Reconstruction Experience of the Old Center of Beirut, Lebanon

The history of Beirut dates back to the fifteenth century BC. Throughout its history, the city has witnessed many disasters, such as earthquakes and wars; for example, the Lebanese

Civil War and the Israeli invasion of Lebanon in 1982. The city has suffered from many problems, especially downtown Beirut, which deteriorated by the civil war (1975–1990) and was divided by border lines from north to south, in addition to the destruction of the urban structure, where about 83% of the historical center of the city and its urban heritage (e.g., Khans and old markets) have been destroyed. In addition, it has been exposed to economic and social problems, due to its transformation into a buffer zone devoid of human activities as a result of armed conflicts (see Figure 2). The city has witnessed restoration, reconstruction, and revival of the urban heritage in the traditional center of the city. One of the most prominent issues in the reconstruction of the city center was a lack of necessary resources for authorities, with the executive authority having a desire to erase the effects of the war and revitalize the historical heart, which, before the war, represented a symbol of prosperity that included the whole society of different classes and affiliations. The state assigned the private sector, represented by the Lebanese Real Estate Company (SOLIDERE, Beirut, Lebanon), to finance and manage the entire reconstruction of the city in cooperation with government agencies and the involvement of some external parties, in order to participate in investment operations [14].



**Figure 2.** The extent of the destruction suffered in downtown Beirut during the civil war (credit: <https://www.shutterstock.com/> (accessed on 15 August 2022)) [13].

The strategy for reviving the traditional center in Beirut after the war was characterized by:

A lack of prior preparation for the post-armed conflict phase and the absence of a plan for the reconstruction and dealing with the urban heritage, with the exception of some attempts to preserve some heritage buildings.

The spatial reconfiguration of the urban structure of the historical center of the city in a contemporary style, and in modern ways differing from the previous urban heritage.

Re-balancing of the functions and uses in the historic center. The process of revitalizing and reconstructing the city focused on providing amenities, basic needs, and modern requirements for society, in line with the development of the times, while providing new activities allowing for the revitalization of the economy in the region and encouraging commercial movement, thus providing job opportunities for the community.

The heritage buildings were modernized using contemporary additions and interventions while using advanced architectural formations and modern materials to treat the damaged and dilapidated parts of the heritage buildings, while preserving the identity and urban character of Lebanese architecture. In addition, modern materials were used in some places.

Reviving the identity and history of the city—there have been some attempts that sought to revive some of the archaeological and historical sites in the city and merge them

with the present, in order to form attractions for heritage tourism, such as public spaces, famous monuments, and some heritage buildings; however, the experience in general sought to form a new legacy and identity by breaking with the past, removing all traces of war and destruction [15].

We can conclude, from the above, that the experience of downtown Beirut can be summarized in terms of a focus on creating an advanced and world-class infrastructure, while erasing all traces of war and re-establishing a new identity (except for some buildings of special heritage value), with the aim of creating a new identity for the city center by introducing contemporary trends in building methods and construction materials that fit the spirit of the times. The strategies that were followed in both cases focused on revitalization through reconfiguration and rehabilitation of heritage urban elements and functional re-balancing, with a focus on reviving the memory of the area and the identity of the city along with economic and social revitalization.

### *2.3. Approaches of International Organizations in Dealing with Heritage Areas after Disasters, Wars and Armed Conflicts*

International organizations and institutions specialized in heritage, culture, and heritage areas and environments have discussed how to deal with these heritage areas after the occurrence of armed conflicts. Therefore, a set of approaches, proposals and strategies that must be taken in these cases have been proposed, and these proposals and experiences will be used to strengthen and build the theoretical framework for research.

#### *2.3.1. UNESCO-World Bank Paper 2018 (The Role of Culture in Reviving the Heritage after Wars)*

Culture is characterized by its great role in restoring life and preserving legacy in heritage areas that are exposed to wars and disasters; this role was discussed in a new UNESCO-World Bank Position Paper, *Culture in City Reconstruction and Recovery (CURE)*, was presented at UNESCO Headquarters (Paris, France) on 16 November, it is focused on that culture is critical to achieve sustainable urban development and to ensure effective post-crisis reconstruction and recovery processes, It offers an enhanced culture-based framework for city reconstruction and recovery that integrates both people-centered and place-based approaches, the Culture value represent the heart of people, urban spaces, and city recovery policies, UNESCO and the World Bank advocate that culture is the foundation upon which cities are built. Cities are not just a collection of buildings but are people, their stories, and how they interact with each other through their cultural identity and sense of place. At both the foundation and intersection of people and places lies the “X factor” of culture. Through cultural heritage and creativity, culture is essential as both an asset and a tool for city reconstruction and recovery. While place-based strategies prioritize the reconstruction of physical assets, people-centered strategies can strengthen community ownership and social inclusion, improve livability of the built environment, and accelerate the socioeconomic recovery of cities. [16] According to the paper, urbanization, climate change, and wars conflict are three critical forces shaping the world today. To reach the goal of making cities more inclusive, safe, resilient and sustainable, the key to success is to integrate culture into reconstruction a recovery processes, including built and living heritage and creativity [17].

#### *2.3.2. UN-Habitat and UNESCO “Press Release: UN-Habitat and UNESCO Launch Plan to Reconstruct Mosul” 2018*

This study raised an important problem that appeared after the liberation of the old city of Mosul, which is: Since the liberation of Mosul, rebuilding work has started around the city, including cultural heritage buildings and public spaces, especially in the Old City; but the care required to remove large amounts of rubble due to explosives contamination has slowed the pace tremendously. The masterplan of Mosul has not been updated since 1974. UN-Habitat’s study shows that the lack of an updated masterplan resulted in the growth of informal settlements without adequate infrastructure or social services, and lack of access to land and housing created grievances among the city’s residents, contributing to

the rise of violent extremism. Simply returning Mosul to its status before ISIL is not good enough—now is a unique opportunity to ‘build back better’ and develop a people-centered urban vision for the future. The Initial Planning Framework for Reconstruction of Mosul is an inclusive participatory vision and strategy backed up with data that will facilitate the city’s transition from an emergency response and stabilization phase to reconstruction by providing agreed guidelines for reconstruction activities. [18] A major potential for preserving historic elements lies in empowering reconstruction actors—in particular, local residents, landlords, and religious endowments—to take responsibility for the sensible reconstruction of the Old City to recover their sense of identity and belonging, and to engage in a constructive dialogue about their common past and shared values. In order to do that, residents need to be facilitated with the means and provided with the skills and tools to contribute individually and collectively to the reconstruction activities. In addition to empowering local residents, increased coordination between the local government, UN agencies, and (I)NGOs is key to recover the Old City and to facilitate the sustainable return of internally displaced persons. While it is widely acknowledged that the sustainable return of IDPs requires a multi-sectoral recovery of areas, most reconstruction and recovery activities have heretofore been scattered, with little inter-sectoral coordination. The plan to revive the focuses on (Protect heritage from further destruction, restoring the city through a “super-block” approach, clearing the city of debris and ERW, and ensure reconstruction that recreates historical characteristics. Commercial areas, introduce new schools and health facilities to the old city, reconnect the old city to the wider Mosul area by public transportation, support the residents of the old city with title deed, and implement a pre-crisis plan) [19].

#### *2.4. International Organization for Migration (IOM) 2021, Reviving the Old Cities of Mosul and Basra: Restoring Iraq’s Historical and Cultural Heritage as a Pillar of Economic Recovery*

Through the preservation of the country’s unique and invaluable cultural heritage and in response to the increasing need to provide job opportunities, the (UNESCO) and (IOM) will focus on: Demonstrable action for, with and in communities based on the rehabilitation of public buildings (monuments), urban settings and houses of historic and cultural character sets; improving access to job opportunities through support to Small and Medium Enterprises (SMEs) with social and cultural value; and Revitalizing the culture sector through investment in all tangible and intangible forms of cultural heritage and in the technical skills and knowledge to contribute to stabilization, social cohesion and peacebuilding. As part of the proposed action for socioeconomic and cultural development in Iraq, IOM will target the handicrafts, traditional and cultural sector, primarily with its innovative financing mechanism, already developed in Iraq, the Enterprise Development Fund (EDF). The EDF aims to restore essential economic infrastructure by providing financial capital to SMEs (2–30 employees) in primary and secondary economic sectors with high demand for labor force, so SMEs can restart expanding operations. By targeting key sectors and providing funding, the EDF encourages rapid restoration and/or creation of job opportunities needed for the recovery of local economies [20].

#### *2.5. The Theoretical Framework for Managing the Strategies of Reviving Urban Heritage after Wars*

Considering the previous experiences and theoretical proposals dealing with everything related to providing a theoretical framework to solve the research problem of the study, we determined several terms representing strategies for the revival of cultural heritage—especially urban—which could be applied locally to the study area (i.e., the center of the old city of Mosul) (Table 1).

**Table 1.** The most important indicators for the revival of cultural heritage after war.

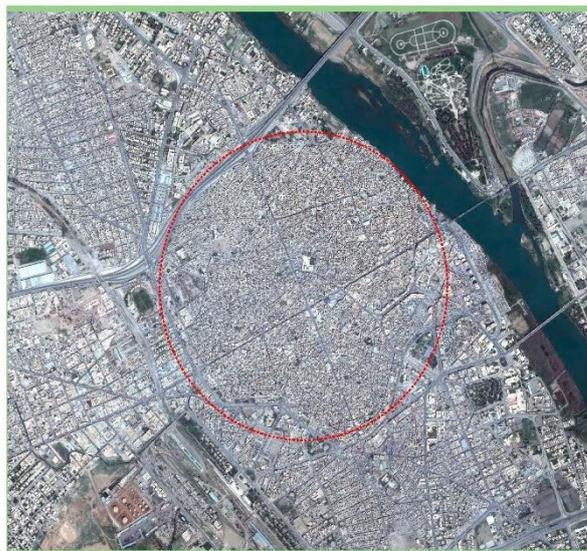
The Strategy	The Mechanism of Achieving It		
Urban	Reconstruction of urban structures	Revival of the old, in the same style, construction methods, and traditional building materials	
		Sophisticated revival (mixing old and new) using contemporary methods and materials	
		Symbolic revival by maintaining the condition of the urban heritage as it is, as a witness to the war event	
	Functional Re-balancing	Preserving the old uses and functions	
		Adaptation and Reuse of Heritage Buildings with Contemporary Functions	
		Reconsidering some of the uses that are not appropriate to the nature of the heritage area	
Adding new uses			
Revitalizing the city's memory	Reconstruction of landmarks, symbols, and heritage buildings		
Social	Meeting the basic needs of society and improving the standard of living in society by providing job opportunities		
	Strengthening the role of the community through community participation in decision-making and in construction work		
	Raising the level of cultural awareness of the population, and informing them of the importance of reviving and preserving their cultural heritage		
	Maintaining the local community by meeting their basic needs and organizing their return to the area		
	Maintaining social relationships among the local community		
	Reviving the local customs, traditions, and activities related to the cultural heritage that characterize the society		
Economic	Strengthening the local economy	Investing in urban heritage to revitalize the economy of the region	
		Revitalization of traditional crafts	
		Providing job opportunities while encouraging activities and traditional uses that attract tourism	
	Raising the economic level of the area by introducing new activities or reviving old ones		
	Provide financing	Provide the appropriate funding to manage the process of reviving the cultural heritage	Private sector International organizations and institutions interested in heritage
		Encouraging the private sector to invest and involve it in managing the region after its revival	
Granting advances to the community for the restoration, maintenance, and repair of their heritage properties			

### 3. Practical Study—The Study Area (the Center of the Old City of Mosul)

#### 3.1. The Study Area

The old city of Mosul is located in the Nineveh Governorate, about 400 km north of the capital, Baghdad; this city represents the historical, civilizational, and urban identity of the city of Nineveh, and is characterized by its heritage urban fabric, known as The Old City of Mosul (see Figure 3); it is one of the oldest Iraqi cities, distinguished by its ancient history; it is considered the heir of Nineveh, the capital of the Assyrians, as it was built on the remains of an Assyrian fortress, and has a great role in Arab and Islamic history, as the Muslims took control of it in 638 AD, in order to re-design the city according to Islamic teachings and traditions; it is part of the city center, according to its basic design,

and is located on the right side of Mosul. The city, in its planning and the nature of its construction, responded to the prevailing local climatic, social, and cultural conditions [21]. Therefore, the old city of Mosul was distinguished by its richness in cultural heritage, as represented by the richness in its urban fabric and the heritage urban features that are spread throughout it. The traditional urban fabric of the city is represented by the alleys of old Mosul and the entrances to the Mosul houses, as well as the arches covering the old (roofed) alleys (Figure 4). In addition, many buildings, inns, caesars, heritage markets, churches, and old mosques are located within the boundaries of the old city of Mosul [22].



**Figure 3.** The study area: The old city of Mosul reproduced with permeation from [Google Earth] [23].



**Figure 4.** The heritage elements in the old city of Mosul (photo credit: Safaaaldeen ali).

### 3.2. The Urban Heritage Status of the Old City of Mosul after the War

The city was subjected to a systematic and deliberate demolition of its urban heritage in the period 2014 to 2017, due to the control of terrorist groups over the city, where several campaigns were implemented that aimed to destroy the cultural heritage sites in the city. Several shrines, tombs, mosques, and important shrines were destroyed and bulldozed, such as Nabi Yunus Mosque (1365 AD), Prophet Zarzis Mosque (1400 AD), Nabi Sheet Mosque (1647 AD), Sheikh Fathi Mausoleum (1050 AD), Sheikh Qadib al-Ban Mosque and shrine (1150 AD), the Shrine of Imam al-Bahir (1240 AD), the shrine of Imam Yahya Abu al-Qasim (1240 AD), and the mausoleum of Imam Awn al-Din (1248 AD); see Figure 5. The tomb of the historian Ibn al-Atheer al-Jawzi al-Mawsili, the statue of the poet Abu Tammam, and the statue of Othman al-Mawsili were also destroyed, while churches and monasteries were seized and vandalized, such as Shamoun al-Safa Church (300 CE), Mar Ahoudini Church (575 CE) Al Tahra High Church (1250 CE) and, The Latin Church 1870s;

see Figure 6; moreover, the latest destruction was the Great Mosque of Al-Nuri and its Hadba Minaret; see Figure 7.



**Figure 5.** The destruction of the Nabi Yunus SHRINE <https://www.thesun.co.uk/news/2728270/nabi-yunus-shrine-mosul-isis/>, accessed on 20 June 2022. Credit: Reuters [25].



(a)



(b)

**Figure 6.** The vandalism of some churches and monasteries. (a) Mosul's Al-Tahera Syriac-Catholic Church (photo credit: Safaaaldeen ali). (b) The Our Lady of the Hour Church (the Latin Church) (photo credit: Safaaaldeen ali).



**Figure 7.** Reconstruction of the Great Al-Nuri Mosque and its historical minaret (Al-Hadba) (photo credit: Safaaaldeen ali).

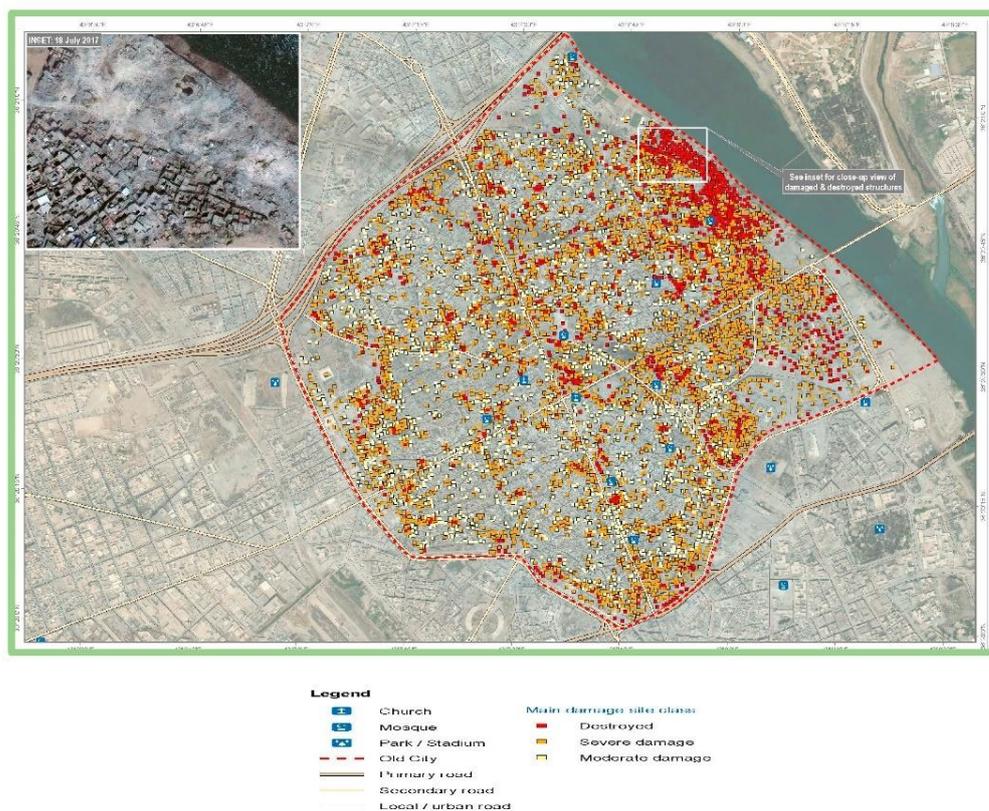
After the end of the liberation operations in 2017, the old city became a new scene, showing traces of destruction due to deliberate sabotage on one hand and military actions on the other. The right side of the city, which carries moral and heritage value—especially the old city and Nineveh Commercial Street—had been turned into deserted and destroyed places, due to the concentration of military activities on this side. Thus, the urban heritage in this area was subjected to widespread and systematic destruction, which led to poor services and deterioration of the urban structure in all of its material and immaterial elements; this act had an effect and was a clear reason for the migration of the population from these sites, due to the massive destruction of the urban structure of the city and the loss of much of the urban heritage of the city [24].

### *3.3. Selection and Description of the Terms Adopted within the Practical Study (Strategies for Reviving the Urban Heritage of the Old City of Mosul)*

More than one approach and strategy can be proposed in the process of reviving the urban heritage of a city, such as the old city of Mosul, by taking advantage of the previous theoretical propositions, in line with the strategies and mechanisms for achieving them, which were extracted as a theoretical framework based on previous experiences. Some effective indicators were extracted according to each strategy.

First, we consider urban strategies, as follows:

1. Revitalization of urban structures at the level of the urban fabric of the old city, as shown in Figure 8, which shows a recent satellite image of the area. The figure includes an assessment of the state of the urban fabric of the city and the extent of the destruction that it was subjected to as a result of terrorist operations. The buildings were divided into three categories, according to the level of destruction (buildings that were destroyed, buildings that sustained severe damage, and buildings that sustained slight damage). The buildings are dealt with according to their condition and importance, as well as the state of the urban fabric, which is characterized as being an organic and cohesive fabric with narrow roads and alleys, which imposes that the destroyed areas be reconstructed in the same pattern as the old area (and not necessarily as a replica), in order to preserve the urban structure and formality of the old city. As for the important heritage buildings that have been destroyed, they may be reconstructed in a manner that combines the old and the modern, or through are rehabilitation of the remains while preserving what is left of the existing building.
2. Functional re-balancing, in which the same uses and function of buildings that carry a spiritual value for the community and are linked to their customs and traditions—such as religious buildings and places of worship—are preserved. In some cases, the uses of heritage buildings are changed and adapted to carry out contemporary functions, such as becoming administrative buildings or residential buildings and khans, with the addition of new uses that can lead to the revitalization of the area and its heritage neighborhoods; this should include a review of which uses do not fit the nature of the heritage area, such as industrial uses.
3. Reviving the city's past by reconstructing some of the historical monuments that play a role in forming the collective memory of the city (the old picture) with replicas having the same details, such as the Al-Hadba minaret and other landmarks that contributed to the formation of the city's memory through the ages, such as churches and ancient mosques.



**Figure 8.** Assessment of the damages to the urban fabric of the study area after the war (Source: UNIOSAT, 21 July 2017 reproduced with permission from [<https://unitar.org/maps/map/2631>] [26]).

Second, we consider social strategies:

1. Improving the standard of social life—the fulfillment of basic human needs (e.g., food, housing, and health services) is a part of relief work to provide the basic needs caused by the war. Therefore, the process of reviving social-cultural heritage is carried out through community reconstruction and revival of the social system of the community.
2. Activating the community's role in revitalizing through community participation in decision-making, strengthening their capabilities, and qualifying them to contribute to construction work, especially using traditional materials and methods.
3. Raising the level of cultural awareness among the population by informing them of the importance of reviving and preserving their cultural heritage.
4. Achieving social cohesion by preserving the local population in the region and organizing their return to the region, thus contributing to the revival of cultural heritage in the region.
5. Reviving the customs and traditions through local activities related to the cultural heritage that characterize the society in the old city, especially gatherings during religious practices and holidays.

The third element involves economic strategies.

The region has suffered economic devastation targeting its cultural heritage. Therefore, measures should be taken to economically revitalize the community, by reinvesting in heritage structures such as old commercial markets, religious sites, and heritage buildings, as this could lead to more activity and increased investment.

1. Strengthening the local economy by investing in urban heritage to revitalize the region's economy, reviving traditional crafts, and encouraging traditional activities and uses that attract tourism while simultaneously providing job opportunities.
2. Raising the economic level of the region through the introduction of new activities, especially cultural and tourist activities.

3. Providing the appropriate financial funding to manage the process of reviving the cultural heritage in the city, which is achieved through the involvement of various parties, such as the private sector or international organizations concerned with heritage (e.g., UNESCO and the World Bank), granting advances to the community in order to carry out restoration, maintenance, and repair of their heritage properties (e.g., residential houses, markets, and antique shops) within the old fabric of the city.

#### 3.4. Data Collection and Measurement Method

This research relied on analytical descriptive measurement based on the analysis of detailed explanation texts, drawings, and illustrative schemes for the completion of reconstruction projects within the study area. The analysis process included several stages, represented by a general description of the project, depending on the sources, and a reanalysis of each project, according to the specific terms of measurement based on the description, diagrams, and illustrations. Then, we measured the verification values for each of the detailed indicators; this analysis process was carried out through the use of special forms, divided into three main parts:

1. Specialized description form; this contains a detailed explanation of each secondary variable within the indicators of strategies for reviving the urban heritage, represented by urban strategies, social strategies, and economic strategies.
2. Measurement Form; this includes a test to verify each of the possible values through the checklist. The list is filled out by the researchers, based on the information extracted from the specialized description form for each of the proposed projects and each item, according to its specificity and in line with the research objective; it includes a measurement mechanism for each of the three terms, indicating whether the variable was verified or not through two values (0, lack of verification; 1, verified).
3. Extracting the percentages; this is carried out by measuring the verification percentages for each item, according to its secondary variables within the selected samples. The recurring percentages were calculated using the following equation:

$$\text{Frequency Percentages} = \frac{x_i}{\sum x_i} \times 100 \%$$

#### 3.5. Selected Sample

We applied the terms of the theoretical framework for research to two local projects within the study area that have focused on locations previously destroyed or damaged as a result of armed operations in the old city; these two projects were also distinguished by their exceptional heritage value and their connection to the city's history, through their contribution to forming the city's memory for the community, in addition to being important commercial centers of the city throughout history. In addition, these two projects involved the reconstruction of the old city after the end of the war and its liberation.

##### 3.5.1. The First Project: The Revival of Khan Hamou Qaddo

**Project description:** This place is considered one of the oldest Khans on the right side of the old city of Mosul, located in the locality of Bab Al-Saray; this khan was built by the Al Qaddo family in the year 1882 AD, with an area of about 4000 m<sup>2</sup>. The main function of this site (the khan), at the time of its establishment, was as a rest house or hotel to accommodate travelers and foreign travelers to the city for trade or travel. Then, in the 1950s, its function was transformed into shops selling sewing fabrics. The khan consists of two floors. The ground floor contains a spacious courtyard surrounded by 45 rooms or shops, some of which contain cabinets and 5 iwans. The entrance to each room or shop is a marble frame with a slight arch. As for the upper floor, it consists of 52 rooms or shops and 5 iwans, which are reached by a special staircase for each iwan; it differs from the ground floor due to the presence of a group of corridors with pointed stucco arches in the southern wing and semi-circular arches of al-Halan stone in the northern and eastern wings [27]; this khan was

subjected to great damage during the military operations that the city of Mosul witnessed in the year 2017 AD, which amounted to the destruction of a large part of it and the loss of many distinctive architectural elements at this site; see Figure 9.



**Figure 9.** The extent of the destruction and damage in Khan Hamo Qaddo after the military operations in 2017. (Photo credit: Nineveh Governorate and the Municipality of Mosul, Department of Media) [28].

The process of reviving this heritage site was initiated by the owner family in 2018, when all of the damaged old building was removed and a new khan was reconstructed, according to an architectural style similar to its old shape, with some differences in the materials of the external finishes for the external and internal facades. Contemporary finishing materials were used, which fit the spirit of the age, and several changes were made to the old scheme, as the number of shops was increased to 250 while retaining the same function of commercial use. New uses of heritage and cultural character were added; for example, shops for handicrafts and old Moslian professions have been added. As shown in Figures 10 and 11, the central courtyard of the Khan was reconstructed as an external cultural space, reviving the Mosul heritage through the establishment of community cultural events and events. Many events have been held here, in coordination with UNESCO and local community organizations. The reconstruction of the project was carried out using local materials, building methods, and labor; see Figure 12 and Table 2.



**Figure 10.** The reconstruction stage of Khan Hamo Qaddo. (photo credit: Nineveh Governorate and the Municipality of Mosul, Department of Media) [28].



**Figure 11.** Preserving the Khan’s architectural style while using contemporary materials (photo credit: Nineveh Governorate and the Municipality of Mosul, Department of Media) [28].



**Figure 12.** Cultural activities and events in the central courtyard of the Khan after its reconstruction reproduced with permission from [Al-Allaf’s, I.K. blog- Available online: [http://www.wallablogspotcom.blogspot.com/2020/11/blog-post\\_26.html](http://www.wallablogspotcom.blogspot.com/2020/11/blog-post_26.html)] (accessed on 28 April 2022) [29].

**Table 2.** Specialized description form for measuring the verification values of the variables of strategies for reviving urban heritage after war.

First/Possible Values for the Urban Strategies Term—X	
Urban Revitalization X1	The khan was reconstructed in the same old style, while also in the spirit of the age through the use of contemporary finishing materials in the construction and the addition of new architectural elements in the storefronts inside the khan.
Functional re-balancing X2	Through the reconstruction process of the khan, the same uses that existed previously were preserved, with the addition of some new heritage uses of tourist value, related to the industries and handicrafts of the old Mosul, while exploiting the central courtyard of the project as a cultural space with cultural uses.
Revitalizing the Memory of the City X3	By observing the reconstruction process in this project, the distinctive features and heritage elements of the project were reconstructed. Thus, the process of revival in this project contributed to preserving the memory of the old city.

Table 2. Cont.

Second/the Possible Values of the Social Strategies Term—Y	
Improving the living standard of the local community Y1	After the project was completed, it contributed to meeting the basic needs of the community by providing a place for shopping and trade. The project contributed to providing job opportunities in trade within its premises, which contributed to the return to life and the return of shop owners to their previous stores, where they are able to carry out their daily work; this allowed for a kind of stability in the local community after the displacement of most of the workers and visitors to this site outside the city, due to the presence of armed operations.
Community Empowerment Y2	Before starting the project, community participation in decision-making did not occur with the funding body, and emphasis on Community participation in construction work had to be built. Maintaining social relationships.
Upgrading the local community culturally Y3	One of the effects resulting from this project is its contribution to the revival of activities related to the cultural heritage of the Mosul community, through investing in the central courtyard of the khan for the cultural activities and events of the Mosul community.
Third/Possible Values of the Economic Strategies Term—Z	
Strengthening the local economy Z1	The project was distinguished by the adoption of several mechanisms to enhance the local economy, by investing in the urban heritage of the site to revitalize the economy by reviving the old khan in its old style, which added an exceptional heritage value to the project, which contributed to its success. Several decisions were made, at the design level, to allocate several shops as exhibitions and workshops to revive traditional crafts, which contributed to providing job opportunities for the local community.
provide financing Z2	The project was accomplished through reliance on the private sector; specifically, the family who owns the site.

### 3.5.2. The Second Project: Reconstruction of Khan Al-Komrk

This khan is considered to be one of the most famous and oldest Khans in the old city of Mosul, which is located in the Mosul market. The well-known Al-Jalili family in Mosul built it around 1702 AD, with an area of about 2229 m<sup>2</sup>; this khan is distinguished by its distinctive architectural elements, such as the arches and decorative elements found at the entrances and doors of the khan; notably, the entrance to the khan is made of stone and two doors of wood. The building of this khan consists of a spacious courtyard which is accessed by two vaulted enclosures, surrounded by two floors: the ground and the upper floors. The ground floor includes 20 rooms, each one containing a closet, 19 shops, two stables, two arcades, and a central courtyard, while the upper floor consists of 44 rooms and 25 corridors. The khan was bustling with movement and commercial activity, serving as the main center of commercial exchange in the city due to its proximity to the Tigris River. Incoming and outgoing goods were piled in the middle courtyard of this khan, and, thus, it represented the city's first commercial station, as well as a great cultural and heritage legacy for the city as a whole; this khan was neglected, unoccupied, and damaged due to the sabotage acts of heritage sites and buildings that the city witnessed during the control of terrorist groups over it and the subsequent military operations to liberate the city; see Figure 13.



**Figure 13.** The effects of neglect and destruction of Khan Al-Kummark during the military operations reproduced with permeation from [<https://www.uomosul.edu.iq/news/en/archeology/69515>], (accessed on 27 April 2022) [30].

Reconstruction of this site began after the liberation of the city and the establishment of security, where the site was preserved as is, with the same architectural and heritage details. Rehabilitation and reconstruction of the site were carried out using the same local materials, and the family who own the site undertook the rehabilitation work and provided the appropriate funding; its original function—that is, commercial uses—has also been preserved, with the central courtyard being occupied as a gathering and celebration space for setting up and reviving artistic community events to revive the folklore of the local community in coordination with international and local organizations interested in heritage; see Figure 14 and Table 3.



**Figure 14.** Pictures showing Khan al-Kummark after rehabilitation operations (photo credit: Safaaaldeen ali).

**Table 3.** Specialized description form for measuring the verification values of the variables of strategies for reviving urban heritage after war. Project code/B.

<b>First/Possible Values for the Urban Strategies Term—X</b>	
Urban Revitalization X1	The reconstruction and revitalization operations in the project focused on the restoration and maintenance of the damaged parts of the project's structure, including repairing the distinctive urban heritage elements, such as the decorations on the facades of the building, in the same style, using the same building and finishing materials.
Functional re-balancing X2	The revitalization and reconstruction of this site focused on fully preserving the old uses that previously existed in the project—that is, commercial uses—while exploiting the central space of the project as a social and cultural space for artistic events and activities.
Revitalizing the Memory of the City X3	The reconstruction and revival of this heritage site focused on preserving the ancient architectural and heritage elements of this khan and, consequently, the revival operations contributed to restoring part of the city's memory, despite the destruction of the heritage fabric in the context of the heritage site.
<b>Second/The Possible Values of the Social Strategies Term—Y</b>	
Improving the living standard of the local community Y1	The revitalization process of the Khan Karnak project contributed to improving the living standard of the local community relying on the existing urban heritage, by providing work opportunities within the shops, storage and loading spaces, and transporting goods to the Khan, thus contributing to the restoration of stability of the ongoing activity within the city and resettlement of the local community
Community Empowerment Y2	Before starting the project, community participation in decision-making occurred with the funding body, and emphasis on community participation was present in the construction work; however, maintaining social relationships not in focus
Upgrading the local community culturally Y3	The reconstruction and revival of some of the open spaces in the project contributed to the revival of images of life embodied in the Mosul heritage, by investing in the establishment of social and educational events and activities aimed at raising the awareness of the local community, spreading a culture of tolerance, and renouncing the armed conflicts and extremism caused by terrorist groups when occupying the city.
<b>Third/Possible Values of the Economic Strategies Item—Z</b>	
Strengthening the local economy Z1	The design thought for the reconstruction and revival of this project relied on the adoption of several mechanisms to enhance the local economy, by investing in the urban heritage of the site to revitalize the economy by reviving the old khan in the same style, which added exceptional heritage value to the project, which contributed to its success.
provide financing Z2	The project was accomplished through reliance on the private sector; specifically, the family who own the site.

#### 4. Analyzing the Results

In this part, the results extracted from the measurement forms, in terms of the variables for the selected samples, are analyzed. The analysis was carried out using the Microsoft Excel software.

The results for the first project (Reconstruction of Khan Hamo Qado) are presented below. See Table 4.

**Table 4.** The most important indicators extracted for the revival of cultural heritage after war. Project symbol/A.

Strategy	The Mechanics of Achieving it		Verified	Unverified	Final Value		
Urban X	Revitalizing urban structures X1	Revitalization of the old	Keeping the same style and model X1-1	•	1		
			Conservation of traditional construction materials and methods X1-2		•	0	
		Mixing ancient and modern	Use new styles and models X1-3	•		1	
			The use of contemporary building methods, methods, and materials X1-4	•		1	
		Symbolic revival	Maintaining urban heritage status X1-5		•	0	
	Functional re-balancing X2		Keeping the same old use and function X2-1	•		1	
			Adaptation and reuse of heritage buildings with contemporary functionality X2-2		•	0	
			Removal of uses that are not appropriate for the nature of the heritage area X2-3		•	0	
			Adding new uses X2-4	•		1	
		Revitalizing the Memory of the City X3	Reconstruction of heritage monuments, symbols and buildings X3-1	•		1	
Sum of the values of the first variable (urban strategy) = 10			Percentage of total achievement of the values of the first variable (urban strategy) = 60%				
Total achieved values for the first variable (the urban strategy) = 6							
Social Y	Improving the living standard of the local community Y1		Meet the basic needs of society Y1-1	•	1		
			Create job opportunities Y1-2	•	1		
			Maintaining the local community by organizing their return to the area Y1-3	•	1		
	Empowerment of the local community Y2		Community participation in decision-making and construction Y2-1		•	0	
			Maintaining Social Relations Y2-2		•	0	
	Cultural upgrading of the local community Y3		Raising the cultural awareness of the population Y3-1	•		1	
			Revitalization of activities related to the cultural heritage Y3-2	•		1	
Sum of values of the second variable (social strategy) = 7			The percentage of total achievement of the values of the second variable (social strategy) = 71%				
Total achieved values for the second variable (social strategy) = 5							
Economical Z	Strengthening the local economy Z1		Investing in urban heritage to revitalize the economy Z1-1		1		
			Revitalization of traditional crafts Z1-2		1		
			Providing employment opportunities for the community in heritage tourism Z1-3		1		
			Raising the economic level of the region by introducing new activities or reviving old activities Z1-4		1		
	Providing finance Z2		Provide the appropriate funding to manage the process of reviving the cultural heritage	Private sector Z2-1	•	1	
				International organizations and institutions interested in heritage Z2-2		•	0
			Encourage the private sector to invest Z2-3			1	
		Granting advances to the community to restore their heritage property Z2-4		•	0		
Sum of values of the third variable (economic strategy) = 8			The percentage of the total achievement of the values of the third variable (the economic strategy) = 75%				
Total achieved values for the third variable (economic strategy) = 6							

The results for the second project (the reconstruction of Khan Karnak): are as follows in Table 5.

**Table 5.** The most important indicators extracted for the revival of cultural heritage after war. Project Code/B/(Researcher).

Strategy	The Mechanics of Achieving it		Verified	Unverified	Final Value		
Urban X	Revitalizing urban structures X1	Revitalization of the old	Keeping the same style and model X1-1	•	1		
			Conservation of traditional construction materials and methods X1-2	•	1		
		Mixing ancient and modern	Use new styles and models X1-3		•	0	
			The use of contemporary building methods, methods, and materials X1-4		•	0	
		symbolic revival	Maintaining urban heritage status X1-5		•	0	
	Functional re-balancing X2		Keeping the same old use and function X2-1	•		1	
			Adaptation and reuse of heritage buildings with contemporary functionality X2-2		•	0	
			Removal of uses that are not appropriate for the nature of the heritage area X2-3		•	0	
			Adding new uses X2-4	•		1	
		Revitalizing the Memory of the City X3	Reconstruction of heritage monuments, symbols, and buildings X3-1	•		1	
Sum of the values of the first variable (urban strategy) = 10		Percentage of total achievement of the values of the first variable (urban strategy) = 50%					
Total achieved values for the first variable (the urban strategy) = 5							
Social Y	Improving the living standard of the local community Y1		Meet the basic needs of society Y1-1		•	0	
			Create job opportunities Y1-2	•		1	
			Maintaining the local community by organizing their return to Area Y1-3	•		1	
	Empowerment of the local community Y2		Community participation in decision-making and construction Y2-1	•		1	
			Maintaining Social Relations Y2-2		•	0	
	Cultural upgrading of the local community Y3		Raising the cultural awareness of the population Y3-1	•		1	
		Revitalization of activities related to the cultural heritage Y3-2	•		1		
Sum of values of the second variable (social strategy) = 7		The percentage of total achievement of the values of the second variable (social strategy) = 71%					
Total achieved values for the second variable (social strategy) = 5							
Economical Z	Strengthening the local economy Z1		Investing in urban heritage to revitalize the economy Z1-1	•			
			Revitalization of traditional crafts Z1-2		•		
			Providing employment opportunities for the community in heritage tourism Z1-3		•		
			Raising the economic level of the region by introducing new activities or reviving old activities Z1-4	•			
	Providing finance Z2		Provide the appropriate funding to manage the process of reviving the cultural heritage	Private sector Z2-1	•		
				International organizations and institutions interested in heritage Z2-2		•	
			Encourage the private sector to invest Z2-3		•		
			Granting advances to the community to restore their heritage property Z2-4			•	
Sum of values of the third variable (economic strategy) = 8		The percentage of the total achievement of the values of the third variable (the economic strategy) = 50%					
Total achieved values for the third variable (economic strategy) = 4							

### Discussion of the Results

We discuss the results of the first item (Urban Strategies) within the first term and revealed a discrepancy in achieving the possible values required to achieve the secondary items contributing to the realization of urban strategies to revive the urban heritage after the war; namely, project A achieved a percentage of 60%, while project B achieved a percentage of 50%, therefore, the verification rate of Urban Strategies is 55% (see Figure 15). Through the results, we can note that the two projects focused more on reviving the urban structures in the same style and model, along with an addition of the spirit of the age and reviving the memory of the place and returning the spirit of the place to its previous state. While we consider the results associated with the second item (social strategies) within the second term revealed a convergent trend in achieving the possible values required to achieve the secondary terms contributing to the achievement of social strategies for reviving urban heritage after the war; namely, both Projects A and B achieved a percentage of 71%, therefore, the verification rate of Social Strategies is 71% (see Figure 15). we can note the clear interest of the two projects in focusing on social strategies that contribute to the stability of the local community and returning the population to the areas that witnessed wars and armed conflicts; this was achieved through the provision of job opportunities, raising awareness, and raising the societal cultural level of the Mosul community. As we have noticed the results associated with the third item (economic strategies) within the third term revealed a discrepancy in the possible values required to achieve the secondary terms contributing to the realization of economic strategies for reviving urban heritage after wars; namely, project A achieved a percentage of 75%, while project B achieved a percentage of 50%, therefore, the verification rate of Economic Strategies is 57% (see Figure 15). we can note the clear interest of the two projects in focusing on economic strategies to revitalize the site; this was achieved by providing job opportunities and improving the living conditions of the community, with a focus on encouraging investment from the private sector for the revitalization of heritage sites. Providing the appropriate funding to carry out reconstruction operations positively impacts the nature of urban life.

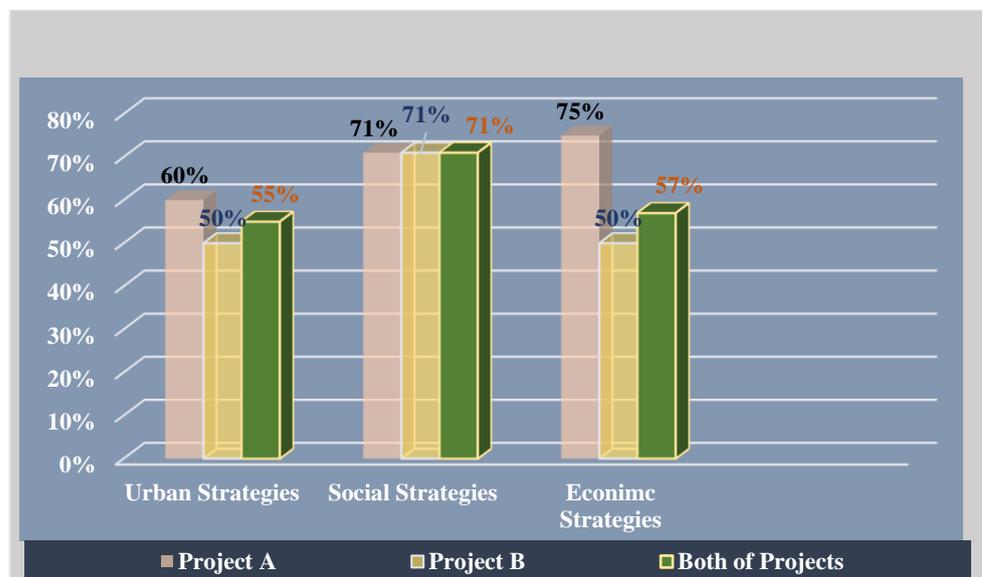


Figure 15. Results of the three items considered in the practical study.

### 5. Conclusions

- ✓ In the case of the old city of Mosul, many factors dominate the process of revitalizing the urban heritage in the city, due to the nature of the special area, the societal and religious diversity, and the diversity of existing urban and functional patterns. For this purpose, the management of the urban heritage revival plan in the city must follow a

comprehensive and integrated plan, starting from the planning stage, which involves studying the reality of the situation and evaluating the damages, and which must lead to the implementation and monitoring stages for the plan's items, and according to the project goals.

- ✓ The management of strategies for the revitalization of urban heritage must be implemented within a comprehensive and long-term sustainable development process including all urban, social, and economic aspects related to the city's cultural heritage; beginning at the early stages of the city's reconstruction (i.e., after the end of the war and the return of stability to the city).
- ✓ The old city of Mosul in particular, and its revival and restoration is one of the most important contemporary topics, which pointed to the importance of considering its spatial value within its urban culture.
- ✓ Encouraging private investment opportunities based on protecting cultural heritage and its use for cultural tourism.
- ✓ Involve local communities of the old city of Mosul in the management of planning and maintenance process of the heritage site in the old city to create a national sense of the importance of their role of these local communities.
- ✓ The maximum benefits from cultural heritage can be achieved through managing the conservation and protection strategy for heritage buildings.
- ✓ The most appropriate strategy for the revitalization of the city is through the replication of some important landmarks that play moral roles in building the memory of the place and society.

**Author Contributions:** Conceptualization, S.H.A. and A.H.A.; methodology, M.F.S.; validation, S.H.A., A.H.A. and M.F.S.; formal analysis, M.F.S.; investigation, S.H.A. and A.H.A.; data curation, A.H.A.; writing—original draft preparation, A.H.A.; writing—review and editing, S.H.A. and M.F.S.; visualization, A.H.A. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** All data references are mentioned within the references.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

1. Al-Saeed, M.M.N.; Mutlaq, J.B. Investing in Cultural Heritage: Samarra City as a Case Study. *Al-Manara J. Res. Stud.* **2020**, *26*, 141–168. [CrossRef]
2. ICOMOS. New Zealand Charter for the Conservation of Places of Cultural Heritage Value. 2010. Available online: [https://www.icomos.org/images/DOCUMENTS/Charters/ICOMOS\\_NZ\\_Charter\\_2010\\_FINAL\\_11\\_Oct\\_2010.pdf](https://www.icomos.org/images/DOCUMENTS/Charters/ICOMOS_NZ_Charter_2010_FINAL_11_Oct_2010.pdf) (accessed on 22 July 2022).
3. Brumann, C. Cultural Heritage. In *International Encyclopedia of the Social & Behavioral Sciences*, 2nd ed.; Elsevier: Amsterdam, The Netherlands, 2015; pp. 414–419. [CrossRef]
4. UNESCO. Recommendation on the Historic Urban landscape (HUL), Including a Glossary of Definitions. 2011. Available online: [http://portal.unesco.org/en/ev.php-URL\\_ID=48857&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html) (accessed on 14 July 2022).
5. Saleh, H.A. An integrated disaster risk management plan of cultural heritage: A case study in the Syrian coastal region. *Arab. J. Sci. Res.* **2020**, *2020*, 4–5. [CrossRef]
6. Al-Halabi, M.S.; Qassab, A.S. Reconstruction Strategies after Wars and Disasters in Syria: The City of Aleppo as a Model. *Hama Univ. J.* **2018**, *1*, 99–118. Available online: <https://hama-univ.edu.sy/ojs/index.php/huj/article/view/67> (accessed on 1 January 2022).
7. Armenta, X. Heritage Preservation in War: Proactive and Reactive Approaches Applied to the Old City in Sana'a, Yemen. Master's Thesis, University of Pennsylvania, Philadelphia, PA, USA, 2018. Available online: [https://repository.upenn.edu/hp\\_theses/641](https://repository.upenn.edu/hp_theses/641) (accessed on 1 June 2022).
8. Matanios, N. A Study of some Reconstruction Experiences and their Compatibility with Humanitarian needs. *J. Eng. Sci. Inf. Technol.* **2020**, *4*, 25–47. [CrossRef]

9. Al-Hinkawi, W.; Al-Saadi, S. Urban Acupuncture, a Strategy for Development: Case Study of Al-Rusafa, Baghdad. *IOP Conf. Ser. Mater. Sci. Eng.* **2020**, *881*, 01200. Available online: <https://iopscience.iop.org/article/10.1088/1757-899X/881/1/012002/pdf> (accessed on 1 January 2022). [[CrossRef](#)]
10. Gharib, M.S.; Abu, S.; Israa, A. Strategy to achieve benefit in job performance. *Eng. Res. J.* **2020**, *167*, 164–184. [[CrossRef](#)]
11. UNESCO. World Heritage Convention, Historic Centre of Warsaw. Available online: <https://whc.unesco.org/en/list/30/> (accessed on 25 June 2022).
12. Mohamed, F.; Omar, N.; Abd El Tawab, A. Achieving authenticity in reconstruction projects for World Cultural Heritage. *J. Eng. Res.* **2021**, *5*, 20–30. [[CrossRef](#)]
13. Available online: <https://www.shutterstock.com/> (accessed on 15 August 2022).
14. AlMurtadha, N. A Comparative Study Focusing on The Reconstruction Policies of Old Cities That Are Affected by Wars Application: The Old City of Sana'a. *J. Urban Res.* **2021**, *40*, 1–24. [[CrossRef](#)]
15. Kousa, C.; Pottgiesser, U.; Lubelli, B. Post-Syrian War Residential Heritage Transformations in the Old City of Aleppo: Socio-Cultural Sustainability Aspects. *Sustainability* **2021**, *13*, 12213. [[CrossRef](#)]
16. UNESCO-World Bank Paper, The Role of Culture in Reviving the Heritage after Wars. 2018. Available online: <https://en.unesco.org/news/unesco-and-world-bank-use-culture-building-back-better-after-conflict-and-disasters-cities> (accessed on 24 July 2022).
17. World Bank. UNESCO 2019 “Culture in City Reconstruction and Recovery (CURE)” Guide. Available online: <https://www.worldbank.org/en/news/press-release/2019/03/04/culture-is-key-to-building-cities-back-better> (accessed on 24 July 2022).
18. UN-Habitat; UNESCO. Press Release: UN-Habitat and UNESCO Launch Plan to Reconstruct Mosul. 2018. Available online: <https://reliefweb.int/report/iraq/un-habitat-and-unesco-launch-plan-reconstruct-mosul-enar> (accessed on 24 July 2022).
19. The UN-Habitat and UNESCO Initial Planning Framework for the Reconstruction of Mosul. 2019. Available online: [http://unhabitatiraq.net/mosulportal/wp-content/uploads/2019/11/190408\\_Initial\\_Planning\\_Framework\\_Mosul-E.pdf](http://unhabitatiraq.net/mosulportal/wp-content/uploads/2019/11/190408_Initial_Planning_Framework_Mosul-E.pdf) (accessed on 24 July 2022).
20. International Organization for Migration (IOM). Reviving the Old Cities of Mosul and Basra: Restoring Iraq’s Historical and Cultural Heritage as a Pillar of Economic Recovery. 2021. Available online: <http://edf.iom.int/Content/PublicationFiles/EDF-c%20Market%20assessment.pdf> (accessed on 24 July 2022).
21. Al-Hinkawi, W.S.; Youssef, S.S.; Ali Abd, H. Effects of Urban Growth on Street Networks and Land Use in Mosul, Iraq: A Case Study. *Civ. Eng. Archit.* **2021**, *9*, 1667–1676. [[CrossRef](#)]
22. Saeed, Z.O.; Almukhtar, A.; Abanda, H.; Tah, J. Mosul City: Housing Reconstruction after the ISIS War. *Cities* **2022**, *120*, 103460. [[CrossRef](#)]
23. Available online: <https://earth.google.com/web/GoogleEarth> (accessed on 1 May 2022).
24. Farhan, S.; Almawla, F. Morphological Change of Traditional City Centers: The Historical Centre of Mosul—Iraq—As a Case Study. *ISSSE J.* **2022**, *1*, 1–10. [[CrossRef](#)]
25. Available online: <https://www.thesun.co.uk/news/2728270/nabi-yunus-shrine-mosul-isis/> (accessed on 20 June 2022).
26. Available online: <https://unitar.org/maps/map/2631> (accessed on 28 April 2022).
27. Sawadi, H.H. Mosul’s Civilizational Contributions to Islamic Architecture in the Ottoman era—Commercial khans as a Model. *J. Educ. Sci.* **2008**, *15*, 8. Available online: <https://www.iasj.net/iasj/article/56069> (accessed on 1 May 2022).
28. Nineveh Governorate and the Municipality of Mosul, Department of Media. Interview on 10 August 2022.
29. Al-Allaf’s, I.K. Blog. Available online: [http://www.wallafblogspotcom.blogspot.com/2020/11/blog-post\\_26.html](http://www.wallafblogspotcom.blogspot.com/2020/11/blog-post_26.html) (accessed on 28 April 2022).
30. Available online: <https://www.uomosul.edu.iq/news/en/archeology/69515> (accessed on 27 April 2022).