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GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES

ASSESSING URBAN HERITAGE CONSERVATION PRACTICES IN THE UAE: THE CASE STUDIES OF THE HEART OF SHARJAH AND KHOR DUBAI

Thesis by

Juman HASAN

Department of Post-disaster and Post-war Reconstruction and Rehabilitation

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ASSESSING URBAN HERITAGE CONSERVATION PRACTICES IN THE UAE: THE CASE STUDIES OF THE HEART OF SHARJAH AND KHOR DUBAI

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M.SC. THESIS EXAMINATION RESULT FORM

We have read the thesis entitled **"Assessing Urban Heritage Conservation Practices in the UAE: The Case Studies of The Heart of Sharjah and Khor Dubai"** completed by **Juman Hasan** under the supervision of **Assoc. Prof. Filiz KARAKUŞ** and we certify that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.

Assoc. Prof. Filiz KARAKUŞ

Ankara Yıldırım Beyazıt University
Department of Architecture

Supervisor

Prof. Dr. Salah HAJ ISMAIL

Ankara Yıldırım Beyazıt University
Department of Architecture

Jury Member

Assist. Prof. Gülşah ÇELIK BAŞOK

Çankaya University
Department of Architecture

Jury Member

Prof. Dr. Sadettin ORHAN

Ankara Yıldırım Beyazıt University
Graduate School of Natural and Applied Sciences

Director

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Date: February 5, 2024

Name & Surname: Juman HASAN

Signature:

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ASSESSING URBAN HERITAGE CONSERVATION PRACTICES IN THE UAE: THE CASE STUDIES OF THE HEART OF SHARJAH AND KHOR DUBAI

ABSTRACT

Urban heritage conservation is pivotal for preserving cultural connections, fostering a sense of place, and ensuring sustainable city development. This study delves into the context of Sharjah and Dubai in the United Arab Emirates, where rapid modernization has disrupted traditional architecture and historic urban centers, resulting in sub-crises such as urban decay, degraded social relations, and economic decline in traditional markets. Efforts to restore, reconstruct, and rehabilitate built heritage have emerged. However, there is a knowledge gap in understanding their effectiveness and assessing their quality on architectural and urban levels.

The research addresses three primary questions: What are the existing practices in The Heart Sharjah and Khor Dubai for conserving their urban and architectural heritage? Do these practices effectively preserve heritage values while adhering to International Charters, and what are their strengths and weaknesses compared to regional examples? Lastly, how can these practices be enhanced? In answering these questions, qualitative and case study methods are employed. Literature review, visual data analysis, historical maps, and on-site observations are used to explore the current state of urban heritage in Sharjah and Dubai.

The findings reveal challenges in preserving design authenticity, cultural significance, original uses, and adherence to principles like historical continuity. The study offers numerous recommendations to address these challenges such as focusing on authenticity, establishing connected and walkable urban heritage sites surrounded by buffer zones, and integrating residential presence.

This research contributes not only to the post-crisis reconstruction field by discussing the rebuilding of heritage areas after crises but also to the heritage conservation field, as it validates International Guidelines and global conservation methods. Future studies could

encompass broader assessments of built heritage, delve deeper into public perception and participation, or examine the resilience of the UAE's restored heritage and its alignment with the UN's Sustainable Development Goals (SDGs).

Keywords: Post-crisis Heritage Reconstruction, Urban Conservation, Architectural Conservation, Khor Dubai, Sharjah.

BİRLEŞİK ARAP EMİRİTLERİ'NDE KENTSEL MİRAS KORUMA UYGULAMALARININ DEĞERLENDİRİLMESİ: SHARJAH VE HUR DUBAI ÖRNEK ÇALIŞMALARI

ÖZ

Kentsel mirasın korunması, kültürel bağların korunması, bir yer duygusunun geliştirilmesi ve sürdürülebilir şehir gelişiminin sağlanması için çok önemlidir. Bu çalışma, hızlı modernleşmenin geleneksel mimariyi ve tarihi kent merkezlerini bozarak kentsel bozulma, bozulan sosyal ilişkiler ve geleneksel pazarlarda ekonomik gerileme gibi alt krizlere yol açtığı Birleşik Arap Emirlikleri'ndeki Sharjah ve Dubai bağlamını incelemektedir. Yapılı mirası restore etme, yeniden yapılandırma ve rehabilite etme çabaları ortaya çıkmıştır. Ancak bunların etkinliğini anlama ve mimari ve kentsel düzeylerde kalitesini değerlendirme konusunda bir bilgi boşluğu bulunmaktadır.

Araştırma üç temel soruyu ele almaktadır: The Heart Sharjah ve Khor Dubai'de kentsel ve mimari mirasın korunmasına yönelik mevcut uygulamalar nelerdir? Bu uygulamalar Uluslararası Tüzüklere bağlı kalarak miras değerlerini etkili bir şekilde koruyor mu ve bölgesel örneklerle karşılaştırıldığında güçlü ve zayıf yönleri nelerdir? Son olarak, bu uygulamalar nasıl geliştirilebilir? Bu soruların yanıtlanmasında nitel ve vaka çalışması yöntemleri kullanılmıştır. Sharjah ve Dubai'deki kentsel mirasın mevcut durumunu araştırmak için literatür taraması, görsel veri analizi, tarihi haritalar ve yerinde gözlemler kullanılmıştır.

Bulgular, tasarım özgünlüğünün, kültürel önemin, özgün kullanımların ve tarihsel süreklilik gibi ilkelere bağlılığın korunmasındaki zorlukları ortaya koymaktadır. Çalışma, bu zorlukların üstesinden gelmek için özgünlüğe odaklanma, tampon bölgelerle çevrili bağlantılı ve yürünebilir kentsel miras alanları oluşturma ve konut varlığını entegre etme gibi çok sayıda öneri sunmaktadır.

Bu araştırma, krizlerden sonra miras alanlarının yeniden inşasını tartışarak sadece kriz sonrası yeniden yapılanma alanına değil, aynı zamanda Uluslararası Kılavuz İlkeleri ve küresel koruma yöntemlerini doğruladığı için miras koruma alanına da katkıda

bulunmaktadır. Gelecekteki çalışmalar, inşa edilmiş mirasın daha geniş değerlendirmelerini kapsayabilir, halkın algısını ve katılımını daha derinlemesine inceleyebilir veya BAE'nin restore edilen mirasının dayanıklılığını ve BM'nin Sürdürülebilir Kalkınma Hedefleri (SDG'ler) ile uyumunu inceleyebilir.

Anahtar kelimeler: Kriz sonrası mirasın yeniden inşaası, Kentsel Koruma, Mimari Koruma, Khor Dubai, Sharjah.

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NOMENCLATURE

Acronyms

AHAD	Architectural Heritage & Antiquities Department
HOF	Heart of Sharjah
HUL	The Historic Urban Landscape Approach
ICCROM	International Centre for the Study of the Preservation and Restoration of Cultural Property
ICOMOS	International Council on Monuments and Sites
JHD	Jeddah Historic District
SAF	Sharjah Art Foundation
SDGs	Sustainable Development Goals
SHUROOQ	The Sharjah Investment and Development Authority
UAE	The United Arab Emirates
UHM	Urban Heritage Management
UNESCO	The United Nations Educational, Scientific and Cultural Organization
WCPA	The World Commission on Protected Areas
WHO	The World Health Organization

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CHAPTER 1

INTRODUCTION

Built heritage, being one of the most tangible and durable forms of human creative expression throughout time periods, is a source of inspiration and historical knowledge. It is characterized by its compatibility with its environments and its role in shaping social identity. Over the past centuries, the scope of built heritage has expanded beyond individual buildings to encompass whole urban settlements. The conservation of built heritage on both a settlement level and a structure's level, is essential for maintaining a connection to the past, fostering a sense of place, and ensuring the sustainable development of cities.

Among the objectives of the built heritage conservation practices is to create unique urban identities and provide an enjoyable urban experience while preserving genuine urban history. This goal has led to the emergence and application of various conflicting approaches worldwide, ranging from traditional conservation practices to selective interpretive conservations where only specific urban elements and features are selectively conserved.

In the context of UAE, Urban heritage conservation in the United Arab Emirates (UAE) attempts to preserve the country's cultural and urban identity of the country amidst rapid urbanization and modern development. The urban landscape of the UAE has witnessed intense rapid transformations over the past decades, with modern skyscrapers and innovative infrastructure projects shaping the Emirati cities' skyline. Amidst this modernization, there is a growing awareness of the importance of conserving and protecting the unique urban heritage that tells the story of the UAE's history and cultural evolution.

1.1 Statement of the Problem

The area known now as the United Arab Emirates was originally scattered urban settlements in the form of port towns or oasis villages. In modern times, it has modernized and witnessed rapid urbanization, particularly in the years following the discovery of oil in 1958 and the formation of the United Arab Emirates Federation in 1971, which has transformed the country's urban forms vastly. Modern infrastructure, vehicle roads, power supplies, and water and sewage systems were introduced to the country for the first time. This has happened at the expense of the traditional vernacular architecture and urbanism that correspond to the social and climate needs of the region and its inhabitants. The traditional urban fabric has been disrupted and neglected. Different cities (Emirates) suffered different levels of urban heritage degradation. Abu Dhabi, for instance, swept away its entire traditional architecture. Sharjah and Dubai managed to preserve small patches of it while also introducing new structures and building techniques to their cities. Fortunately, in the early 1990s, the Emirati people began to search for their history and cultural heritage and governments became aware of the importance of the lost urban heritage. Thus, a new trend has emerged aiming to restore "what is left", and reproduce or reconstruct what has been fully demolished [1].

The status of built heritage destruction in the UAE can be categorized as a "crisis", since a crisis, by definition, is an overwhelming event that disrupts normal functioning. This can include all sorts of crises on the urban level characterized by destruction, loss of assets, and all the associated social, economic, political, and environmental sub-crises. The loss of built heritage, in particular, is an urban crisis posing a lot of risks, to name a few:
- Cultural identity degradation: as architectural heritage is intertwined with a city's cultural identity, losing historic structures erodes a community's connection to its past, disrupting the continuity of cultural narratives and traditions and diminishing the city's character.
- Social and economic disruption: due to displacements, loss of businesses, and diminished tourism.

Naturally, all levels of urban interventions (repair, restoration, reconstruction, and rehabilitation) that aim to retrieve built heritage, are taken to face these crises. However, the concept of post-crisis reconstruction and rehabilitation has a broader definition that refers to all efforts aimed at restoring and improving a system or community that has undergone a crisis, including not only retrieving physical structures, but also addressing social and economic impacts, and restoring cultural heritage as a whole [2].

In light of the case studies of Heart of Sharjah and Khor Dubai, the crisis discussed in this study can be defined as "the degradation of built heritage -both urban and architectural- due to modernization", leading to the loss of distinguishable urban identity and degradation of socio-economic importance. In both cases, despite the restoration efforts, the restored buildings remain scattered, and disconnected in separate urban patches. Consequently, the built heritage lost its unity, authenticity, harmony, and ability to create a "sense of place". This was followed sequentially by numerous impacts or "sub-crises":

1. Degradation of social relations which were prompted by the old lifestyles. Post-relocating to modern urban settlements, old residents of the old towns reported that with the disappearance of traditional urbanism, they feel isolated from each other and alienated from their culture. They miss the walkability and sociability that the gathering spaces in the old towns used to have. In an interview with local Emiratis carried out by [3], some described their observations regarding the changing dynamics of urban life such as the decline in personal interactions. They noted that the prevalent mode of transportation, i.e. vehicles, has deprived them of communal greetings and interaction and replaced it with isolated car journeys. They expressed a sense of disconnection from friends, highlighting how reliance on automobiles has replaced the once common practice of walking and its accompanied social encounters, which was facilitated by the traditional urban fabric. They reminisced about the past when social gathering spaces like Al-Sakeek (narrow alleyways) and Majalis (house or neighborhood sitting space for family gatherings and hosting guests and visitors) were common near the beach and the souq (the traditional market), and visited frequently, especially during the summer. They then remarked that the present

reality involves individualized experiences, with each home equipped with its own Majlis that seldom receives guests [3].

2. Degradation of the economic importance of the traditional markets that were once adjacent to old ports. The urban modernization which included relocating sea ports and the opening of new large mega malls, has led to a reduction in the traditional markets' users which in turn degraded the old forms of trade and shopping and diminished the role of traditional markets.

3. Urban degradation or urban decay observed in the overall built environment in which the old town used to exist. The ruins and remains of old structures are surrounded by medium-rise buildings which are usually associated with low rent ranges and therefore, are occupied by low-income foreign inhabitants. This is due to their old date of construction, inefficient services, lack of maintenance, and neglect in comparison to the newer and more attractive high-rise buildings in the more modern residential settlements.

In response to these challenges, scattered urban heritage rehabilitation and reconstruction projects have been implemented across Dubai and Sharjah. However, the literature review reveals a significant knowledge gap in evaluating the quality of these practices and their effectiveness in mitigating the impacts of the crisis and its sub-crises. Furthermore, there seems to be a lack of assessing these efforts on the urban level and addressing their overall contribution to the cultural identity of the cities. Therefore, this research aims to address these gaps by thoroughly discussing and assessing the current urban heritage conservation practices in Sharjah and Dubai with the aim of identifying areas for improvement and contributing valuable insights to the broader discourse on post-crisis rehabilitation and reconstruction in the context of urban heritage conservation.

1.2 Research Questions

This research will attempt to answer the following questions:

- What are the current urban heritage conservation practices in Sharjah and Dubai?

- Have the current urban heritage conservation practices managed to maintain the heritage values? Have they managed to meet international guidelines and charters? What are their strengths and weaknesses indicators in comparison to other regional examples?
- What possible more sustainable, more authentic, and more inclusive approaches and recommendations can be proposed to better these practices?

1.3 Research Objectives

- To review the evolution of the concepts of urban heritage and architectural heritage conservation, and to explore their different practices, paradigms, and strategies.
- To examine similar case studies in the Arabian Gulf region.
- To Review "What has been done" regarding urban conservation in the United Arab Emirates by focusing on the cases of Sharjah's heritage district "Heart of Sharjah", and Khor Dubai, as two models for the UAE's urban conservation methodology.
- To assess, critique, and discuss these practices according to their ability to preserve heritage values. Then to assess them in light of international guidelines. Then to assess them in comparison to other urban conservation attempts in the Region.
- To propose a set of recommendations that can improve the conservation and management practices in Sharjah, and Dubai while taking into account the assessment carried out.

1.4 Research Motivation

The thesis can give insights into both cities' current urban heritage conservation practices and assist in identifying areas for improvement by assessing the effectiveness of current policies and practices in preserving and promoting urban heritage. It can provide recommendations for future practices' development which in turn, can help promote the cities' tourism, cultural identity, and national identity among the residents. Additionally, the thesis can assist in identifying the best practices that other cities in the UAE and the region can use, as well as contribute to the broader global conversation on heritage

conservation and the importance of preserving built heritage after the crisis of demolishing it.

1.5 Research Methodology

To date, numerous techniques, criteria, and parameters have been introduced into social sciences in general and many study approaches and methods have been employed in the field of urban studies in particular. Among those, case studies have been widely used in urban contexts because they offer a detailed analysis of different urban approaches. Each research methodology has its advantages and limitations, and in order to identify the most suitable research method, this chapter employs a systematic literature review methodology to identify the knowledge gap in the urban case studies of Sharjah and Dubai historic centers. The literature will be described and categorized according to their research method, which will enable the author to find the most suitable method for this research and establish more precise research parameters. A comprehensive scan for relevant papers published from 1990 onwards was carried out according to the following steps:

- Keywords were identified, which include "Sharjah, Dubai, urban, historic, regeneration, Conservation, Reconstruction, Rehabilitation, management".
- The primary search engine used was Google Scholar, which provided access to a wide range of publications. This search engine was selected due to its extensive coverage of academic literature. The search was conducted within the timeframe from 1990 to the present.
- Inclusion and exclusion criteria were defined by selecting papers that aligned with the research objective and are peer-reviewed journal articles written in English, focusing on urban studies in the historic centers of Sharjah and Dubai. The exclusion criteria also included non-peer-reviewed publications, papers written in languages other than English, and studies that did not specifically address the urban aspects of the historic centers.

- The search input used was "Sharjah" or "Dubai" and "urban" or "historic" and "regeneration" or "Conservation" or "Reconstruction" OR "Rehabilitation" OR "management".
- The results were 150 publications which were filtered in two stages process. First, through reviewing the abstract, and second through reading the full texts to determine their suitability for the review.
- The remaining papers were described and categorized according to their research method. Two main categories were identified, papers that applied qualitative research methods, and papers that applied mixed research methods. It is noteworthy that since the study field is urban heritage studies, there weren't any studies depending solely on quantitative research methods.

1.5.1 Classification of Previous Studies

1.5.1.1 Qualitative Research Papers

This type of study aims to explore and understand urban contexts through non-numerical data. They include interviews, surveys, site observations, graphic studies, case studies, and content analysis of literature. Qualitative methods allow researchers to gain insights into the social, cultural, and experiential aspects of urban life, providing a deeper understanding of urban processes, behaviors, and dynamics. Papers that applied qualitative methods:

1. Hadjri and Boussaa examined the case studies of Dubai and Sharjah to assess recent conservation practices and their impact on the urban and architectural heritage of both cities. Literature review and urban analyses were carried out to understand the historic development of the areas and their significance as the only surviving heritage sites. Further data were collected to document the existing buildings in terms of historical attributes, architectural attributes, and physical condition. Interviews with actors and experts working in the two sites were conducted. They identified the challenges facing conservation approaches in the UAE as the lack of public awareness and education, the lack of legal frameworks and regulations, and the lack of coordination between different

stakeholders. The paper concludes that conservation should be guided by society's awareness and that a more integrated approach is needed to address the issues affecting urban and architectural heritage conservation in the UAE and beyond [4].

2. Salah Ouf explored the cycles of neglect and revival that urban heritage areas have experienced worldwide and suggests that urban planners face cycles of higher or lower urban quality instead. The paper introduces the case of Sharjah as an example of a rarely studied case in terms of urban environments among the Arabian/Persian Gulf cities. They discuss the urban design interventions that correspond with these higher/lower urban quality cycles. The paper aims to provide insights into how urban heritage areas can be rejuvenated while also being conserved [5].

3. Hassan Radoine conducted a critical analysis of the urban development in Sharjah, UAE, and its impact on cultural resilience. The analysis is based on a relevant literature review and the author's own observations and experiences. It also draws on case studies and examples from other cities in the region to support the arguments and recommendations. Overall, the paper appears to be based on a qualitative research approach that emphasizes critical reflection and analysis. It concludes by stating that The transition from traditional urbanism to modern urbanism in Sharjah had a significant impact on the social dynamics of the city, as the vehicular urban layout bordered the old city, and priority was given to the roads at the expense of the social fabric, which resulted in the emergence of a totally new imported urban model, without considering the potential damage caused to the traditional urban fabric, and an unbalanced development took place to replace the organically generated urbanism, exacerbating the social segregation between locals and foreigner expats, who automatically followed the spatial segregation already established by the vehicular gridiron [6].

4. Salah Ouf also explored the importance of authenticity in creating a sense of place in urban design and discusses various conservation methodologies used in urban design, starting from building restoration to rehabilitation, the replica reconstruction of demolished buildings, and urban conservation of entire sites. The case studies of this paper

are The Beit el-Nabudah and Al-Arsa market in Sharjah, and the Gold Market in Dubai. They represent examples of sites with distinguishable historical identities that do not comply fully with the conservation standards of international charters and are claimed to be completely authentic yet effective in attracting visitors and able to create a thematic sense of place. The paper also mentions other conservation efforts in Dubai varying from the historic preservation and relocation of Sheik Saeed House to the reconstruction of demolished traditional buildings in the divers' village at the start of Dubai Creek and the urban development control in Bastakiah district. The author emphasizes that deciding on a conservation method is only a partially important decision that must be complemented by other practices to ensure a thorough overall urban conservation process. The article also discusses the economic impact of cultural tourism on urban conservation projects and how it has shaped the urban design goal of creating sites to attract tourists [7].

5. Samia Rab also discussed Sharjah's urbanism, history, and development as a port city and its unique relationship with the ocean. It discusses the role of physical attributes in shaping urban history and the importance of preserving Sharjah's heritage area. It also touches on the British impact on Sharjah's urban growth and the city's modern layout [8].

6. In [9], the methodology was based on a general survey of conservation schemes witnessed throughout the Middle East and the author formulated a conservation 'balance sheet' for the city. The findings discovered in Sharjah in 1991 are summarized in a "balance sheet" which presents a summary of the areas and individual buildings surveyed and their condition after redevelopment schemes. The "balance sheet" shows that very few of the areas and individual buildings surveyed have suffered detrimentally as a result of redevelopment schemes, and Sharjah's experience is exemplary when compared to other Gulf cities.

7. Mona El Mousfy and Sharmeen Syed discussed Sharjah's organic morphology before modern urbanization, its complex socio-urban history, and its cultural fluidity. They explored the relationship between art, culture, and urban form in Sharjah, and challenge the notion of "constructed heritage" by showing that Sharjah is historically a highly

adaptive city, although the idealized and one-dimensional cultural narrative and the constructed heritage, have obscured the complex and fluid socio-urban history of the city's heart defined by early coastal settlements. They used a literature review to overview the cultural and urban history of Sharjah supported with images and illustrations [10].

8. Eman Assi explored the process of Dubai's wind towers' meaning formation and identified which cultural values contribute to their meaning and interpretations. The author carried out an urban analysis of the presentation of wind towers and used a literature review, personal observations, and data related to traditional UAE architecture. By following a value assessment approach, they analyze how the interpretation and meaning of wind towers have evolved throughout time and influenced Dubai's cultural identity. They conclude that Dubai's approach to heritage conservation is characterized by its aim to reinforce the national identity of the Emirati people and that such reinterpretation is dynamic and consistently changing in order to emphasize and maintain Dubai's cultural identity [11].

9. Mai Alhasawi offers a critical review of the policies and regulations of the Dubai Municipality regarding the preservation of the city's historical and cultural heritage. The paper explores how the Architectural Heritage Department has developed mechanisms of action, objectives, laws, and strategies to stay current with development and modern practices in restoration, conservation, and management while also preserving the city's architectural identity. The paper concludes that the preservation and restoration plan for heritage and historical areas in Dubai is both effective and adaptable. It argues that this process adheres to international standards and regulations while preserving the city's cultural values, intending to reconnect the local community with its history and culture, revive its values, and memories, and re-affirm the significance of the area, and consequently, foster a sense of identity, pride, and belonging among the citizens of Dubai [12].

10. Fatima Alsuwaidi et al investigated the history of Dubai's urban and architectural development and presented a value assessment for determining the cultural significance

of certain architectural structures of the early modern era in Dubai. The study uses a mix of desktop research, literature surveying, and preliminary fieldwork which includes photographing and documenting. It concludes with recommendations for documenting and analyzing the cultural and morphological elements of Dubai's modern architecture for future studies. [13].

11. Pallathucheril provides a narrative description of the urban redevelopment projects in Doha and Sharjah in historical and cultural contexts, as well as insights from experts in urban planning and design. They describe how the organic fabric of these cities was significantly re-engineered to accommodate cars, resulting in a built environment that appeared worn out and neglected. They also explore how local climatic conditions and social norms influence the design of urban spaces in the Gulf region [14].

12. Picton uses ethnographic analysis and interviews to examine how globalization and modernity have shaped understandings and constructions of culture and heritage in the UAE and the need to present it to the public in museums, with a focus on the context of Heart of Sharjah and its heritage conservation practices, which include restoration, conservation, reconstruction, and replication. The paper explores the impact of globalization and modernity on the perceptions and formations of culture and heritage in the UAE, and the need to display it to the public through museums. The discussion focuses on the Heart of Sharjah and the heritage conservation practices employed there including restoration, conservation, reconstruction, and replication [15].

13. Maclean explored through interviews and literature, the impact of suburbanization and heritage preservation on the emergence of the "national" as a spatial category in the UAE. The study concludes that the shift to automobile-dependent suburbs and the suburbanization process had a negative impact on social relations. He highlighted the importance of suburban architecture, public memory, and non-state heritage practices in shaping national identity in the UAE [3].

14. Boussaa examines the significance of urban conservation as a means to preserve and sustain the cultural identity of Dubai. By focusing on the Bastakia historical district as a

case study, the author provides insights into the potential of sustainable urban conservation to harmonize the past, present, and future of Dubai, as well as other cities in the United Arab Emirates. He also highlights the necessity of a dynamic approach to urban planning that integrates traditional and modern elements, and regional and universal influences. Additionally, the study discusses the crucial role of local communities in the preservation of the city's cultural heritage [16].

1.5.1.2 Mixed Methods Papers

Mixed methods research combines both qualitative and quantitative approaches to gain a comprehensive understanding of urban topics. Quantitative research methods involve collecting and analyzing numerical data to examine patterns, trends, and relationships in urban contexts, which include surveys, questionnaires, statistical analysis, and spatial analysis using Geographic Information Systems (GIS). Combining that with qualitative research techniques allows authors to utilize the strengths of both approaches to capture a wide range of urban data and provide a more nuanced understanding of complex urban settings. Papers that applied mixed method:

15. KUBAT et al addressed the issue of the rapid growth of Sharjah and the problems that have emerged in its historical area as a result. They aim to analyze these issues through the application of the Space Syntax methodology. They included two different scales of analysis, the first is the city scale spatial analysis, which was carried out to prepare a segment map for the entire city of Sharjah. The second is the local scale analysis, which consisted of the spatial examination of the city’s historic center supplemented with pedestrian and vehicular movement within the study area. The research team surveyed pedestrian and vehicular activity to identify the relations between movement patterns and the function areas using the gate method. The counts were conducted on a day on a weekday, on a day on a weekend, and on a Friday. They categorized five groups of people and one category of vehicles and were conducted in periods of two hours to define peak hours within the studied days. The paper found that the current reconstructed layout led to social isolation and acted as a barrier to social cohesion [17].

16. Marzbani et al explored the physical, social, and perceptual aspects of walkability in Dubai and compare them in both traditional and new urban contexts. The methodology involved both qualitative and quantitative methods. The first stage employed observation, data collection, a qualitative analysis of the data, and a survey using the Delphi method. In the second phase, the collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) program. A questionnaire of 23 experts was also conducted to measure the role of each aspect of the sense of place on walkability. The outcomes of the questionnaire were analyzed using the SPSS program. The study's conclusion highlights that achieving balance in the physical, behavioral, and perceptual aspects of a place enhances community satisfaction and invites them to participate in public space and engage with their surroundings [18].

17. Bassal et al explore the adaptive reuse of abandoned buildings and their potential to improve livability. The research uses both qualitative and quantitative methods. It is divided into three parts: a theoretical part, an analytical comparative part of two case studies (Heart of Sharjah and Soğukçeşme Street in Istanbul), and a practical inductive-field study that takes place in Batroun Old City, Lebanon to assess to what extent economic factors and community participation affect decision-making regarding adaptive reuse and its impact on the vitality of the region [19].

Table 1.1 Summary and Categorization of the Previous Studies

No	Paper Title	Case Study	Research Method	Aim	Key findings	In-text Citation
1	Architectural And Urban Conservation in The United Arab Emirates	Dubai and Sharjah	Qualitative	To evaluate conservation interventions and their impact on the urban and architectural heritage	conservation approaches face challenges such as lack of awareness lack of legal frameworks and regulations, and the lack of coordination between stakeholders	[4]

Table 1.1 Summary and Categorization of the Previous Studies (Continued)

2	Lower and higher urban quality cycles in urban heritage areas: Rejuvenation vs. Conservation	Sharjah	Qualitative	Explore the cycles of neglect and upgrade that urban heritage experience	Urban planners and designers must face cycles of higher or lower urban quality instead.	[5]
3	Cultural resilience in contemporary urbanism: The case of Sharjah, UAE	Sharjah	Qualitative	Critically analyze the urban development in Sharjah	The urban transition of Sharjah had a negative impact on traditional urban fabric and social cohesion	[6]
4	Authenticity and the sense of place in urban design	Dubai and Sharjah	Qualitative	Explore the importance of authenticity in creating a sense of place	Creating a sense of place is more important than the perfectly applied restoration in conservation projects.	[7]
5	Seascape Urbanism in a Khaliji Port City	Sharjah	Qualitative	Discuss Sharjah's historical urbanism and its development	The importance of preserving urban heritage while pursuing modernization to create meaningful urbanism	[8]
6	Sharjah, UAE: the urban conservative dilemma	Sharjah	Qualitative	To review conservation schemes throughout the Middle East	Sharjah's conservation experience is exemplary when compared to other Gulf cities.	[9]
7	Cultural exchange and urban appropriation: Spaces for art in Sharjah's Historical Centre	Sharjah	Qualitative	To discuss Sharjah's organic morphology before urbanization, and its complex socio-urban history.	One-sided cultural narratives and constructed heritage, have blocked the cultural fluidity of the city.	[10]
8	Layers of Meaning and Evolution of Cultural Identity: The Case of Wind Towers in Dubai	Dubai	Qualitative	To explore the process of formation the meaning of wind towers	Dubai's heritage conservation reflects a desire to reinforce the national and cultural identity	[11]

Table 1.1 Summary and Categorization of the Previous Studies (Continued)

9	The Policies and Process of Preserving the Historical and Heritage Buildings in Dubai City: Case Study of Historical District	Dubai	Qualitative	A critical review of the policies and regulations of Dubai Municipality regarding the preservation of historical heritage.	The heritage-preserving work plan in Dubai is efficient and dynamic and meets international standards.	[12]
10	Investigating the Values of Modern Architectural Heritage in Dubai, UAE	Dubai	Qualitative	To explore Dubai's urban development and make a value assessment for architectural heritage.	Documentation and chronological classification of Dubai's early modern heritage.	[13]
11	New hearts for two Gulf cities	Sharjah and Doha	Qualitative	To highlight some challenges faced by Doha and Sharjah in their efforts to rebuild their urban fabric.	Urban development in the Gulf region is complex, and the social and local needs must be considered in 12reconstruction 13projects.	[14]
12	Usage of the Concept of Culture and Heritage in the United Arab Emirates - An analysis of Sharjah heritage area	Sharjah	Qualitative	To examine how globalization and modernity have shaped the heritage conservation practices in the UAE	14Urban modernization and globalization shaped heritage conservation practices in UAE and caused urban heritage to be confined to museums.	[15]
13	Suburbanizatio n, National Space and Place, and the Geography of Heritage in the UAE	Sharjah	Qualitative	To explore the impact of suburbanization on heritage preservation and social relation	Suburbanization affected social relations negatively and conservation efforts are selective and catering to high-income tourists.	[3]
14	Dubai: The Search for Identity	Dubai	Qualitative	To examine how urban conservation sustains Dubai's cultural identity through studying the Bastakia district.	Sustainable inclusive urban conservation can reconcile the city's cultural past with its present and future development.	[16]

Table 1.1 Summary and Categorization of the Previous Studies (Continued)

15	Historic city centers under threat: The case of Sharjah, UAE	Sharjah	Mixed	To discuss the rapid growth of Sharjah and its effects on the historic area, by applying the Space Syntax and suggest possible solutions.	The rapid urban growth of Sharjah has led to a negative impact on the urbanism of its historic area and created barriers to social cohesion, such as the Wall.	[17]
16	The Sense of Place: Components and Walkability. Old and New Developments in Dubai, UAE	Dubai	Mixed	To identify and compare the physical, social, and perceptual aspects of walkability in traditional and new developments in Dubai.	Physical aspects are crucial in enhancing walkability in both traditional and new developments, while the social and perceptual aspects need improvement.	[18]
17	Adaptive Reuse of Abandoned Buildings as A Means of Improving Livability	Sharjah, Istanbul	Mixed	To explore and compare two international cases of adaptive reuse, and subject the findings to Batroun old city.	Adaptive reuse of abandoned buildings revitalizes the area. Community participation in decision-making regarding adaptive reuse has strengthened social networks.	[19]

1.5.2 Chosen Method and Rationale

In light of the literature scan carried out, it is evident that there is a knowledge gap in addressing and discussing the broad urban heritage management practices in the historic urban centers of Dubai and Sharjah. This research aims to address this gap by undertaking a holistic urban analysis of both the conservation of the individual micro-level heritage buildings and the urban quality of the public spaces that lay in between.

The literature review also indicates that, in these types of urban studies, mostly qualitative methods were applied employing observation, mapping, narrative analysis, interviews, focus groups, ethnography, and case studies. Less commonly used were mixed researches that combined the previous methods with other qualitative methods like spatial and

statistical analysis. This shed light on the range of possibilities of research methods that can be used in this research to meet its aim, that is, coming up with recommendations for bettering the current urban heritage conservation and management practices in Khor Dubai and Sharjah.

Research Methodology and Plan

This research will lean more towards interpretive qualitative methods. Data collection will be carried out in two phases, primary and secondary. The primary data collection will include a thorough review of published literature about urban heritage management and conservation. This includes journal articles, conference proceedings, thesis, dissertations, governmental publications, and guidelines of international entities that are concerned with this topic such as ICCROM, UNESCO, and ICOMOS. A more specific literature dive will examine the certain cases of urban heritage conservation and management efforts in Dubai and Sharjah, as well as other regional examples. Literature will be analyzed, classified, and used in different parts of the thesis. Visual data including Google Earth imagery, historical maps, urban and land-use plans, architectural plans, and photographs will serve as secondary data, analyzed to understand the urban site's current state, historical evolution, and intended conservation and management strategies. Personal observations from field visits will supplement these data.

Case studies will be assessed according to International Charters. They will be assessed again in comparison with other case studies reviewed in the literature. A descriptive scaling metric will be used to determine the quality of their urban heritage conservation and management practices. This will allow the author to define the weaknesses and strengths areas in these practices which, in turn, will allow recommendations to be made.

The chosen methods prioritize availability and accessibility for data collection, while the qualitative assessment aligns with the nuanced, subjective, and context-based nature of urban heritage issues.

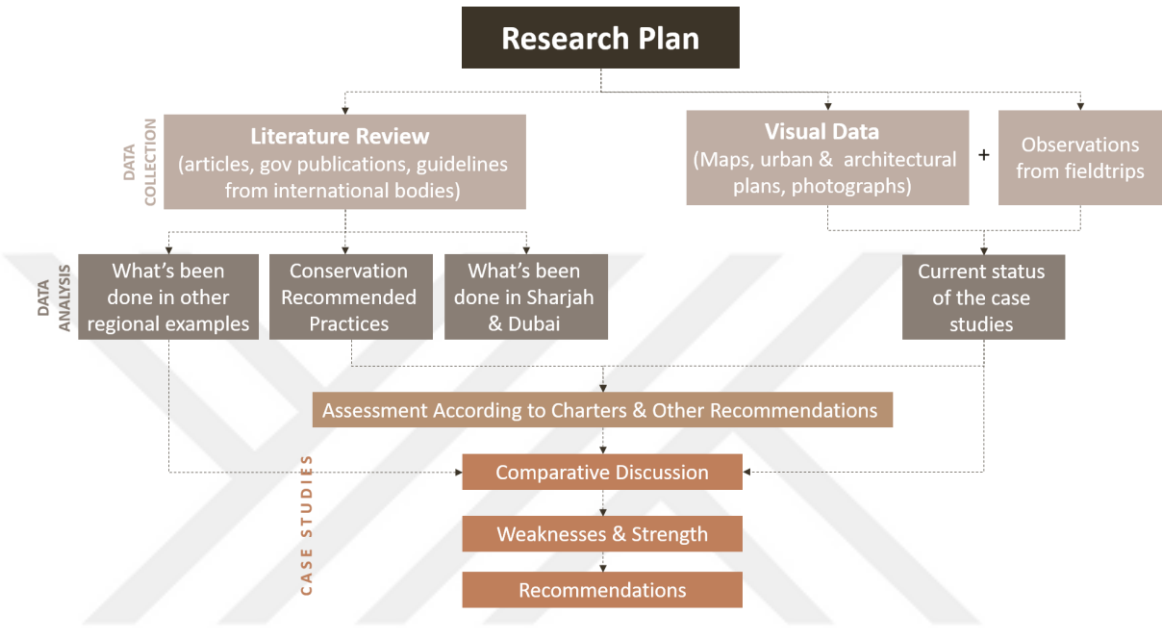


Figure 1.1 Research plan and the three stages of data collection, data analysis, and case studies.

CHAPTER 2

THEORETICAL FRAMEWORK

2.1 Definitions of Urban Heritage Conservation and Management

"*Urban Heritage Conservation*" is the practice of preserving and protecting the cultural heritage of cities and urban settlements which have significant cultural, historical, and architectural value. This involves protecting buildings, monuments, public spaces, and other elements that make up the built environment of a city or town from various threats, such as uncontrolled urban development, unsustainable tourism practices, neglect, natural calamities, pollution, political instability, and conflict. It can also include conserving the cultural and social qualities connected to these locations. It is an interdisciplinary sector that must include community involvement, planning, history, archaeology, and architectural conservation [20].

Overall, urban heritage conservation aims to preserve not just the built environment, but also the social, cultural, and historical context in which those structures were created. Consequently, it aims to keep urban areas' character and uniqueness while also making sure that they are livable and sustainable for coming generations [21]. Additionally, it tries to balance the preservation of heritage with the demands of modern urban life, such as community and economic development. It is worth mentioning that protecting historic areas is just one form of the various ways urban heritage can be conserved. Intangible heritage must also be protected, which is a crucial component of a city's cultural character, such as customs, traditions, and oral historical narratives.

On the other hand, "*Urban Heritage Management*" refers to the process of managing and conserving the cultural heritage of cities and urban areas. This includes the identification, evaluation, protection, and interpretation of heritage assets and the management of their use, maintenance, and development. A wide range of activities is associated with "Urban

Heritage Management" such as architectural conservation, planning, heritage value assessments, community involvement, and heritage tourism development. It can also include the development and implementation of policies, plans, and strategies that aim to protect and conserve the cultural heritage of cities and urban areas. Urban heritage management is also an interdisciplinary field that encompasses various disciplines, including architecture, archaeology, planning, history, and community development. It involves working with a variety of stakeholders, including government agencies, community groups, developers, and other relevant parties, to ensure that heritage assets are protected and managed sustainably.



Figure 2.1 The overlapping of the practices and related sectors between Urban Heritage Conservation and Management. Source: The author.

The main goal of urban heritage management is to ensure that the cultural heritage of cities and urban areas is protected and conserved for future generations while also promoting their use and development in a sustainable way. It aims to balance the preservation of heritage with the needs of contemporary urban life, such as economic development and community needs. The definitions of both "Urban heritage conservation" and "Urban heritage management" intersect massively (figure 2.1), with the main difference being that while “urban heritage conservation” is about preserving the physical and cultural aspects of heritage, "urban heritage management" is a broader field concerned with managing and utilizing heritage in a sustainable way. In other words, Heritage conservation is a fundamental aspect of heritage management, but heritage management also includes other

activities such as planning, community engagement, and tourism development. During this study, the practices in discussion will deal with both concepts interchangeably.

2.2 Importance of Urban Heritage and its Conservation

Urban heritage conservation is significant to nations for the values that it holds:

1. Cultural significance: Urban heritage preserves a community's collective memory and identity. It allows present generations to connect with their past, comprehend their history, and appreciate the cultural richness of their environment. Preserved historic buildings, monuments, and neighborhoods can also be a source of inspiration for art and literature. All of this can also contribute to a city's cultural tourism as worldwide tourists might come to experience the uniqueness of a culture in its built urban manifestations.
2. Social significance: Urban heritage promotes a sense of community belonging among the residents. It can also promote social cohesion by providing inclusive spaces for gatherings and events in which different components of society can blend and socialize. Social cohesion and a sense of identity can also be increased by encouraging communities to participate in conservation efforts and decision-making.
3. Economic significance: Urban heritage can be a powerful tool for urban revitalization. For instance, the adaptive reuse of historical buildings brings new life to historical neighborhoods, attracts new businesses and residents, and creates employment opportunities. It can also generate revenue from tourism and cultural activities. Reviving traditional markets that host traditional craftsmanship making and trading, can also optimize tourists' experiences by displaying unique goods that cannot be found somewhere else (Figure 2.2). In summary, when cities conserve their urban heritage, their character, urban identity, and "sense of place" can be shaped and defended more clearly, thus improving the overall life quality for their residents, fostering a sense of pride and belonging, and promoting economic development [4].

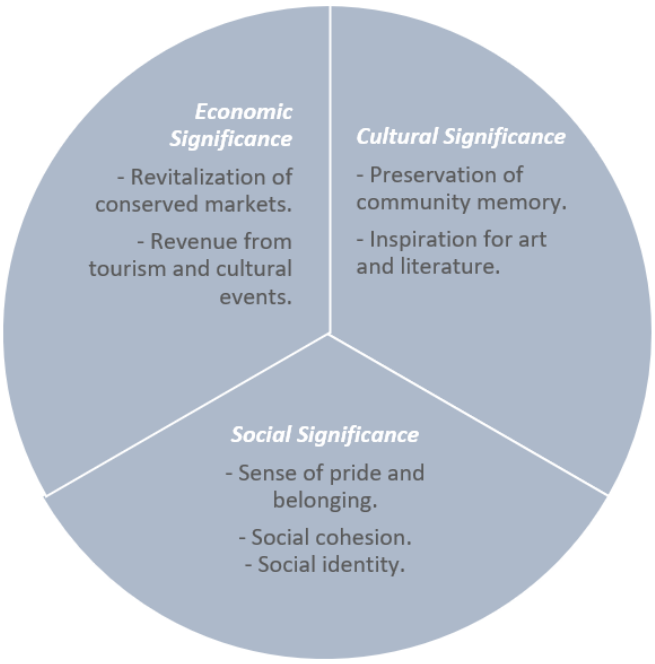


Figure 2.2 The significance of urban areas' conservation in different aspects. Source: the author.

2.3 Historical Evolution of Architectural and Urban Heritage Conservation Practices

Throughout history, Urban heritage conservation approaches, theories, and practices have changed largely. By reviewing the literature, an attempt to trace their evolution was made and numerous milestones can be pinpointed in which different trends appeared.

2.3.1 Ancient eras (4th century BC – 5th century AD)

Scattered practices of conserving and preserving architectural and monumental assets were recorded around the world for religious reasons and as a glorification of the city's power. In Egypt, ancient Egyptians developed techniques for preserving their monumental, such as the use of lime plaster and the application of a layer of stucco to protect the surfaces of their temples and tombs from erosion due to harsh weather and climatic factors. Classical-era cities were reconstructed as they were, such as Athens whose walls, temples, and famous Parthenon were entirely rebuilt following its

destruction Persian Wars in the 5th century BC. Rome was also rebuilt following its fire of 64 AD. In both cities, a deep perception of the importance of historical traces was prevailing and the common conservation practice was to build new structures using original materials and techniques to preserve the historical significance of the original structure.

- During the early ages of Christianity, buildings and monuments that were considered pagan were dismantled and their materials were re-used in new structures. Other buildings were re-purposed to match the society and its new beliefs, an example of this is transforming temples in Rome into churches or residences of famous families.

2.3.2 Middle Ages (5th century – 15th AD)

In this era, an unconscious attitude was shown toward traces of the past both architectural and monumental. Dismantling of old buildings to reuse their building materials was common as well as neglect or deliberate destruction of traces that reflected pagan times. Few policies were declared around Europe to limit such practices. During the Renaissance, a novel sense of history appreciation started to show, and collecting antiquities and ancient artifacts became common. Restoration projects were carried out, especially in Italy such as the restoration of the Sistine Chapel [22].

2.3.3 Modern Ages (15th century AD – 1945)

- In this era, Europeans started recognizing the importance of their cultural identity and architectural heritage. Replica reconstruction projects were applied to buildings destroyed in wars and conflicts around Europe. An example of this is the rebuilding of London after the Great Fire of 1666. A focus was drawn to certain landmarks and historically significant buildings. To oversee the protection of these sites, the first steps towards the establishment of national heritage, preservation laws, and government agencies were taken [22].
- Since the early 18th century, contrasting approaches to the topic of conservation started to emerge across Europe. In England, Ruskin established the “conservative repair” or

“anti-restoration” movement where he opposed restoration interventions and claimed that it was impossible to restore anything that had been beautiful architecturally [23]. His thoughts helped define the distinctions between conservation and restoration in later approaches. His conservation principles were:

- Preservation of the authenticity and integrity of a building's design and materials.
- Respect for the original building techniques and the use of traditional methods and materials in any repairs or restorations.
- Rejection of the use of new elements or the removal of existing ones.
- Recognition that preserving a building's architectural and historical significance is more important than its practical use [23].

- Another advocate for preserving against restoring was William Morris who rejected altering ancient buildings to match contemporary views and promoted the use of traditional building materials and techniques in daily repair actions to prolong the historical building age [24].

- More innovative approaches were also presented during this era as seen in the works of Gilbert Scott, who was known for his restoration work on medieval buildings where he often applied significant changes to the original design, including the addition of new elements and the removal of existing ones, which directly contradict Ruskin's principle of preservation of authenticity and integrity of the design.

- France carried out a similar approach as Eugène-Emmanuel Viollet-le-Duc pioneered the controversial method of "restoration by replacement" and “Stylistic restoration” where he replaced missing building parts with new designs that complemented the original structure and were comparable in style. He believed that his method allowed historical buildings to stay in use, thus, maintaining their historical and cultural significance. Both Emmanuel Viollet-le-Duc and Scott’s works were heavily criticized by Ruskin and his traditional movement and seen as destruction of the historical and architectural significance of the buildings [22].

- A middle way between the two was presented by Patrick Geddes in his ‘‘Surgical Approach” Where he called for minimum intervention to prolong the age of the building without adding any new elements and maintenance [20].

- Another middle approach was “the scientific approach” which was established by Gustavo Giovannoni. He tried to compromise modernization and conservation by not allowing new streets or heavy traffic to cross historical areas, improving the overall social conditions of these areas, and preserving the authenticity of the historical architecture by making necessary interventions for their conservation [22]. He offered a set of regulations that were later adopted in the "Athens Charter" in 1931.

- The discussion on authenticity was expanded from one building to an entire urban area and, the concept of urban heritage as we know it today began to form as a result of many historical cities and neighborhoods facing rapid urbanization and modernization. This was discussed by Alois Reigel who also defined the values of historical areas as historical memorial values, and present values i.e., the current use and artistic value [20].

- Numerous architects and urban planners of the early 20th century. e.g., Camillo Sitte and Heinrich Tessenow discussed urban conservation in their books and helped establish it as a concept as they emphasized the importance of preserving the character and integrity of entire cities, and the need to balance preservation with the contemporary needs of urban development [25].

- The Athens charter was adopted at the First International Congress of Architects and Technicians of Historic Monuments in Athens in 1931. The 1st principle stated that “restoration appears to be indispensable” and recommended “respecting the historic and artistic work of the past without excluding the style of any given period” and “the occupation of buildings and using them for a purpose which respects their historic or artistic character, to ensures the continuity of their life”. It also mentioned and permitted in its 5th resolution "the use of modern techniques and materials with the condition of being concealed whenever possible to maintain the character of the restored monument".

It alluded to a more urban approach by recommending “to protect the areas around the areas of historic sites to preserve their picturesque perspective” [26].

Table 2.1 Milestones in the Evolution of Conservation Practices Until Post WWII.

Era time range	Conservation Practices	Main principles	Example of where they were applied
Ancient Eras (3500 BC – 500 AD)	- Restoration with minimal interventional - Regular preservation. - Replica of destroyed buildings.	- Respect for historical value. - Focus on landmarks of religious and governance importance	- Classical Rome - Classical Athens.
Early Christianity (100 AD – 500 AD)	- Mainly Neglect. - Intentional Destruction. - Repurposing of buildings to match new beliefs.	- Low understanding and appreciation of historic value.	4th century Rome
Middle Ages (500 AD – 1500 AD)	- Reuse of ancient buildings’ materials - Early conservation policies. -Restoration efforts (during reinsurance)	- Gradual growing sense of history appreciation	- Restoration of the Sistine Chapel.
Modern Times (1500 AD – post WWII)	- Replica reconstruction of destroyed buildings.	- Focus on landmarks and monuments.	- Rebuilding London after the 1666 fire.
	- Traditional conservation / Conservative repair (John Ruskin, William Morris, August Pugin)	- Anti-restoration. - Anti intervention - Regular preservation Respect for authenticity, integrity, the original building design, techniques, and use.	- Preservation of Kelmscott Manor.
	- Stylistic Restoration /Restoration by replacement (Gilbert Scott, Eugène-Emmanuel Viollet-le-Duc)	- Addition, removal, or replacement of elements. - Maintain original building style.	- Restoration of Christ Church Cathedral in Oxford and other Gothic revivalist projects by Scott. - Restoration of Notre Dame Cathedral by Viollet-le-Duc.
	Surgical Approach/ Scientific Restoration (Patrick Geddes, Gustavo Giovannoni)	- Minimum intervention. - Continuous preservation. - Aim to extend building age. - Respect for integrity and authenticity. - Avoid new streets in historic areas.	Restoration of Renaissance Quarter, Rome.

2.3.4 Contemporary Ages (Post WWII – Present)

- After World War II, UNESCO was founded and there was a period of demolition and rebuilding of cities in many countries. Consequently, the level of conservation practiced in the era was “urban”.

- In 1959, ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) was established. It aims to promote the conservation and preservation of cultural heritage worldwide by providing [27].
- In 1960, The World Commission on Protected Areas (WCPA) was founded. It is a global network of experts who provide guidance and support for the management of protected areas [28].

- In 1964, the Venice Charter was adopted by the International Congress of Architects and Specialists of Historic Buildings as the first international guideline for the conservation of historic places. It was the first official recognition of historic sites in its 14th article which stated: “The sites of monuments must be the object of care in order to safeguard their integrity and ensure that they are cleared and presented in a seemly manner”. It was also stated that urban site conservation should follow the same principles as the restoration of a single building. It also acknowledged the need to balance preservation with the needs of contemporary society [29]. Nowadays, the charter is now criticized for its high focus on authenticity and its suitability to Western contexts where stone and brick structures are more dominant in contrast to many other global contexts that use less durable materials of shorter lifespans that are sensitive to weather conditions like wood. In that case, critics argue authenticity can be accomplished by replacing decayed elements with new ones, following the same design, techniques, and function [30].

- In 1965, ICOMOS (International Council on Monuments and Sites) was founded as an international non-governmental organization with its main objective being the conservation of the world's architectural heritage. It provides guidance and expertise on the conservation of heritage places and promotes the exchange of information and best practices among professionals in the field of conservation.

- In 1972, the UNESCO World Heritage Convention took place. It aimed to identify, protect, and preserve the cultural and natural world heritage of outstanding value to all humanity. It established the World Heritage List, which includes sites nominated by their countries and considered to be a heritage to the entire humanity.

- Later on, “The Burra Charter” of 1979 was developed by the Australia ICOMOS, marking a significant milestone in conservation history as it set out a comprehensive guide for the conservation of historic places and was widely used globally for best practices. It is periodically updated to reflect an evolving understanding of heritage conservation theory and practices with its last version introduced in 2013 [21]. It adopts the argument that the conservation of architectural heritage goes beyond physical buildings, encompassing tangible and intangible elements, including design drawings and ideas based on authentic documentation.

- In 1987, “The Charter on the Conservation of Historic Towns and Urban Areas”, also known as “The Washington Charter” was adopted by the ICOMOS General Assembly, establishing the following principles and guidelines for the protection and conservation of historic towns:

- The principle of authenticity: The cultural heritage of historic towns and urban areas should be preserved in its original form, with minimal alterations and additions.
- The principle of continuity: The conservation of historic towns and urban areas should respect the continuity of their historical and cultural development, and should not create a "museum" effect.
- The principle of compatibility: Any new development within historic towns and urban areas should be compatible with the existing cultural heritage and character of the area.
- The principle of participation: The conservation of historic towns and urban areas should involve the participation and engagement of local communities and

stakeholders, including local authorities, property owners, and members of the public.

- The principle of sustainability: The conservation of historic towns and urban areas should be sustainable, taking into account the ecological, social, cultural, and economic values of the area [31].

The Washington Charter also provides several guidelines for the conservation of historic towns and urban areas, including:

- The need for a comprehensive inventory of the cultural heritage and character of the area.
- The need for a clear conservation strategy that sets out the goals and objectives for the conservation of the area.
- The need for a clear and consistent set of regulations and policies to support the conservation of the area.
- The need for ongoing monitoring and evaluation of the conservation efforts to ensure that they are achieving their intended goals and objectives.
- The need for adequate human and financial resources to carry out conservation efforts [31].

- In 2003, The World Commission on Protected Areas WCPA developed a set of guidelines that are widely used as a standard the for global conservation and management of protected areas. The guidelines include the following key principles:

• Planning for protected areas should consider the area's ecological, social, cultural, and economic values. And the capacity of the people and organizations responsible for managing the area.

• Protected area management should engage local communities and stakeholders, including indigenous peoples and local authorities.

- The management of protected areas should be based on sound scientific principles and should be regularly reviewed and adapted as necessary.

- Protected area management should be based on a clear and comprehensive understanding of the legal and institutional framework for the management of the area [28].

- In 2005, The Vienna Memorandum was introduced as a guideline for the conservation and management of architectural heritage. Its primary objective is to provide a comprehensive framework for safeguarding historic structures and sites. It emphasizes principles of conservation that prioritize maintaining the authenticity and integrity of architectural heritage. It highlights the significance of documentation and research in understanding the cultural and historical context of architectural heritage. It recommends the establishment of comprehensive records and archives for heritage sites. The Vienna Memorandum encourages international collaboration and prioritizes public awareness and education on the importance of architectural heritage. It emphasizes the importance of adapting architectural heritage to new needs to new needs without compromising authenticity and cultural value and encourages the integration of conservation efforts with broader development goals and into tourism [32].

- In recent years, trends show an increasing emphasis on conservation practices that take into account the social and cultural contexts of heritage sites by recognizing that urban heritage conservation should not only be concerned with conserving physical structures but also with preserving the narratives and memories of the people who have lived in these places. Consequently, leading to a greater focus on community engagement and participation in conservation efforts [22].

Comparison conducted in (Table 2.2) demonstrates the concept of urban heritage as a whole site, was not fully developed in The Athens Charter and The Venice Charter as they both conceptualized urban heritage in relation to a historic monument or as a group of individual historical buildings/monuments, therefore, conserving it is a natural result and demand of conserving these buildings separately. The Burra Charter in 1979, on the other

hand, managed to articulate a close definition of urban heritage close to what we recognize today, that is "*A geographically defined area with its natural and cultural features that can be an individual or group of buildings, an urban area, a town, or a cultural landscape*". However, it didn't state any clear recommendations for preserving this type of heritage. The Washington Charter in 1987 was a turning point as it presented a specific focus on urban heritage which was defined as "*Urban communities, both developed gradually or created deliberately including historic urban areas, large and small, cities*, towns, and historic centers or quarters, with their natural and man-made environments". In its recommendations, it recognized the importance of preserving its associated attributes beyond material ones and including spiritual and historical characteristics. It also acknowledged the building-to-building relations, the public, semi-public, and interior spaces, as elements to be conserved. It further recommended encompassing the urban heritage within the context of broader urban schemes and preserving the reacquired attributes including the community itself. Lastly, The Guidelines for Management Planning of Protected Areas in 2003, highlighted the "value" aspect of urban heritage and recommended preserving its corresponding social, cultural, ecological, and economic values within a legal framework.

Table 2.2 Development of the concept of "urban heritage" and its related recommendations across International Charters

Charter	Definition of an Urban Heritage	Recommended Urban Conservation Practices
The Athens Charter (1931)	*No clear definition stated*	*"To protect the areas surrounding historic sites to preserve their picturesque perspective" (7th resolution)*
The Venice Charter (1964)	*"The sites of monuments"* *And as "the urban or rural setting in which a historic monument is found as the evidence of a particular civilization, a significant development or a historic event".*	*"Must be the object of special care in order to safeguard their integrity and ensure they presented in a seemly manner. The work of conservation and restoration carried out is inspired by the principles applied to single buildings" (Article 14)*

Table 2.2 Development of the concept of "urban heritage" and its related recommendations across International Charters (Continued)

The Burra Charter (1979)	*"A place / a geographically defined area with its natural and cultural features. Can be an individual or group of buildings, an urban area or town, a cultural landscape…etc."*	*"Places of cultural significance should be conserved to retain their significance a place. They must be safeguarded and not put at risk" (Article 2).* *"Conservation requires the retention of an appropriate setting. Conservation requires the retention of an appropriate setting" (Article 8).*
The Washington Charter (1987)	*"Urban communities, both developed gradually or were created deliberately. This concerns historic urban areas, large and small, including cities, towns, and historic centers or quarters, with their natural and man-made environments".*	*"Must be an integral part of coherent policies of economic and social development and urban and regional planning at every level.* *- Qualities to be preserved include the historic character of the urban area and all those material and spiritual elements that express this character.* *- Preservation of urban patterns as defined by plots and streets.* *- Preserving the relationships between buildings, green and open spaces, Interior and exterior, of buildings as defined by scale, size, style, construction, materials, color, and decoration.* *- Preserving the reacquired over time and including the community".*
Guidelines for management planning of protected areas (2003)	*"An area of land dedicated to the protection of natural and associated cultural resources, and managed through legal means".*	*"- Protected areas should consider social, cultural, ecological, and economic value.* *- It should engage local communities and be based on an understanding of the legal framework".*

On a micro-scale, and in terms of architectural conservation practices, The Athens Charter, The Venice Charter, and the Burra Charter all stated several similar key instructions and guidelines for how to conserve, restore, and use a historical structure or monuments. As demonstrated in (table 2.3), preservation efforts should avoid demolition unless minor, reinstating promptly. Conservation should consider all aspects of cultural and natural significance, prioritizing regular maintenance to safeguard cultural places. Restoration should lean towards traditional materials but allow modern techniques for

sustainable conservation and in cases of risk. Aesthetic and historical values must be preserved, avoiding conjectural alterations, with reversible changes and interventions that can be distinguishable from the original fabric to avoid falsifying artistic or historical evidence. Respect for contributions from all periods is essential and restoration should not favor one period at the expense of others unless there is a greater aesthetic and historical value to the contribution favored. Compatible use and adaptive reuse with minimal change to the structure's design and layout are encouraged, while also preserving original cultural significance.

Table 2.3 Mirco-level architectural conservation instructions reiterated across International Charters

Reiterated Instructions on Architectural Heritage Conservation Practices		Charters mentioning it
Regarding Architectural Preservation		
1	Demolition of parts of a place is not acceptable unless the part is minor and it must be reinstated as soon as possible.	Burra Charter article 15.3
2	Conservation of a place should identify and take into consideration all aspects of cultural and natural significance without unwarranted emphasis on any one value at the expense of others.	Burra Charter article 5.1
3	Maintaining is fundamental to conservation and must be done regularly. Places of cultural significance should be safeguarded and not put at risk or left in a vulnerable state.	Venice Charter article 4, Burra Charter article 2.4, Burra Charter article 16
Regarding Architectural Restoration		
4	Restoration must prioritize using traditional materials and techniques. It may incorporate modern techniques and materials when they offer sustainable conservation and when the historic structure is at risk of dismantling its preserved portions.	Athens Charter principle 5, Venice Charter article 2, Venice Charter article 10, Burra Charter article 4.2
5	Restoration should aim to preserve aesthetic and historical value in line with original materials and authentic documents avoiding conjectural alterations. Changes must not distort physical evidence. Additional interventions should be distinguishable from the original composition and bear a contemporary stamp to avoid falsifying artistic or historical evidence.	Venice Charter article 9, 12 Burra Charter article 3.1

Table 2.3 Mirco-level architectural conservation instructions reiterated across International Charters (Continued)

6	The contributions of all periods to the building of a monument must be respected since the unity of style is not the aim of a restoration. Revealing the underlying state by removing works of different periods can only be justified in exceptional circumstances.	Venice Charter article 11, Burra Charter article 15.4
7	Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit	Burra Charter article 15.2
8	Partial reconstruction is appropriate only where a place is incomplete through damage or alteration, or to retain the cultural significance of the structure. And it should be identifiable.	Burra Charter article 20
Regarding Architectural Heritage Use and Function		
9	A place should have a compatible use. If the original use is of cultural significance, it must be preserved.	Burra Charter article 7
10	Adaptive reuse is permitted with minimal change in the historical structure's layout and its physical attributes. And without impacting cultural significance.	Venice Charter article 5, Burra Charter article 14, Burra Charter article 20

On an urban scale, modern charters also state some reiterated principles about how to conserve a historic area, urban center, or landscape. This includes The Washington Charter and The Vienna Memorandum which are concerned mainly with urban areas, The Venice Charter which alludes to urban-level conservation in some articles, and The Burra Charter which encompasses the urban level in its definition of "A place" and therefore, offering some instructions that can be considered urban. As defined in (table 2.4), the charters state the importance of preserving the historic character of urban areas, focusing on associated material and spiritual elements. The Washington Charter emphasizes the improvement of housing as a fundamental urban conservation objective. The Vienna Memorandum advocates for physical and functional interventions in urban heritage that enhance living and working conditions while safeguarding cultural values through proper rehabilitation and thorough assessment of values. Decision-making for such interventions requires a culturally and historically sensitive approach, stakeholder participation, and expert knowledge, which can allow proper actions for different cases while respecting the

authenticity and integrity of the historic fabric. The Memorandum also states that avoiding pseudo-historical design, maintaining historical readability, and ensuring cultural continuity are crucial goals. Principles proclaim that modern architecture in historic areas should be of good quality, and have ethical standards that respect cultural-historic context, scales, volumes, and heights. Furthermore, public space design in historic urban areas is a part of the urban preservation process, and therefore should consider the historical theme and elevate the urban quality through proper urban furniture, greenery, and controlled advertisements. Transportation planning also should control traffic and enhance pedestrian movement within historic areas, and vehicle roads should enhance access without penetrating historic urban zones. These principles collectively emphasize a comprehensive approach to urban conservation that balances modern needs with the preservation of historical integrity and cultural continuity.

Table 2.4 Marco-level urban conservation instructions reiterated across International Charters

Reiterated Instructions and Principles on Urban Heritage's Conservation Practices		**Charters mentioning it**
Regarding Conservation Management and Urban Planning		
1	Qualities to be preserved are the historic character of the urban area and all the associated material and spiritual elements that express this character, especially the physical appearance defined by scale, style, construction, materials, color, and decoration.	Venice Charter article 6, Washington Charter article 1, Burra Charter article 8
2	The improvement of housing should be one of the basic objectives of conservation.	Washington Charter article 9
3	Physical and functional interventions in historical urban areas should improve life and work conditions while preserving values by rehabilitating environments, adding cultural expressions, and conducting a proper inventory and values assessment.	Vienna Memorandum Principle 17
4	Making decisions about architecture in historic areas requires cultural sensitivity and thoughtfulness, stakeholder input, and expert knowledge, which ensures appropriate actions corresponding to the spatial context and authenticity preservation.	Vienna Memorandum Principle 18, Burra Charter articles 3.1, 4.1

Table 2.4 Marco-level urban conservation instructions reiterated across International Charters (Continued)

5	Urban planning, contemporary architecture, and preservation of the historic urban site should avoid all forms of pseudo-historical design, as they constitute a denial of both the historical and the contemporary alike. One historical view should not supplant others, as history must remain readable, while continuity of culture through quality interventions is the ultimate goal.	Vienna Memorandum Principle 21, The Burra Charter article 15.4
6	Modern structures in historic areas should consider the cultural-historic context, and respect the context's scales, volumes, and heights.	Vienna Memorandum principle 22, Washington Charter article 10
7	In World Heritage sites' preservation, public spaces should be designed and constructed with respect to historic fabric through appropriate scales, materials, lighting, street furniture, advertising, and greenery which mitigate the impact of traffic and parking.	Vienna Memorandum Principle 24
Regarding Transpiration Planning and Accessibility		
8	Traffic and parking lots inside a historic urban area must be controlled and planned so that they do not damage the historic fabric.	Washington Charter article 12
9	Highways introduced by city-level or regional transportation plans should not penetrate a historic urban area, but they should improve access to them.	Washington Charter article 13

2.4 Latest Approaches to Urban Heritage Conservation

As a result of the growing complexity and diversity of cultural heritage, our understanding of the goals and approaches to cultural heritage conservation, especially regarding historic areas. Over the past 50 years, new concepts such as Integrated conservation, community-based approach, Active Conservation, Living Heritage, Historic Urban Landscape, and Sustainable Development have appeared. Despite differences in interpretation, these approaches agreed on the fact that the historic urban environment is fundamentally changeable, and effective conservation efforts should create conditions for further potential development. In the following section, these approaches will be reviewed to map the key principles in each [33].

2.4.1 Heritage-led Urban Regeneration

Heritage-led urban regeneration is the process of reviving urban regions via the utilization of historic structures, locations, and cultural resources as assets, instead of demolishing existing structures and constructing new ones. This approach emphasizes preserving and adaptive reuse of historic structures. It aims to develop economically, socially, and culturally habitable communities while also preserving the region's unique characteristics [34].

This model can have benefits for the economy as it can attract tourism, create jobs, and stimulate economic growth in the area. It also enhances the quality of the urban design as it creates a unique urban identity and ensures continuity between the old and the new in a city. However, the approach might be considered inflexible as the historic layout of a site or a building can restrict the possibilities of reuse and repurposing. The approach might also be considered to have a limited impact on sustainable development plans and might also contradict economic growth in some instances [35].

2.4.2 The Historic Urban Landscape Approach (HUL)

The Historic Urban Landscape (HUL) approach is a holistic approach to both urban heritage management and conservation that was developed by UNESCO. It aims to balance the protection of heritage with the needs of contemporary urban life, such as economic development and increasing community needs.

The HUL approach emphasizes the importance of the overall urban fabric and encourages the conservation of the entire historic urban landscape, including both built and natural heritage, as well as the social and cultural values associated with it [36].

The approach also highlights the importance of community engagement and participation in heritage management as it recognizes that the local community is the primary stakeholder in protecting and managing heritage, while also adopting a multidisciplinary and integrated approach, which includes the participation of different stakeholders and

experts from various fields such as architecture, archaeology, history, urban planning, and community development.

The approach also promotes the adaptive reuse of heritage buildings and sites and integrates them into urban planning and development. The approach is now widely recognized as a valuable framework for urban heritage management, and it is being implemented in many cities around the world [37].

2.4.3 Urban Heritage Management for Sustainable Development Goals

As defined earlier, urban heritage management is the process of preserving, guarding, and promoting cultural heritage resources (both tangible and intangible) within urban regions. Naturally, UHM is essential for sustainable development since it supports social cohesiveness, preserves a city's cultural character, and improves the general quality of life. It can also produce economic gains through tourism and urban redevelopment. All of this meets The Sustainable Development Goals (SDGs) set by the United Nations, which calls for the integration of heritage considerations into urban planning and development, specifically, the eleventh goal which states: “Make cities and human settlements inclusive safe, resilient, and sustainable” [38].

2.4.4 Value-led Urban Management Approach

The Value-Led Urban Heritage Management (UHM) approach is a method of managing cultural heritage resources within urban areas that emphasizes the overall values of heritage sites, rather than just their physical characteristics.

In other words, it focuses on identifying and understanding the values and meanings that heritage sites hold for different communities and stakeholders, such as historical, cultural, social, and economic values. This contradicts with more classical which pre-assumed the existence of historical, aesthetic, or scientific values of a historic area. Once these values are understood, they can be used to guide decision-making and management strategies for the heritage site.

The Value-Led UHM approach also prioritizes community consultation in the management of heritage sites. This means involving local communities, stakeholders, and experts in the identification, interpretation, and management of heritage sites, and taking their perspectives into account when making decisions about the area's future. In general, this approach creates a more holistic and inclusive framework for heritage management by recognizing the cultural, social, and economic significance of heritage sites while taking into account the perspectives and needs of different communities [39]. It is worth mentioning that this approach will be used in assessing the case studies of this research.

2.5 Legal Farmwork for Urban Heritage Conservation Practices in UAE

The UAE nowadays participates in international agreements safeguarding cultural heritage such as “The Convention for the Protection of Cultural Property in the Case of the Existence of an Armed Conflict,” “The Convention for the Protection of the World Cultural and Natural Heritage,” and “Convention Safeguarding the Intangible Cultural Heritage”. These agreements, issued by UNESCO, contribute to a comprehensive legal framework for heritage protection.

In 2014, The Council of Ministers issued the “Federal Law on the Protection of Antiquities” marking a significant milestone. This law encompasses comprehensive articles addressing the protection of antiquities at both state and local levels, emphasizing the importance of registering them nationally. It addresses issues related to excavation, maintenance, and restoration, and prohibits their import, trade, or imitation which demonstrates the UAE's commitment to preserving the cultural heritage of current and future generations.

However, the UAE's oldest heritage conservation policies and laws can be traced back to the 1960s and 1970s. One of the key initiatives during this time was the establishment of the Antiquities Law in 1970, which aimed to protect the country's archaeological and cultural heritage and provided a legal framework for the protection of antiquities and historical sites. Additionally, the formation of the Department of Antiquities and Tourism

in 1969 marked a significant step in the preservation of the UAE's heritage. It is worth mentioning that the UAE Federation itself was formally founded in 1971, which may help explain the absence of any previous policies on the federal level. Moreover, UAE law states that antiquities within each emirate are public property, emphasizing the responsibility for their preservation lies solely with the community and its local administrations. Therefore, the preservation measures of heritage in the UAE may differ slightly between different emirates [40]. This can be seen in the context of Sharjah and Dubai as follows:

- The Law of Cultural Heritage in the Emirate of Sharjah declares the protection of cultural sites and their adjacent area which are identified as ***"****cultural site includes the product of the work of man or man and nature and which is linked to human history in one way or another and includes cultural heritage sites, historical buildings and human settlement. The area adjacent to the cultural site, which is considered a natural, environmental or legal extension of this site and is considered an integral part of it according to what the concerned authority determines when registering this location in the registers****"*** (Article 1). The law also delegates managing heritage sites to "the concerned bodies" each according to its mandate. These bodies are ***"****The Sharjah Investment and Development Authority (SHUROOQ), the Sharjah Antiquities Authority, Sharjah Heritage Institute, and Sharjah Museums Authority".* The sites' management responsibilities include:

"*1. Determining the cultural importance of those sites.*

2. Develop plans for archaeological, historical, and other research to ensure the development of appropriate policies to deal with the cultural site and the surrounding area in the best way.

3. Estimating the value of the cultural heritage of the site.

4. Documenting cultural sites with the latest and most appropriate modern technologies available

5. Develop restoration plans to preserve and protect the cultural importance of that site.

6. Working to develop plans for introducing, displaying, promoting, and involving the local community in developing the site.

7. Providing the necessary facilities for visitors to the cultural site.
8. Maintaining the authenticity of the cultural site and determining the extent of interventions and changes that have occurred on it, its inhabitants, and the social, economic, and cultural conditions surrounding it." (Article 29) [41].

- In the Emirate of Dubai, the restoration and preservation initiative started in 1991 under a unit called "The Unit for the Restoration of Historic Buildings", which expanded further in 1994 to become the "Architectural Heritage & Antiquities Department" (AHAD) [12]. The Dubai Municipality and the Dubai Culture and Arts Authority, also contribute to the preservation of the city's heritage sites and buildings, while The Architectural Heritage Society contributes by documenting, rehabilitating, and spreading heritage awareness in the UAE. AHAD plays the largest part in the restoration, reconstruction, preservation, and management of heritage buildings and historical buildings, especially their facades and elevations. through scanning literature, there is no exact set of regulations determining the exact individual regulations to which these practices adhere other than the international Charters.

CHAPTER 3

REGIONAL URBAN HERITAGE CONSERVATION PRACTICES

Urban centers across the Gulf region such as Souq Waqif in Doha, Jeddah Historic Center, and Muharraq District in Bahrain, have all undergone restoration, rehabilitation, and revitalization practices. They share common characteristics with one another, and with the cases of Heart of Sharjah and Khor Dubai such as:

- A similar historical time frame where similar experiences of urban modernization and sprawl, and urban degradation of traditional fabric took place.
- Similar coastal locations on old trade routes and in ports and fishing towns.
- Similar socio-economic developments and similar economic activities, both in the past (Fishing, trade, craftmanships) and in the present (business, tourism, oil production, commerce... etc.)
- Similar arid climate and environmental conditions which in turn shaped similar architectural layouts and elements.
- Nearly identical social and community values which also affected urban and architectural forms.
- All of their conservation approaches have the same goals of creating authentic experiences of local culture and maintaining their traditional buildings and cultural identity as popular cultural destinations and tourist attractions.
- They also all aim to revitalize the economy by attracting investments and businesses and instilling a sense of pride and ownership among the local population. Consequently, with all these similar contexts, comparing these urban experiences with Heart of Sharjah and Khor Dubai is rather justifiable.

3.1 The Case of Souq Waqif, Doha, Qatar

Souq Waqif, or "the standing market" in Arabic is a traditional market located in the center of Doha, Qatar with a long history that dates back to the 19th century when Bedouin traders first used it to sell commodities including spices, fabrics, and other handicrafts. The market was a hub of economic activity and played an important role in the development of Doha as a city.

Similar to what happened in the UAE, in the early 20th century, Souq Wakif began to decline as modern retail stores and supermarkets began to open in Doha. As a result, many of its shops were closed and the whole Souk area fell into a state of degradation. In the early 2000s, the Qatari government started a renovation effort to return the market to its original style and architecture. The restoration project was based on a comprehensive study of the history of the local traditional market and its buildings. The philosophy behind it was to stop the degradation of historic structures and to remove the inappropriate alterations and additions that have been applied in the past decades [42]. The site was closed for several years and underwent extensive restoration work starting from the restoration of traditional buildings, and the construction of pedestrian-only streets with the exclusion of vehicles, to the construction of new shops and restaurants that align with the traditional character of the Souq.

During the process, many of the Souq’s traditional businesses, such as spice and textile merchants were relocated to new, purpose-built facilities in order to improve the infrastructure and facilities in the Souq, while also ensuring that the traditional businesses could continue to operate and thrive [43].

However, the project encountered challenges related to the removal of recently constructed buildings, the replacement of modern roofing materials with traditional ones, and the implementation of traditional techniques to ensure adequate insulation against extreme heat [44].

The Souq's revitalization process was finally completed in 2007 and reopened to the public with its new layout and design. The project succeeds in achieving its aim of repurposing the Souk as a cultural and tourism destination while also preserving its heritage. Ever since, it has been promoted for tourists by organizing events, cultural activities, and traditional businesses [43].

According to [42], the key success factor of the Souk Al Wakif example is that its conservation was not mainly about preserving an individual architectural building, but rather, incorporating all aspects; physical, social, and cultural into the restoration process. Another success factor was having the flexibility to adapt rehabilitation objectives to modern users' needs, while also paying respect to traditional values. In other words, it managed to reconcile the competing requirements of both conservation and development which in turn, showcased an ever-increasing land use demand. According to [45], an additional key success factor is that the area is innovative with high livability, surrounded by vital, open streets and areas. The common areas within the compact neighborhood are designed to resemble the historic centers of older cities, with a mix of residential, commercial, and entertainment land uses in a central hub.

Currently, Souq al Waqif includes 500 ancient shops selling a variety of goods such as pottery, traditional swords, daggers, handcrafts, jewelers, and copper utensils. adds that the souq also includes sections selling perfumes, traditional Qatari national dress, luggage, tools, general hardware, gardening equipment, tents and camping equipment, kitchenware, spices, traditional sweets, rice, nuts, and dried fruits. Additionally, Souq al Waqif is famous for selling traditional garments, local Qatari clothes, handicrafts, and souvenirs. The souq also houses tens of restaurants serving a wide variety of cuisines from all over the world [44] (Figure 3.1).



Figure 3.1 On the right; a photo of Souq Wakif. On the left; Souq Waqif's land use plan. Source: [46].

3.2 The Case of Jeddah Historic Center, Jeddah, KSA

Jeddah Historic Center or "Al Balad; which means downtown in Arabic" is a UNESCO World Heritage Site located in the city of Jeddah, Saudi Arabia, and can be traced back to the 7th century when it was a small fishing village and a minor port on the Red Sea. It began to gain more importance during the Islamic Golden Age from the 8th to 14th century when it became an important stopover point for Muslim pilgrims traveling to Mecca. The city's port was also an important gateway for trade with Africa and Asia.

In the 18th century, Jeddah became the main seaport for the Hajj (the annual Islamic pilgrimage to Mecca). At the time, its population grew rapidly, and many wealthy merchants built large, ornate houses in the city center, many of which survive to this day [47].

Just like all Gulf cities, Jeddah underwent significant modernization and development during the 20th century. Consequently, the historic center was threatened by urban renewal and modernization projects [48]. These acts started in 1948 with the demolition of the old city walls due to the creation of the modern port of Jeddah on reclaimed nearby

land, the airport, the new road axis, and the high-rise buildings were constructed. After that, Dahab Street in the heart of the old city was opened, and later in the 1970s, new types of modern buildings like shopping malls and office buildings were constructed. During the eighties, the city of Jeddah expanded dramatically to the north, and as a result, the old city was deserted. Nevertheless, since the nineties, growing recognition of the remains of the historic area as human race heritage started and governmental and civil society organizations have been engaged in maintaining and conserving the area which led to its inscription as a UNESCO World Heritage Site [47] (Figure 3.2). The restoration process involved a combination of conservation, preservation, and rehabilitation practices, all aiming to revitalize the area while also maintaining its traditional architecture and cultural heritage. The process started with documenting the remaining historical buildings through building surveys, measurements, and the creation of detailed drawings and photographs. Once the condition of the buildings was assessed, the conservation and preservation phase began, which included stabilizing and preserving the existing buildings as well as minor repairs such as replacing damaged roofing, walls, floors... etc. Compatible traditional materials and techniques were used in working sites directed by Jeddah professionals and municipality engineers with the support of foreign consultants, and traditional construction skills were redeveloped. Some of the buildings were rehabilitated and repurposed as cultural venues (museums and galleries), hotels, restaurants, or office buildings.

Furthermore, measures related to urban planning were also taken to improve the overall character and livability of the area, including designating open public spaces, establishing pedestrian and vehicle roads, and developing suitable infrastructure and services such as upgrading the existing water system, provision of a future sewer system, paving streets and the provision of street naming and signage project, the creation of heritage walkways and a map, planting trees, the rehabilitation of public spaces and the creation of new ones, the conservation of stone facades and walls lining the public space, and the restoration and reuse of selected buildings, such as for several restaurants, an Internet café, and a science museum devoted to children's science [49]. The site architecture now reflects the

various cultural influences that have crossed the city over time, including Ottoman, Indian, and traditional Islamic styles. This can be seen in architectural features such as narrow streets, and historical buildings which date back to the medieval period [47]. This experience helped shift Saudi Arabia's whole attitude towards built heritage from preserving the national identity and legacy towards the commoditization of heritage for international tourism development by nominating some historical sites to become World Heritage UNESCO sites [49].

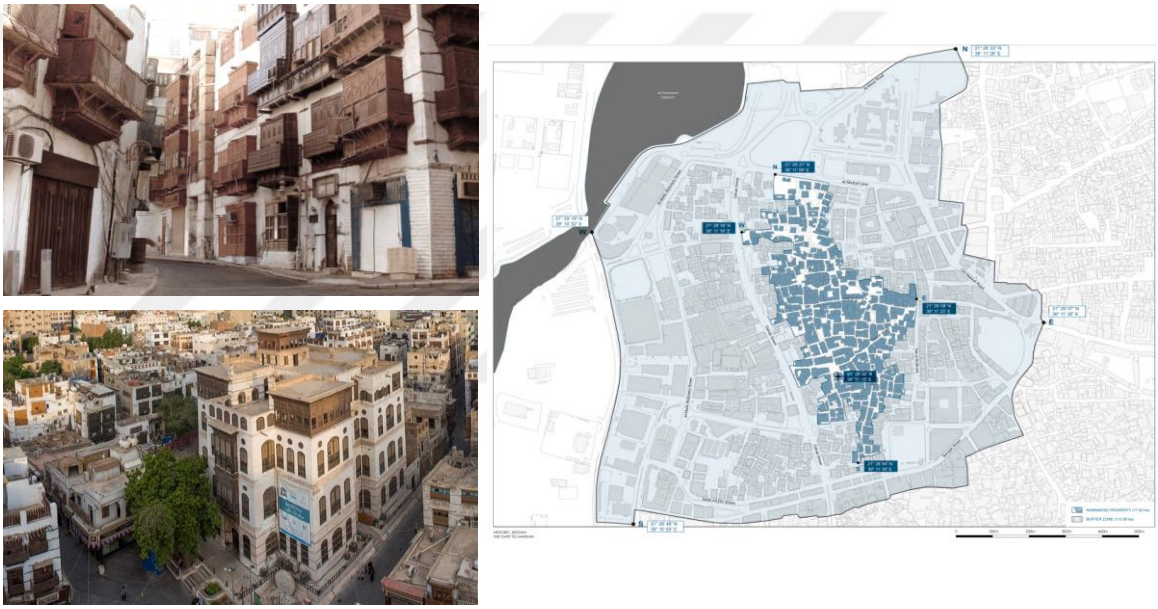


Figure 3.2 On the right; a map of the inscribed property of Historic Jeddah with its buffer zone. Source: [50]. On the left; photos showcasing the tower houses and the variety of architectural forms integrated into its urban fabric.

3.3 The Case of Muharraq District, Bahrain

Muharraq is considered Bahrain's historical capital. It is located on the northeastern coast of Bahrain. Its history can be dated back to the pre-Islamic era, making the district inhabited for thousands of years, with records of human settlement dating back to the Dilmun era (3rd millennium BC). Muharraq grew to become a major trade and commerce center in the region and was known for its pearling industry during the 19th and early 20th centuries. The pearling industry brought wealth and prosperity to the area, which is

reflected in the traditional architecture of the district, with numerous luxurious houses for pearl traders (Figure 5). The architectural features of the district also include several historical houses, wind towers, and other buildings.

Muharraq is also known for its religious significance as it is home to the tomb of Sayed Hassan, a prominent religious figure in Bahrain, and the Al-Muharraq Grand Mosque, which is one of the largest mosques in Bahrain, dating back to the 19th century. It has been listed as a UNESCO World Heritage Site since 2018 as an extension of the Bahrain Pearling Trail, which is a serial property composed of several components spread over different locations in Bahrain. This recognition highlights the importance of Muharraq's cultural and architectural heritage, and the ongoing efforts to preserve and promote it [51].

Muharraq underwent a similar urban modernization process as other Gulf cities from the 1930s till the 1960s, which involved planning new settlements around the old urban centers and constructing institutional buildings such as ministries, hospitals, governmental authorities, educational facilities, and sports centers. This resulted in total neglect of the architectural and urban vocabulary of the traditional context and loss of urban identity, And, on a social level, resulted in a shift where the local communities have moved to modern new housing areas. However, the traditional fabric has distinguishable architecture and unique urbanism manifested in an organic urban network of houses, mosques, and trade complexes, which is known locally as “Dwaess". The city's architectural heritage shares many physical characteristics of Arab Islamic cities [52] (Figure 3.3).

The area has been in an ongoing restoration process carried out by the Bahrain Authority for Culture and Antiquities (BACA) in collaboration with the local community, experts, and international organizations (Figure 3.5). The restoration aims to preserve and showcase the traditional architectural heritage of Muharraq, while also promoting economic development and cultural tourism. A bottom-up decision-making generative approach was used to revitalize this heritage district, which ensured better sustainability

and adaptive environments that maintain the integrity and sense of place of historical areas [51]. Nevertheless, the conservation process faced some challenges, for instance, according to [52], the governmental focus on the architectural aspects of conservation led to a piecemeal treatment of the city's historical fabric. Therefore, a more sustainable conservation process which would move beyond the mere rehabilitation of isolated monumental buildings to a more holistic and connected network of activities and developments related directly to Muharraq's local community, is needed.

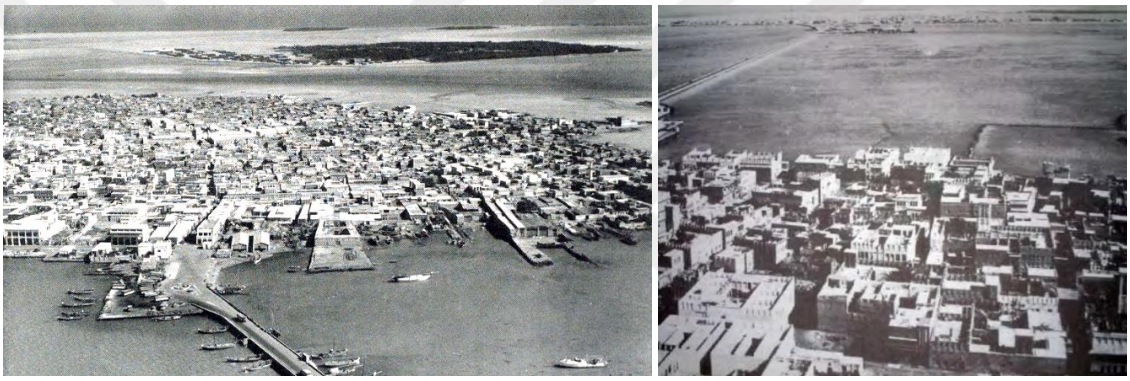


Figure 3.3 Muharraq District in the 1950s and its traditional urban fabric.



Figure 3.4 A comparison between the organic urban fabric of the historic center on the left, and the modern urban fabric of the surrounding area on the right Source: [51].



Figure 3.5 Restored structures. On the left, Sheikh Isa Bin Ali House. On the right, the facade of Fakhro House. Source: [53]. ©Cemel Emden.

To sum up, the restoration narratives of Souq Waqif, Jeddah Historic Center, and Muharraq District in the Gulf region reveal several commonalities, justifying comparisons with Heart of Sharjah and Khor Dubai. These include shared historical timelines, coastal locations, socio-economic developments, arid environmental conditions, and community values, all shaping architectural forms. Their urban heritage conservation experiences converge in their aims to foster national identity, foster cultural experiences, and drive cultural tourism. The case studies' conservation approaches range among many practices including preservation, repair, restoration, reconstruction, style imitation, rehabilitation, and adaptive reuse. As Souq Waqif's success lies in holistic restoration, respecting authenticity and tradition while accommodating modern needs through a flexible livable urban design, Jeddah Historic Center's journey from a fishing village to a UNESCO site underscores the broader evolution of Gulf cities. Muharraq District, on the other hand, stands as a historical capital of rich cultural and architectural heritage and an ongoing restoration that adopts a bottom-up, community-centric approach aiming at a more comprehensive conservation process beyond isolated monumental structures. Overall, these cases provide valuable insights for conservation strategies. Successful projects follow comprehensive conservation strategies, balancing heritage preservation with modern needs. They not only safeguard cultural legacies but also drive economic development, cultural tourism, and community involvement.

CHAPTER 4

UAE CASE STUDIES

4.1 Emirati Built Heritage and Their Values

Built heritage, being physical and durable, is among the most prominent factors that reflect the national identity of a country and create its unique spatial and urban identity [15]. Today. According to [54] architectural and urban heritage need to meet the following criteria:

1. Be related to individuals, communities, or events that have contributed significantly to shaping the general patterns of growth and development of the United Arab Emirates.
2. Embody the distinctive aesthetic or material architectural features and political, social, and economic trends of a particular period.
3. Indicate a trend or long-term impact on urban planning, architectural and urban design, or landscape design that can be described as having importance in the United Arab Emirates or at the global level.

This heritage holds values usually used to determine its level of importance and potential. Although the values can be interpreted differently by different stakeholders and decision-makers, they are crucial to defining effective management and preservation practices. Heritage value assessment methods also provide a framework for evaluating the impact and results of heritage interventions by identifying post-post value changes [55]. These values include:

1. Design Value:

Urban heritage sites of design value must reflect an approach to urban planning, and architectural design significant in the local context or the world. Design value can be

determined by the features associated with well-known design movements or according to its unique design characteristics. Another criterion to determine the design value is the degree to which it meets society's needs or impacts the society positively. The design may also respond to cultural, physical, or environmental contexts [54]. This can be observed in the vernacular architecture of UAE which reflects directly the style of the Arabian/Persian Gulf. Traditional buildings managed to cope with the region's conditions while also fusing effects from numerous cultures, Indian, Persian, and local in a way that meets the needs of their users and matches their lifestyles, spiritual and cultural practices. The distinguishable architectural elements of this style include wind towers, courtyard houses, small openings on the outer facade, and large ones towards the courtyard. On an urban level, the traditional urban fabric has its unique design characteristics represented in its compactness as a result of adjacent buildings, the organic layout of its street that parallels the natural terrains such as sea shores and hills, and the narrow alleys that create shade and a sense of intimacy.

2. Aesthetic Value:

The aesthetic value of heritage refers to its visual appeal and visual impact. Although it may be challenging to outline this value objectively as it is subjective by definition, it can still be determined by evaluating a set of factors such as the general appearance, compatibility within its context, or sensory engagement that enhances the user experience [54]. In the case of UAE, traditional buildings are human-scale structures that reflect the community's cultural values of humbleness and simplicity in their decoration patterns. The decorations are mostly simple arches or rectangular recesses placed between fixed spacings. They also harmonize nicely with their desert or mountainous context in terms of using earthy colors.

3. Technical Value

Built heritage may derive its value from the use of innovative technologies that respond to timely uses, layout, or structural challenges. This includes employing innovative

materials and construction techniques that are sustainable in the regional context [54]. In UAE vernacular architecture, the following unique building techniques can be found:

A. Wall Building Techniques

Depending on the location of a building, different materials can be used. In coastal areas, coral, shell, and marine stones with lime mortar or plaster in construction. In oasis areas, structures were built of clay and brick using clay mortar. As for the mountainous areas, volcanic mountain stones were used without mortar, a method that was called dry construction, and bricks were used with it to increase the retention of thermal mass inside the building, which provided a moderate atmosphere in the heat of summer and the cold of winter.

The two wall-building methods were:

- The “bearing wall” method, in which limestone and coral stones were placed in a way that ensured a strong connection between, e.g. at a diagonal and stacked in a way that creates a vertical connection between the layers. Moreover, jandal or palm tree timbers were sometimes used to enhance the structural strength of the walls. Lastly, the stones were joined using lime mortar, and it was ensured that they were covered completely to maintain the wall structure. The outer walls were painted with a protective layer of lime to protect against natural conditions, and sometimes they were painted with "Nora", a lime paint diluted with water to give a white color.

- The “non-load-bearing wall” method, which involves the use of columns and lintels as basic structural elements, where the columns are made of stones of various shapes and are linked together by Jandal timbers or palm trunks, forming “non-load-bearing walls.” The gaps between the stones are covered with lime mortar to improve the structure of the wall. This method is flexible in design and implementation.

B. Floors and Ceilings Building Techniques

In traditional buildings, floors were paved with stones and covered with a layer of mortar mixture. The door sill and ground floor were usually raised about 15 cm above the outside ground level to prevent rainwater from entering. The ceilings were layered with lime mortar and were considered a decorative element of the interior space. The roofs were covered with different types of materials, such as woven palm mats or woven reed mats with the occasional addition of colors [40].

4. Historical Value

A crucial value of built heritage lies in its historical importance, its link to its inhabitants, and the events that have contributed to the nation's evolution. Sites may embody a certain period's distinctive visual features of the political, social, and economic trends. This has documentation the importance of past events or events that continue to have a symbolic function for society to this day [54]. In the context of the UAE, built heritage has been an exemplary model for the past generations' creative adaptability and endurance. As well as a documentation of their lifestyles, activity patterns, and cultural and spiritual beliefs [56].

5. Environmental Value

Environmental adaptation is an important factor for evaluating a place as its environmental performance can be measured in terms of the use of materials, consumption of resources, and environmental impacts on the entire building life cycle. Other aspects include integrating passive design strategies that respond to the environmental context, and the deliberate use of sustainable materials that can be repaired and recycled. As well as the possibility of space reuse in compatibility with the requirements of modern operating needs [54]. In the Gulf region, traditional architecture has adapted to the harsh climate and scarcity of resources through the use of locally available materials, the use of wind towers to catch winds and mitigate the unbearable heat, the insertion of courtyards, the thick double walls, and the compactness of the adjacent built fabric which ensures better insulation, thus, further protection against weather conditions.

6. Functional Value

The most prominent value of a built form is the function it meets, which also contributes to the overall value within the context of an urban settlement or a city. The built form is most likely to be used for housing and working as these functions meet the most basic human needs. And on a wider level, i.e. settlement or city level, comes more functions such as education, culture, religion, etc. When preserving built heritage, most schools prioritize preserving form over functions, however, modern and more sustainable approaches declare that preserving a function is key to maintaining a heritage building, and for a building to preserve its functional value, it needs to meet people's needs whether these needs are economic, social, or educational. First, built heritage can have economic value by being able to generate income through maintaining the original function or adapting to a compatible use. In UAE, buildings with economic roles such as traditional markets were vital for the city's inhabitants, they included workshops and were connected to the port or the entrance of the city to facilitate trade, they also had a flexible layout and squares that can be used by traveling merchants or for social events. Second, an educational value of a heritage value that focuses on cultural tourism and promoting cultural awareness is mostly done through the adaptive reuse of un-functional heritage buildings and repurposing them to museums, galleries, or other educational practices. And lastly, social value which is the degree to which the heritage responds to or represents the changing social patterns in the period of time in which they were designed and constructed. Social value can also be identified through the heritage's ability to improve working and living conditions, support social interactions, contribute to strengthening the society’s identity and belonging, and preserve the collective memory of the community [54]. A clear example of this in the UAE's case is the vernacular architecture of houses which represents authentically the social practices and hierarchy of their past inhabitants. For instance, most houses were one-floor while two-floor houses were owned by wealthy families. Furthermore, houses were multi-generational where family members get to interact and socialize in the courtyard. Cultural and religious beliefs were also considered such as ensuring privacy by separating the two genders in their setting spaces, entrances,

and corridors, and through the absence of windows that are at human height and open to the outer alleys, in order to safeguard the house residents from the eyes of intruders. On the contrary, large windows were open to interior courtyards, and outer windows -when existed- were high and covered with elements that blocked the outer vision. Another attempt to respect the privacy of the residents can be seen through the twisted entrance and the placing of the “Majlis” near the entrance. Majlis itself is a very crucial space in the Emirati house as it reflects the hospitality of its owners and the importance of social gatherings in the community's culture. On an urban level, there are public "Majlis" near the mosque and the markets to gather the town's men.

4.2 Case Study 1: Heart of Sharjah

4.2.1 Overview of Sharjah City

Sharjah city is the third-largest city in the United Arab Emirates after Dubai and Abu Dhabi and the capital of Sharjah’s Emirate. Located on the Persian (Arabian) Gulf, it has historically been an important port between Ras-Musandam, from the early 1900s till World War II. Its economic activity patterns used to range from fishing, pearl diving, and marine trade with Iraq, Iran, and India. The city was also a center for the production of textiles, pottery, and other crafts [57]. Historical records suggest that the region of Sharjah has been inhabited since the Neolithic period around 5000 BCE. Naturally, the area contains several archeological sites registered by the local authorities. Many artifacts have been the findings of these sites, some can be dated back to the Bronze Age and Iron Age such as ceramics, coins, and military equipment. Other findings can be traced to the marine life of the old inhabitants such as pearls and ship parts presenting the ship industry of the region. The name was mentioned in the second century AD in a map by the Greek geographer Ptolemy. In 1490 AD, the Arab navigator Ahmad Ibn Majid noted Sharjah while navigating Al Khalij waters [8]. Sharjah was ruled by various empires and dynasties throughout its history, including the Persians, the Umayyads, the Abbasids, and the Ottomans. In the 18th century, the ruling Al Qasimi family established control over the

area and Sharjah became one of the Trucial States, a group of sheikhdoms that later formed the United Arab Emirates [58].



Figure 4.1 The location and boundaries of "Hearth of Sharjah" in relation to Sharjah City. Source: The author.

Nowadays, and as a result of the city's globalization and modernization which started after the oil discovery in the 1960s, and the Formation of the UAE Federation in 1971it has developed drastically and hosts the largest industrial area in the UAE. Simultaneously, its population has witnessed large growth, starting from approximately 160,000 in 1980 to 1.8 million according to the Sharjah Census 2022 report. This includes around 208,000 Emirati citizens and 1.6 million expats. The city has established its reputation as the cultural capital of the country and was named by UNESCO the World Book Capital for

2019, the Cultural Capital of the Arab World for 1998, and the Islamic culture capital in 2014. It was also named a healthy city by WHO (The World Health Organization). Consequently, Sharjah is home to numerous museums, including a quarter of all the UAE's museums, and hosts popular events such as the Sharjah Biennial and Sharjah International Book Fair. Sharjah has tourist attractions including modern sites such as Al Qasba and Al Majaz Waterfront and historical areas, namely the Heart of Sharjah which holds the city's unique urban heritage and is the focus of this study [58].

4.2.2 Morphological Transformations of Sharjah City

Urban settlements undergo continual transformations influenced by historical events and changing population needs. "Morphological transformations" refer to the structural and formative changes in an urban settlement's physical layout over time. Sharjah is no exception as it went from a small fishing town -as stated in its oldest recorded description- to a large city that can also be considered a metropolitan when combined with the nearby Ajman and Dubai. The major phases of its urban transformation can be categorized as follows:

- In 1820: Sharjah was described in the writings of the British traveler James Silk Buckingham, as a small port town of 500-600 inhabitants. Considering its important position on the route to India, its Sheikh signed the General Maritime Treaty with The British which put it under their political and military protection. At that time, Sharjah was a modest coastal town containing the following urban forms: A port and linear markets (Souqs) along the creek, a defensive wall marking the town's outer boundaries with the fort (Al Hisn) as the mainland entry point, the fort's adjacent square (Sahat Al Hisn) where interaction between nomad visitors from the desert interacted -and sometimes traded- with locals, The traditional courtyard houses of single-floor or two-floor located east and west of the coast, and A mosque [8] (Figure 4.2).
- In 1931: This year marked a turning point in the history of Sharjah in particular and the UAE in general. It was when the construction of the Sharjah Airport was completed, making it the first modern structure in the history of the not-yet-formed

country. The airport also marked the first urban expansion towards the desert and away from the coast and Sharjah's old town, towards the desert (Figure 4.3). It was mainly planned as both an airport and a military base for British subjects which included modern infrastructures such as air conditioning, water reservoirs, plumbing systems, and a hospital.

- In 1958: Oil was first discovered which generated financial revenue that was used for mega infrastructure projects across the entire country. New building materials and techniques were introduced and old methods and forms of buildings were abandoned. This "Urbanization" process was the hallmark of the next two decades in the history of the UAE [6].
- In 1968: The first master plan of Sharjah was introduced; it covered the location of the old town with the whole expansion towards the south (The desert). It divided the area into single-use zones (Industrial, educational, residential) through a strict grid plan of linear vehicle streets that contradicted the organic original planning of the old town which was parallel to the coastline. It also included constructing a highway by the shoreline, thus separating the old town from its sea view. This was considered the first intrusion of modernism into the traditional urban fabric (Figure 4.4).
- In 1971: The federation of The United Arab Emirates was established through the unity of seven Emirates which further elevated the economy and caused even further urban expansion and modernization causing more degradation of traditional urban fabric. During this period, many traditional courtyard houses were demolished only to be replaced by medium-rise reinforced concrete buildings to host the increasing population of expats needed as a labor force in the growing economy [6].
- Since the 1990s: The Emirati population started feeling that they lost the link to their heritage. Governments also started realizing the value of the lost urban heritage, and its potential for urban development and attracting cultural tourism, thus, the first restoration/reconstruction process commenced across the country [8].



Figure 4.2 The urban layout and photos of Sharjah's old town in the early 1800s. Source: [6].



Figure 4.3 The first urban expansion attempts away from the sea and old town and towards the desert with the construction of Sharjah's Airport in 1930. Source: [6].

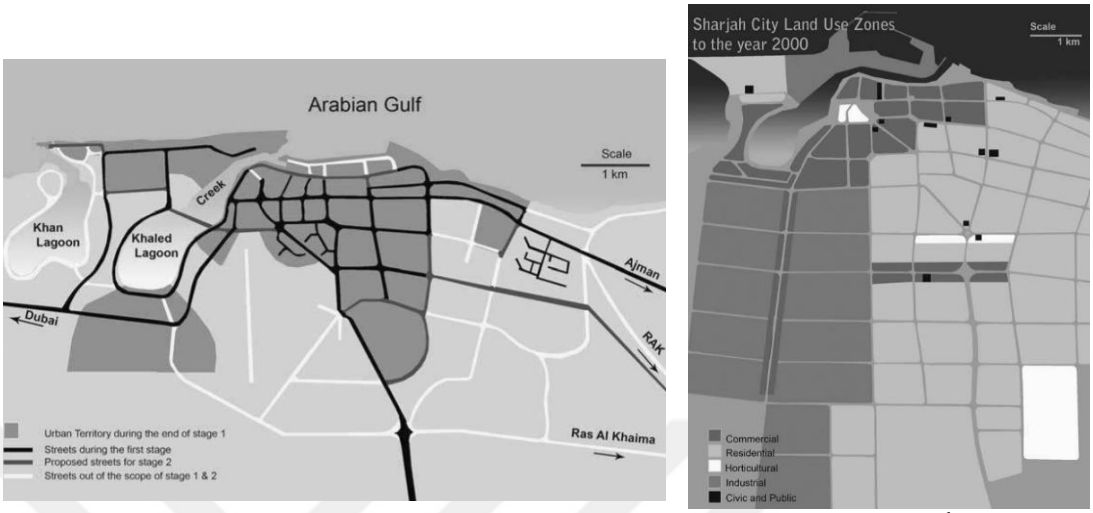


Figure 4.4 On the left, the 1st master plan for Sharjah made in 1968. On the right, is the 2nd master plan of Sharjah, made in 1980 for 2000. Source: [6].

In the context of this case study, the site that will be studied is the area known now as the "Heart of Sharjah" which is the remainder of the original Sharjah's fishing town before the first master plan was implemented. The site was registered on the tentative list of World Heritage Sites by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2014, and is now under an ongoing maintenance and restoration process. The analysis will include the already restored and/or reconstructed heritage buildings and the urban public realm formed among them.

4.2.3 Current Land Use and Building Typology of "Heart of Sharjah"

Following the boundaries defined in the interactive maps of "Heart of Sharjah" on its official governmental website [59], and using up-to-date Google Earth imagery, the main urban forms identified in this analysis are:

1. Newer non-traditional residential 17 buildings that were built around the 1970s in place of the demolished traditional buildings. These are either medium to high-rise residential buildings and are built in a relatively modern style. They can host offices, banks, shops, and flats for the expats. They are mostly in bad structural shape considering their construction date.

2. Traditional buildings that are preserved or reconstructed, mostly re-functioned traditional houses and linear markets “Pazaars”.
3. Newer buildings that are built in an architectural style that imitates or re-interpret Islamic traditional styles.
4. Parking spaces distributed around most functional buildings or in empty lots.
5. Public green patches with a variety of plants such as Ghaf trees, Indian rosewood trees, Sidr trees, and date palm trees.
6. Empty unpaved lots that are designated for future projects, mostly used as parking spaces.
7. Public spaces such as squares usually belong to the surrounding buildings but are also publicly accessible (Figure 4.5).



Figure 4.5 An aerial map showcasing the different urban typographies in the “Heart of Sharjah.
Source: Google Earth, edited by the author.

Classification of restored/reconstructed traditional structures:

1. Restored/reconstructed traditional houses: Either owned and managed by governmental institutions, open for visitors, and have adaptive reuse for cultural, touristic, and educational purposes (e.g. Sharjah Art Foundation, Bait al Naboodah). Or owned by the government, leased to, and managed by private profitable parties (e.g. the Chedi Al Bait hotel). This type is inaccessible for public display.

2. Commercial structures i.e. the traditional Souqs (Souq AlShanasiyah, Souq Saqr, Souk Al Arsah).
3. Cultural, administrative, and touristic new buildings built with traditional styles, owned and managed by governmental institutions, and open to visitors and tourists (Sharjah Art Museum, Museum of Islamic Civilization, Sharjah Calligraphy Museum, Sharjah Institute of Theatrical Art, Poetry House, and Mirage City Cinema).
4. Religious buildings, namely, Aldelail Mosque, Al Manai Mosque and Aljame'i Mosque.
5. The restored part of the defensive wall and the fort (Al-Hisn) which is re-purposed as a museum and open to visitors (Figure 4.6).

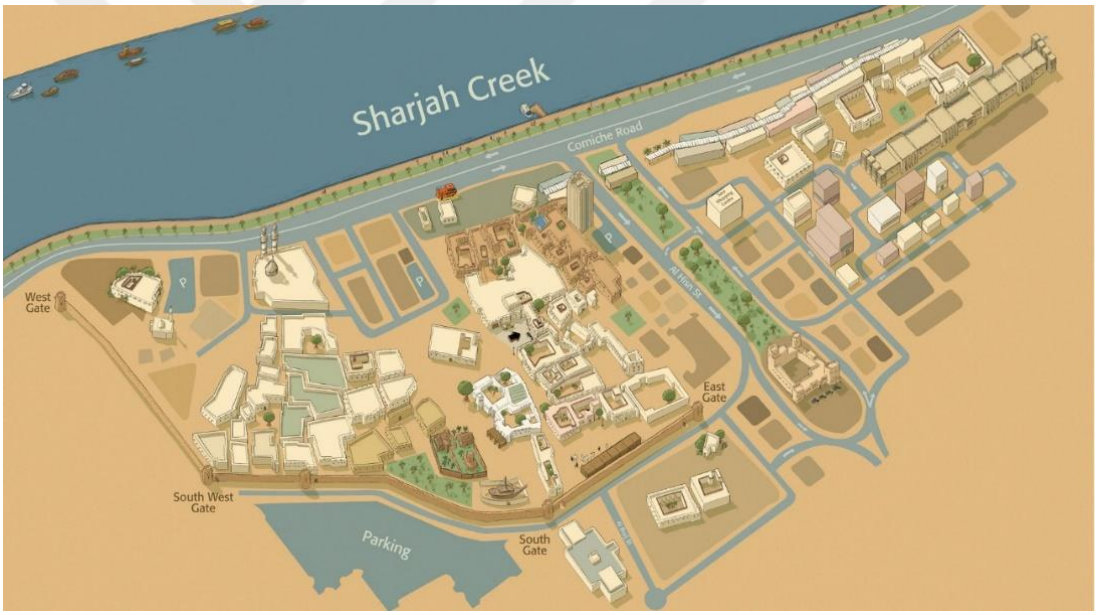


Figure 4.6 The Heart of Sharjah's map illustrating the heritage buildings and the surrounding wall. Source: [59].

4.2.4 Assessing Heritage Buildings Conservation in "Heart of Sharjah"

In this section, four different examples of traditional structures mapped above are examined and analyzed considering their architectural features and recent post-crisis interventions. Their current forms are then assessed in relation to the heritage value shift

caused by these interventions. To describe this shift, a three-degree scale is employed as follows:

- Preserved Value: If a traditional structure manages to maintain its heritage value post-intervention, either in its original expression or through different practices that re-generate this value.
- Decreased Value: When a traditional structure loses some aspects or all of its heritage value after intervention.
- Increased Value: In rare cases, a traditional structure post-intervention can have certain enhanced heritage value due to the intervention practices, an example of this is a boost in aesthetic value due to thoughtful maintenance.

The examples in the study are; Bait Al Naboodah, Sharjah's Fort, Traditional Souqs, The Chedi Bait Hotel, and Sharjah's Art Foundation Headquarters.

4.2.4.1 Bait Al Naboodah

The Bait Al Naboodah is a traditional house built in the1845 by a pearl merchant from the Naboodah family, one of the oldest and most prominent families in Sharjah. The house is of two floors and was expanded during its lifetime to host growing family members. The house is considered unique for its design and size as it is one of Sharjah's largest houses and an example of a coastal home. the design respected local design elements and cultural practices while incorporating architectural influences from India and Persia. Teak wood imported from India was used to create columns located around the courtyard. These columns are stated to have unique aesthetic quality as no other home or building in early Sharjah was decorated with this type of columns. Another unique feature of the house is the three spiral staircases as different family units living in the home had access to their own staircase and living quarters. The architecture was designed to provide privacy for the family, for instance, the courtyard provided an outdoor space for relaxation and socializing. To further ensure privacy, the majlis was located in a separate building opposite the house and was used for receiving guests and as an office for the merchant owner of the house. Due to neglect and some demolition practices, the house was in poor

condition when its restoration process started. The restoration went through two phases, the first from 1990 to 1995. At the time, some walls were still standing but in need of repair, others were completely demolished. The excavation was carried out to reveal the original foundations, and the demolished walls were rebuilt either by using the original coral stones after repairing and cleaning them or by using new coral stones extracted from the coast. Fragile standing walls were stabilized to prevent cracks and the risk of collapse. The rooftop was fixed by adding two layers of coral stones and gypsum. Wooden roof beams were replaced and beams that were in good condition were cleaned and re-used. The doors and wooden ornaments above them were also in poor condition, so they were repaired and placed back. The ornaments' design allows air and light to pass through. Many of the arched niches were infilled by previous owners so they were re-opened and covered with gypsum ornaments. Some of the gypsum ornaments were repaired while others were replaced by replicating them with the exact same measurements to fit them in their original locations. Lastly, the first-floor balconies were covered using new wooden beams, and columns for the railing on the first floor were rebuilt with mountain stone and jus.

In the second restoration phase from 2014 to 2016, the foundations were supported by reinforced concrete, and wooden elements were treated and sprayed with anti-termite and insulation materials. The house was then converted into a museum showcasing the traditional way of life of the Emirati people, their customs, and artifacts. Overall, in this project, the restoration/rebuilding practices were as committed as possible to ensuring authenticity and attempted to re-generate the original architectural forms although they employed few modern technologies to ensure durability and structural stability [60].

Heritage values displayed in Bait Al Naboodah:

- Design value: the design reflects its local architectural style and stands as a model coastal home of Sharjah influenced by Indian / Persian influences. It also met the social, cultural, and living needs of its inhabitants.

- Aesthetic value: Highlighted in the use of decoration elements such as the wooden columns, the visual appeal of wooden doors and windows, and the contextual compatibility of its exterior color and textures within the streetscape. As well as the wooden and gypsum ornaments of geometric and floral patterns.
- Technical value: displayed in the use of coral stone as its main building material and other local materials.
- Historical value: A documentation of a past generation's lifestyle and routine as showcased in the architectural plan, documentation of their social and cultural beliefs. A documentation of a past and obsolete economic activity pattern in being the house of a prominent pearl merchant; and this was highlighted in making some rooms of the current museum showcase the pearl trade.
- Environmental value: shown through using local building materials with insulation properties, having a courtyard with trees, and the usage of wind scoops which allow cooler air from the outside to flow through the openings into the lower half of the room. Moreover, the building has a summer room which has more openings, better ventilation and is painted white to reflect sun rays.
- Functional value: Originally, the building met the social and living conditions of its inhabitants through its consideration of privacy and serving different family units. Upon reconstruction, it gained new cultural and educational values.

Table 4.1 Value shift post interventions in Bait Al Naboudah**.**

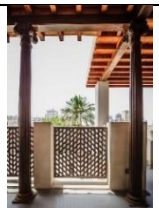
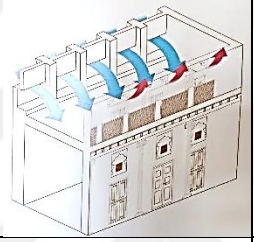
The value	Criteria met		Interventions made	Value shift
Design	- Design reflects local coastal architectural style with regional influences.		Reconstructing/restoring original design and architectural style	Preserved
Aesthetic	- Wooden ornaments - Wooden columns - Wooden doors - Gypsum ornaments - Contextual compatibility	  	- Ornaments/doors/ windows treated/repaired and replaced. -Ornaments that were entirely damaged were replicated and placed in the original location.	Preserved

Table 4.1 Value shift post interventions in Bait Al Naboudah. (Continued).

Technical	-Using coral stones and local building techniques in walls and roof construction.		- Traditional building techniques and materials used. - Modern techniques used such (anti termite treatment, and reinforced concrete.)	Decreased
Historical	- Documentation of a past lifestyle, an economic activity, and social and cultural beliefs.		Adaptive reuse to museum	Preserved
Environmental	- Using local materials. - Using wind scoops - Existence of a summer room		- Air conditioning is installed.	Decreased
Functional	- (Social): Fostering social engagement among family members and guests.		- Adaptive reuse cancels the residential function. - New cultural function (museum) helps create a sense of belonging as it celebrates Sharjah's heritage.	Preserved

4.2.4.2 Sharjah's Fort (Al Hisn)

Sharjah's Fort, or "Al Hisn" in Arabic, is a historical fort built in the 1820s by the ruling Al Qasimi family and served as a residence and a seat of governance for Sharjah's rulers where the rulers of Sharjah conducted official business and received visitors. The building has a traditional Islamic architectural style and is built on two floors. the layout opens with a heavy teak gate, next comes a prison on the ground floor opened to the first floor where guards used to watch the prisoners, and an armory room near the entrance to help guards get their weapons fast in case of an invasion. The fort also features two towers, a Medbasa (a room used to make date molasses), a central courtyard, and several rooms surrounding including the Majlis, the women's Majlis, and the Diwan.

As part of the urbanization expansions in Sharjah, in the 1960s Al Hisn was under demolition until the ruler of Sharjah stopped the process. By that time, only Al Kabs

Tower and two adjacent walls were still standing. The foundations and some of the gates were also preserved. A reconstruction process commenced in 1995 and was completed in 1997 when Al Hisn re-opened as a museum. Sketches, photographs, architectural plans, and historical records were used to guide the reconstruction process which committed to the same traditional building techniques and materials. Special consideration was put into regenerating the original form in terms of color, texture, and the unique features of the building including wind scoops, columns, and defensive openings. Building materials for ceilings included palm leaves, fronds, and fibers. The building method was to strip the branches of palm trees and use them to create bound palm branches. The palm fiber was then dried and made into ropes that were wrapped around the branches, thus creating the roof layers. leaves were also used to create mats used for the ceilings' interiors. As for walls, fan and brain coral blocks were used and mortar was sandwiched between the coral layers. The mortar was made of crushing and mixing coral, shells, sand, and water. Alcoves were built into the walls as shelves. Another restoration and maintenance process took place in 2014. The current Hisn museum displays the evolution of Sharjah city, its military and legal heritage, and the memories of its ruling family [17].

Heritage values displayed in Al Hisn:

- Design value: Al Hisn is a unique model of defensive architecture in Sharjah, this can be seen in elements such as defensive openings, the heavy gate, and towers. It also reflects the local style in its exterior, its layout, and some spatial elements that are -in function- unique to the region such as Al Medbasa.

Aesthetic value: The ornaments in the openings’ niches (windows and gates) and the railings on the front and rear elevation reflect Islamic style and a sense of simplicity and modesty. The earthy color used to be compatible with the coastal context.

- Technical value: The unique building craftsmanship of employing different parts of palm trees for ceilings and roof construction gives Al Hisn a technical value. This also applies to the construction method of the coral walls.

- Historical value: Being a defensive building safeguarding the town from invaders, Al Hisn holds a great historical value as it stands as the living memory for many historical events. It was also the original governmental headquarters where the ruling family lived and administrated the town, therefore Al Hisn plays a crucial role in the collective memory of the community.



Figure 4.7 Al Hisn Location and Photos.

- Environmental value: through the usage of locally available materials, such as coral stones, sand, shells, and all the parts of palm trees. And through the use of wind scoops.
- Functional value: Being a place for government meetings and the home of the ruling family gives social and political values to Al Hisn. It also has a symbolic meaning to the community as it stands as a reminder of the importance of saving built heritage from demolition. Now, through the adaptive reuse of the Hisn as a museum, these values are changed to cultural and educational values.

Table 4.2 Value shift post interventions in Al Hisn

The value	Criteria met		Interventions made	Value shift
Design	- Model of Sharjah's defensive architecture. - contains spaces that are a sign of regional architecture (e.g. Al Madbase)		Reconstructing/restoring original design and architectural style according to testimonies, historical records, and photographs.	Preserved
Aesthetic	- Elevation design is simplistic. - Contextual compatibility.		Reconstructed completely following historical records and photographs	Preserved
Technical	-Wall construction methods using coral blocks. - Roof construction methods using palm trees.		Reconstructing using the same original building materials and techniques	Preserved
Historical	- Witness to historic events and battles. - First ruling headquarters in the city - Home for the ruling family		Adaptive reuse to a museum displaying the city's history.	Preserved
Environmental	- Using local materials. - Using wind scoops		- Air conditioning is installed.	Decreased
Functional	- Hosting administrative meetings with the ruling family. - Hosting guests. - Carries a symbolic meaning on the importance of rescuing heritage.		- Adaptive reuse cancels the administrative/social function and creates cultural and educational value	Changed

4.2.4.3 Sharjah's Traditional Souqs

Souq Al Shanasiye is one of the oldest traditional markets in the country, known in the 1950s for being a vital commercial hub that displays a wide variety of traditional products and crafts such as textiles, spices and herbs, traditional clothing, and jewelry. It extends linearly over an area of 5872 square meters with 18 varied stores. The Souq is expected to have restaurants, cafés, and parking spaces after the final restoration is completed [61].

All Souqs' importance diminished gradually with the modernization trend and the emergence of shopping malls. As a result, a revitalization project was launched in 2014 by "SHUROOQ" with the support of "The Sharjah Department of Culture", "Information's Directorate of Heritage" and "The Directorate of Antiquities" to rebuild the market completely on the same traces as the old one based on the foundations detected through the survey conducted using ground penetrating radar and excavation works. The reconstruction of Souq Al Shinasiyah is of high significance for the Heart of Sharjah Management, as it connects Souq Saqr in the Shuwaiheen area with Souq Al Arsa in the Murijah area. In the 1950s Souq Al Shinasiyah was a vital area for trade exchange and a point of convergence for traders coming from the neighboring countries. The image of this phase is the one that is being used as a reference for the restoration and reconstruction practices [62]. The location also has a small archeological site displaying excavation findings from early human settlements such as pottery, glass, and coins.

Similarly, Souq Al Arsa and Souq Saqr are traditional linear markets historically used for traders from Persia, India, and Bedouin tribes. They're known for their collection of traditional art and crafts, such as pottery, pearl-studded carpentry, embroidery, and copper goods. Souq Al Arsa underwent a revitalization and restoration process in which it was covered with air-conditioned alleyways featuring solid wooden doors, coral brick walls, and hanging lanterns. Souq Saqr is still under restoration and is also aimed to be reconstructed as it looked in the 1950s.

It is also worth mentioning that the map of the Heart of Sharjah includes "The Old Souq", which is a network of narrow allies with shops opened in the 70s and sells all kinds of goods but mostly traditional ones. This "Souq" includes Al Daleel Mosque - the oldest mosque in the city, and many art galleries as well as The Art Museum. Although it is not as old as the other Souqs, its location and the important buildings within it, indicate that it will be included in the "Heart of Sharjah" restoration project where it will be reconstructed to comply with the heritage theme of the 1950s [61].



Figure 4.8 On the left, Souq Al Shanasiye. On the right, Souq Al Arsa.

Heritage values displayed in Sharjah's Old Souqs

- Design value: Through their layout of linear roofed allies with shops on both sides and a square in the middle, the Souqs reflect an urban design for markets unique to the region.
- Aesthetic value: The souqs don't necessarily have a unique aesthetic value other than their contextual compatibility with the overall characteristics of the heritage urban fabric in terms of colors, textures, and materials.
- Technical value: Ceilings constructed of palm trees and walls made of coral stones in the traditional way.
- Historical value: A documentation of the history of trade in Sharjah which highlights its strategic location, a documentation of other economic activities such as pearl diving and fishing, and a documentation of traditional crafts.
- Environmental value: through the usage of local materials, providing shade to shoppers by roofing the alleys, and orienting some alleys to the wind direction to ensure ventilation
- Functional value: The souqs have direct economic value as they generate revenue through trade and investments, they also have social value through being a space where social events can take place.

Table 4.3 Value Shift Post Interventions in Traditional Souqs.

The value	Criteria met	Interventions made	Value shift
Design	- Model of Sharjah's traditional market urban design	- Partially restored/reconstructed. - Fabric Interrupted by vehicle roads.	Decreased

Table 4.3 Value Shift Post Interventions in Traditional Souqs (Continued).

Aesthetic	- Overall contextual compatibility	Restored and improved through unifying wooden door designs and signages	Increased
Technical	- Roof and wall construction methods	Reconstructing using the same original building materials and techniques	Preserved
Historical	- Documentation of Sharjah's commercial history. - Some goods are documentation of Sharjah's traditional craftsmanship - Has an archeological spot open for visitors.	Souqs now showcase trade history	Preserved
Environmental	Providing shade through roofed alleys and providing ventilation.	Installation of air conditioning, ceiling fans, and solar panels	Preserved
Functional	Economic value through trade and workshops Social value through hosting social events	city-level urban changes (opening modern shopping malls / moving the port / Disconnecting the souqs from the sea)	Decreased

4.2.4.4 Other Restoration / Reconstruction Practices in Heritage Structures

Both the Chedi Al Bait Hotel and Sharjah Art Foundation Headquarters follow a similar reconstruction process, they are located in the place of multiple traditional courtyard houses, and each of their layout is a combination of these houses (both restored and newly reconstructed), with an adaptive reuse for service and cultural administrative functions respectively.

The Chedi Al Bait is a five-star hotel, with its main body a house built in the late 1800s adjoined by five other smaller houses. Its restoration/reconstruction process was completed in 2018 by GHM Hotels, a luxury hotel management company, in partnership with the Sharjah Investment and Development Authority [61]. It features 53 guest rooms and suites, a fine-dining restaurant, a rooftop terrace, a spa, and an art gallery (Figure 4.9). The building is considered an example of how to use traditional forms for profitable luxurious business without damaging the overall cultural heritage of the city [63].

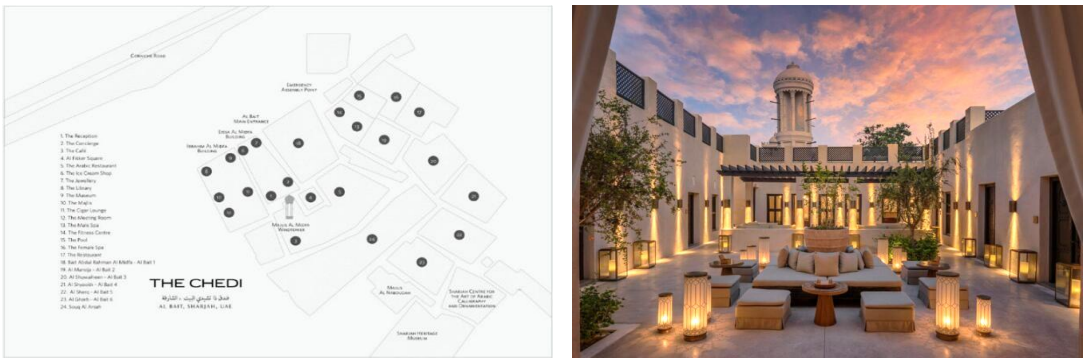


Figure 4.9 The Chedi Al Bait Hotel plan and photo.

Art Foundation, on the other hand, is a governmental non-profit foundation founded in 2009 and is dedicated to promoting contemporary art and culture in the region. Its headquarters is a combination of seven traditional houses, restored and reconstructed (Figure 4.10). The building is open to the public and hosts a variety of exhibitions, lectures, workshops, and other cultural events throughout the year such as the Sharjah Biennial, an annual art festival very important in the MENA region [63].

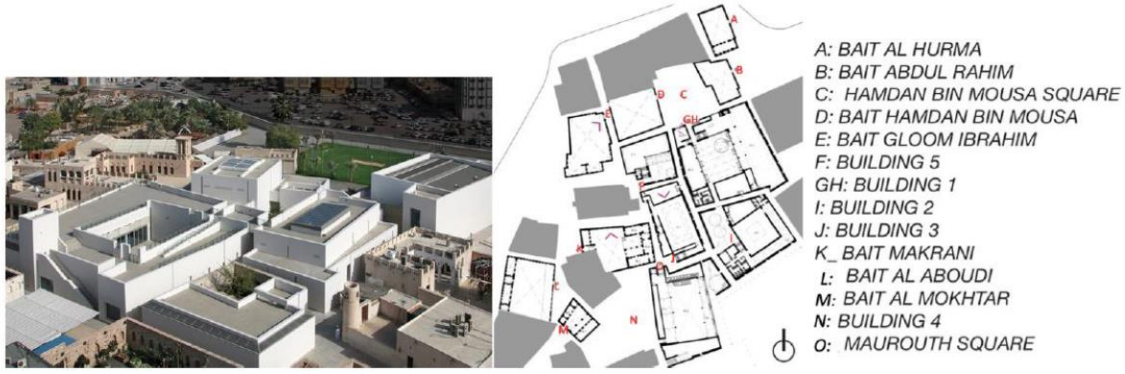


Figure 4.10 Sharjah Art Foundation aerial photo and plan showing original traditional houses and reconstructed structures.

In both these hybrid projects, they combined the ruins of the authentic architectural heritage forms with from with the re-interpreted reconstruction or replicas of other heritage forms, which deprived the built heritage forms of most of their heritage values, with the exception of an esthetic value represented in contextual compatibility and functional value represented in the adaptive reuse.

In conclusion of this section, the restoration and conservation practices of the mentioned heritage buildings in Sharjah demonstrate a nuanced approach to preserving the city's cultural legacy while adapting to contemporary needs. The following repeated themes can be seen through the examined projects:

1. Adaptive Reuse in The Face of Modernization: The adaptive reuse of both Bait Al Naboodah and Al Hisn for cultural and educational purposes showcases an effort to repurpose non-relevant historical structures to retain their relevance in a changing society and serve contemporary cultural and educational purposes that are more needed in the city.
2. Challenging Conservation of Design and Aesthetic Values: All projects faced challenges restoring the original architectural forms due to the scarcity of documentation. Yet, most of them attempted to preserve authenticity, especially through incorporating traditional materials and techniques. In the case of Traditional Souqs, design value dropped due to vehicle roads however aesthetic value increased through the incorporation of urban furniture and the unification of wooden door designs and signage.
3. Challenges in Environmental Values: The interventions of installing air conditioning in all the projects decreased environmental value. While modern amenities may enhance visitor comfort, they come at the cost of the buildings' original environmentally conscious designs that utilize natural ventilation and local materials.
4. Balancing Conservation and Profitability: Although it may seem that only The Chedi Bait Hotel and the Souqs -as heritage forms- generate profits and manage to fulfill their economic value. The adaptive reuse of the houses that were neglected and deserted pre-restoration however, provides a financial value.

Overall, the conservation efforts in Sharjah -although incomplete and scattered- still reflect a mindful strategy that acknowledges the need for modernization while preserving the historical, cultural, and architectural heritage. Challenges persist in maintaining some values and further engaging the public in the process to achieve a more sustainable approach.

4.2.4.5 Charters-based Architectural Heritage Assessment

To assess the conservation of individual heritage buildings, another method is to evaluate the extent to which their conservation, restoration, and usage practices align with the principles outlined in International Charters and demonstrated in (Table 2.3). The selected heritage structures in The Heart of Sharjah are assessed using a three-level metric:

- Met: If the structure's conservation entirely complies with the specified principle or instruction.
- Hardly Met: When a structure's conservation doesn't follow a principle at all.
- Partially Met: If the conservation follows parts of a principle or adheres to it in some phases but not others.

This assessment concluded the following:

- None of the selected heritage buildings examples adhere to principle 1 stating the prevention of any demolition practices as all the examples have undergone partial or full demolition both out of neglect and intentionally during the urban modernization practices.
- Both Bait Al Naboudah and Sharjah's Fort managed to meet principle 2 and sustain their cultural significance, except for a slight decline in their functional significance due to the adaptive reuse. The souqs on the other hand maintained their significance fully as they still serve their original function and maintained their original layout.
- The regular maintenance instructed in principle 3 and the safeguard of the heritage buildings is applied in all examples.
- As principle 4 recommends the application of traditional building methods and materials in the restoration/reconstruction process and limiting the usage of modern techniques unless needed, it is only met in Bait Al Naboodah, The Fort, and The Souqs while the Bait Hotel and Sharjah Art Foundation (SAF) relied largely on modern techniques.
- Both Bait Al Naboudah and Sharjah's Fort met the 5th principle as their conservation process followed rigorous historical documentation. Souqs slightly changed their

layout and facades with renovations. The Bait Hotel and SAF are heavily manufactured and loosely reinterpret the foundations of a few traditional houses each.

- The only example that fully meets principle 6 is the Souqs as they had historical continuity and weren't altered largely throughout time periods in terms of function and design. The Bait Al-Naboudah and the Fort, however, prioritized the 1950s period over other periods and deliberately removed all traces from later eras during their restoration/reconstruction process.
- None of the examples met principle 7 since all of them were in a state of decay before the conservation process, therefore, in their current reconstructed/restored forms, none of them can have their interventions reversed.
- Arguably, principle 8 is met by all examples as they were damaged and demolished to different degrees, thus, justifying reconstruction practices, which are identifiable to an experienced observer.
- With the exception of the Souqs that preserved their original use, the other heritage buildings all had original functions of cultural significance; therefore, they don't meet principle 9 due to adaptive reuse.
- Both Bait Al Naboudah and Sharjah's Fort have adaptive reuse while maintaining their original layout, therefore they fully meet principle 10. The Bait Hotel and SAF's layout and attributes were modified intensely, therefore, they don't meet this principle.

Table 4.4 Charters-based assessment of heritage buildings' conservation in the Heart of Sharjah.

Architectural conservation principles from international charters	**Bait Al Naboodah**	**The Fort**	**The Souqs**	**The Chedi Hotel & SAF**
Principle 1. Demolition of parts of a place is not acceptable.	Hardly met	Hardly met	Hardly met	Hardly met
Principle 2. All aspects of cultural and natural significance should be considered equally	Partially met	Partially met	Met	Hardly met
Principle 3. Maintenance should be conducted regularly.	Met	Met	Met	Met

Table 4.4 Charters-based assessment of heritage buildings conservation in Heart of Sharjah (Continued).

Principle 4. Restoration must prioritize using traditional materials and techniques and only resort to modern techniques when the structure is at risk.	Met	Met	Met	Hardly met
Principle 5. Restoration must follow historical documents and avoid conjecture. Modern interventions should be identifiable.	Met	Met	Partially met	Partially met
Principle 6. The contributions of all periods to the building of a monument must be respected.	Hardly met	Hardly met	Met	Hardly met
Principle 7. Interventions that reduce cultural significance should be reversible.	Hardly met	Hardly met	Hardly met	Hardly met
Principle 8. Partial reconstruction is permitted only where a structure is incomplete and damaged and it should be identifiable.	Met	Met	Met	Met
Principle 9. If the original use of a structure has cultural significance, it must be preserved.	Hardly met	Hardly met	Met	Hardly met
Principle 10. Adaptive reuse is permitted with minimal change to the structure's layout and physical attributes.	Met	Met	No adaptive reuse here	Partially met

4.2.5 Assessing the Public Realm in the "Heart of Sharjah"

The public realm identification in this section applies to the urban spaces created in the heritage urban centers, among the restored/reconstructed historical buildings. This includes all publicly accessible areas, including streets, sidewalks, parks, squares, plazas, and other open spaces that are available for use by the general public. This applies to the second and last urban typology in the classification portrayed in section 4.2.3.

Generally, public spaces are crucial for fostering social interactions, improving life quality, and elevating urban forms. They have economic benefits and can enhance environmental sustainability. For an urban space to reach its maximum potential, it needs to have specific qualitative and physical features. In the following tables, these recommended features will be considered as evaluation criteria to which the public realm of "Heart of Sharjah" will be subjected. A scale of three degrees (Met - Partially met–

Hardly met) will be used. As a result, points of weakness will be identified, and based on them recommendations can be suggested to further enhance the urban public space.

A. Physical Features Assessment

1. Comfortable Seating: that is, the inclusion of benches, chairs, and tables to provide seating options for different age groups and preferences. with strategically placing them near landmarks and in shaded spots to optimize functionality.
2. Shade: Design strategies, such as walls, trees, canopies, and awnings, help provide shade shelter from different weather conditions, creating an inviting and protected area for users.
3. Greenery: Incorporation of green elements like trees and plants to enhance air quality, improve microclimates, contribute to the character of urban spaces, and also promote biodiversity.
4. Water Surfaces: Natural bodies of water (coastlines, rivers) or artificial water installations (ponds, fountains) can enhance the character of public areas, mask noise, and create a visually appealing environment.
5. Lighting: Adequate lighting whether natural daylight or artificial lighting enhances safety, aesthetics, and functionality. Well-lit outdoor spaces feel safer and more inviting.
6. Landmarks: Distant and inner landmarks, such as neighboring buildings, sculptures, or artworks, contribute to the identity of public spaces. They can also hold cultural or symbolic meanings and provide contrast points within the surroundings.
7. Play Areas: Provision of play areas and equipment for different age groups, promotes active engagement and enhances the quality and richness of urban spaces.
8. Food Options and Economic Activities: The inclusion of both structured and casual economic activities, such as food vendors and small shops, can encourage visitation and contribute to the local economy.

Table 4.5 Assessment of the application of the physical features of well-designed public spaces in the public areas of Heart of Sharjah

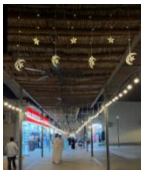
	The feature	Observations	Assessment
1	**Having a variety of seating options**	A few seating elements can be spotted in Souq Al Shanasiye, Souq Al Arsa, and calligraphy square.   Yet, most squares such as the Sharjah Art Foundation, and The Sharjah Art Museum's outer squares have no seating. 	Hardly Met
2	**Providing Shade**	Traditional Souqs and the backyards of mosques are all covered using traditional materials with fans. Yet, most public realms are open.  	Hardly Met
3	**Having Greenery**	The area contains some green patches such as the Urban Garden and the Palm tree patches, and some green elements can be spotted in Souq Al Shanasiye.   Yet, most squares such as the art have no greenery.	Partially Met

Table 4.5 Assessment of the application of the physical features of well-designed public spaces in the public areas of Heart of Sharjah (Continued)

4	**Having Water Features**	There are no water features in the area, but it's bordered by the creek and cornice. 	Hardly Met
5	**Adequate Lighting**	All spaces are adequately lit throughout the day. Some of the lighting installations use solar power such as the ones in Souq Al Shanasiye.	Met
6	**Having Landmarks**	During events such as the Sharjah Biennial, all the public spaces are being repurposed to host distinguishable art exhibitions, workshops, or any art-related activities such as dance shows and film displays. 	Met
7	**Play Areas**	There are no playgrounds in the area.	Hardly Met
8	**Providing Food Options and Small Economic Activities**	The area has few food options such as four cafeterias and two restaurants. However, there are no food booths and trucks within.  	Partially Met

B. Qualitative Features Assessment

1. Accessibility and Connectivity: Ensuring easy access for individuals of all backgrounds and age groups through various transportation means (private vehicles, bikes, public transportation, walking). Prioritizing pedestrian accessibility and walkability while considering proximate accessibility for cars and public transport. In Heart of Sharjah, the evaluation of private vehicle accessibility highlights incomplete road networks affecting the overall connectivity. Biking infrastructure is lacking, but

public squares offer potential for cycling. Pedestrian access is facilitated with sidewalks, crossings, and designated areas. Public transportation (bus and taxi services) provides accessibility, despite drawbacks (Figure 4.11).

2. Adaptability: Designing flexible urban spaces to be easily repurposed for changing needs and events. Adaptability encourages a lively environment, and attracts diverse people, thus, fostering cultural and economic significance. The Heart of Sharjah's public spaces exhibit flexibility, adapting to changing needs and seasons. Open areas without fixed structures allow for versatile setups and community events. Notably, Souq areas are less adaptable due to fixed layouts.
3. Public Participation and Inclusivity: Involving the public in urban planning and design decisions through community-based approaches and creating well-informed participation through technological advancements elevate social engagement. In Heart of Sharjah, community needs influenced the site's reconstruction, fostering local pride. Planning, however, lacked collaborative processes with community input. Events celebrate diverse identities, promoting cultural engagement. Maintenance participation is encouraged through volunteering portals.
4. Environmental Sustainability: Designing and constructing public spaces with consideration for minimizing negative impacts on ecosystems, using renewable resources, reducing pollution, and preserving cultural and historical heritage. In the Heart of Sharjah, green infrastructure, including trees and plants, contributes to environmental sustainability. Water management practices include water-efficient irrigation and design strategies. Limited use of renewable energy with some public lights powered by solar energy. Widely implemented waste management through recycling bins.
5. Safety: Prioritizing safety through well-maintained spaces, adequate surveillance, clear directory signages, proper lighting, and minimizing pedestrian/vehicle conflicts. Active nighttime economies and entertainment options contribute to avoiding deserted spaces. Heart of Sharjah has Adequate nighttime lighting and security measures to deter potential harm. Wayfinding signage is present but incomplete pathways pose a risk. Some public spaces lack social engagement during non-event hours.

6. Sense of Place: A unique identity for each location can be created through physical, visual, and social elements. These elements can reflect the local context and culture, thus, promoting community attachment, and offering a memorable multi-sensory experience to foster a sense of place. The Heart of Sharjah is marketed as an artistic and cultural hub of the city, hosting major events. Threats to the area's memory include demolition acts and reduced sea view due to modernization.

Table 2 Assessment of the application of the qualitative features of well-designed public spaces in the public areas of Heart of Sharjah.

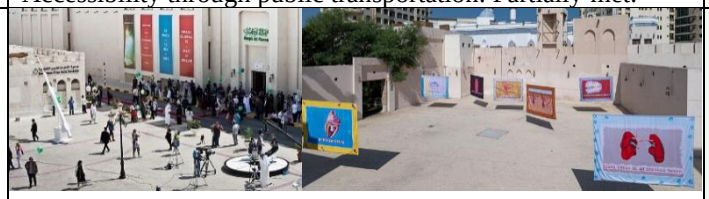
	The feature	Observations	Assessment
1	**Adequate Accessibility**	 **Figure 4.11** An aerial map of the public spaces (in orange) and their connectivity to vehicle roads and parking lots. Source: Google Earth, edited by the author. Accessibility for private Vehicles: Highly met. Accessibility for bikes: Hardly met. Accessibility for pedestrians: Partially met. Accessibility through public transportation: Partially met.	Partially Met
2	**Expressing Adaptability**	 - Most public spaces are adaptable such as Art Square and Falaj Art Center Square. - Public spaces with fixed layouts like Souqs are not adaptable.	Met
3	**Hosting Public Participation & Inclusivity**	- The concept of urban regeneration is based on community needs. - Top-to-bottom planning decisions. - Volunteering opportunities in event organization and area maintenance.	Partially Met

Table 3 Assessment of the application of the qualitative features of well-designed public spaces in the public areas of Heart of Sharjah (Continued).

4	**Environmental Sustainability**	- Smart irrigation systems. - Water-sensitive installments in the restrooms.	Partially Met
5	**Providing Safety**	- Adequate lighting and directory signages. - Few confusing roads. - Deserted after daytime and without pre-announced activities. - Security personnel working all day.  The public spaces are deserted after working hours and without planned events.	Met
6	**Having a Sense of Place**	- Unique traditional architecture. - Cultural events - Weak walkability and link to the sea  	Partially Met

In conclusion**,** the assessment of public spaces in the Heart of Sharjah reveals weaknesses and strengths, which identify possible areas for improvement. By assessing the physical features of these spaces, it was found that most of them are lacking in urban furniture such as seatings, roofing, amenities, and some economic activities. Incorporating greenery is also very limited to single patches here and there which in turn reduced the environmental sustainability scoring. Water surfaces are scarce as well but the area could compensate by re-establishing its connection to the nearby sea as its defining border and a significant part of its historical evolutions, memory, and sense of place. This can further foster environmental sustainability which in turn also requires expanding green infrastructure and improving improvements renewable energy usage and water management. Regarding movement patterns, vehicle accessibility is provided well, with an adequate planned

network of asphalt roads and sufficient parking options, but this is at the expense of bike lanes that are non-existent and pedestrian walkways that are limited to some markets, squares, and sidewalks.

The public spaces show adaptability with a flexible layout, which can be useful for hosting different social, cultural, and artistic events throughout the years, thus increasing public engagement and allowing them to form memories that contribute to their sense of that place. However, fixed areas like traditional Souqs show limited adaptability. Other forms of inclusivity and public participation are partially met since the area reflected community needs and vision but lacked collaborative approaches and consulted planning.

Providing safety is highly met with adequate lighting and continuous surveillance and security patrols, but the confusing road network poses risks of people losing their way, and the unfinished road construction works pose risks to users' safety and inconvenience to families with baby carriages and wheelchairs users. Landmarks and artwork distribution is relative across the areas with some corners being more attractive than others and also offering better seating and shade options. Overall, there is a need to improve the public spaces in the heart of Sharjah with some needs being more urgent than others such as pedestrian accessibility, inclusivity, and environmental sustainability. These changes can promote social engagement and community interaction, help the urban spaces reach their full potential, and help the city as a whole, meet sustainable development goals.

4.2.6 Charters-based Urban Heritage Assessment

An effective way to understand and assess urban heritage conservation practices is according to instructions and guidelines stated to International Charters as shown in (table 2.4). The assessment uses a three-degree metric as explained earlier. It has concluded that:

- The historic character of The Heart of Sharjah is partially maintained within its borders as most urban forms reflect the physical and spiritual elements associated with traditional architecture, most notably scale, style, materials, color, and decoration.

Nevertheless, some structures disturb the historic theme. hence, the 1st principle is partially met.

- The Heart of Sharjah urban conservation plan and urban heritage management plan never considered housing, so 2nd principle is not met.
- Physical and functional interventions in the Heart of Sharjah did not necessarily improve the life and work conditions of its occupiers, on the contrary, the continuous removal of modern structures dating back to the 1960s and 1970s where some people live and work, in order to open spaces for the re-interpreted reconstruction projects, has led these people to lose their livelihood. Moreover, the repeated restoration projects of the traditional souqs drove their merchants away, thus, the 3rd principle was not met.
- Architecture in The Heart of Sharjah reflects cultural knowledge, but it is managed in a top-down approach without public participation and consultation, so the 4th principle is partially met.
- The heart of Sharjah encompasses several buildings that are either re-interpreted reconstructions of heritage buildings or a modern building mimicking traditional style. These types of buildings are pseudo-historical designs that jeopardize historical evidence and therefore, principle 5 is not met.
- The heart of Sharjah contains few modern structures that don't respect the context's scales, volumes, and heights, so principle 6 is partially met.
- In The Heart of Sharjah, public spaces face many challenges regarding their design, furniture, and their contribution to the urban quality and encouraging public engagement. therefore, principle 7 is partially met.
- The area is penetrated by vehicle roads and many parking lots. It can be argued that they improve accessibility, but they damage the continuity of the historical fabric, thus, principles 8 and 7 are "not met", and "partially met" respectively.

Table 4.7 Charters-based assessments of urban heritage conservation across The Heart of Sharjah.

Urban Heritage conservation principles from international charters	**The Heart of Sharjah**
Principle 1. The historic character of a historical area and its associated material and spiritual elements including scale, style, construction, materials, color, and decoration should be preserved	Partially met
Principle 2. The improvement of housing should be one of the basic objectives of urban conservation.	Hardly met
Principle 3. Physical and functional interventions in historical urban areas should improve life and work conditions.	Hardly met
Principle 4. Architecture in historic areas requires cultural knowledge and public participation.	Partially met
Principle 5. Pseudo-historical design must be avoided.	Partially met
Principle 6. Modern structures in historic areas should consider the cultural-historic context, and respect the context's scales, volumes, and heights.	Hardly met
Principle 7. Public spaces should be designed and constructed with respect to historic fabric and to improve urban quality.	Partially met
Principle 8. Traffic and parking lots in a historic urban area must be controlled and planned so that they do not damage the historic fabric.	Hardly met
Principle 9. Main Vehicle roads in a historic urban area should improve its accessibility without disruptively penetrating it.	Partially met

4.2.7 Comparison with “Souq Waqif” in Qatar

In this section, a comparison will be made between "Souq Waqif" in Qatar and "The Heart of Sharjah" in the UAE due to their similar experience in revitalizing their urban heritage facing the threats of rapid urbanization of the Gulf region during the past century. Both locations, with their historical significance, have undergone restoration and reconstruction efforts to revive their traditional architecture and promote it as touristic and local attractions. However, Souq Wakif seems to have managed to foster social interaction of most social groups and become a city-level visitors’ attraction in Duha, while The Heart of Sharjah is still relatively isolated and only visited by specific groups of people who are interested in arts, museums, cultural heritage, and architecture, and average people go to other parks or public spaces that have no heritage association such as Al Qasba and Al Majaz Waterfront. Naturally, this comparative analysis aims to explore the urban management strategies, conservation practices, and social engagement initiatives implemented in both locations. By exploring the successes, challenges, and lessons

learned from Souq Waqif, more holistic recommendations can be made for the case of “Heart of Sharjah”.

A. Comparing Urban Planning and Management

Both Souq Waqif and The Heart of Sharjah have faced the impact of modernization which led to the decline of their traditional urban fabric. Souq Waqif underwent a comprehensive renovation, prioritizing historical accuracy and pedestrian-centric zones while merging experiencing art and culture with commerce and entertainment. In comparison, The Heart of Sharjah includes a mix of modern non-traditional, and traditional structures but its Souqs showcase limited flexibility and are limited to high-brand products and heritage crafts that may only appeal to tourist visitors. Souq Waqif's main area of success lies in creating a culturally rich, vehicle-free environment, whereas the urban fabric of Heart of Sharjah is interrupted by vehicle roads and its blend of old and new impacts its urban cohesion.

B. Comparing Heritage Conservation Practices

Both sites are committed to heritage conservation through the restoration and reconstruction of traditional buildings and prioritize historical accuracy. They both integrate traditional building materials and techniques in this process. Souq Waqif's approach shows more tendency to preserve heritage authenticity as it involved detailed historical research and used the site for its original function, whereas The Heart of Sharjah engaged its restored structures more in adaptive reuse and repurposed most of them for cultural uses. Souq Waqif stands out for its holistic preservation approach, safeguarding not only individual buildings but also the social and cultural fabric, while The Heart of Sharjah's approach seems more fragmented.

C. Comparing Social Engagement in Public Spaces

The renovation of Souq Waqif focused on integrating traditional businesses into the restored environment. It balanced conservation with modern user needs, hosting a mix of

commercial, cultural, and entertainment activities It is rich in restaurants, cafes, and seating options, and has become a location where people who want to spend time out and experience entertainment. On the other hand, in The Heart of Sharjah, public spaces display adaptability in hosting diverse events; however, it is lacking in terms of seating areas, food options (food stalls or carriages), restaurants and cafes with only one restaurant and one cafe within its official borders, thus failing to provide visitors with a wide range of amenities.

In conclusion, Souq Waqif showcases areas of success that can be used in the context of Heart of Sharjah. This includes its pedestrian-centric holistic urban conservation approach which prioritizes historical accuracy, social engagement, and cultural uses. The relocating of traditional businesses while improving infrastructure is another noteworthy development strategy. Applying these lessons to The Heart of Sharjah could ensure a more comprehensive urban management approach.

4.3 Case Study 2: Khor Dubai

4.3.1 Overview of Dubai City

Dubai is the second largest city in the United Arab Emirates and one of the most rapidly developing cities in the world. The Emirate of Dubai is spread over an area of about 3,885 km2, and the city is approximately 700 km2. It is located mostly within the Arabian desert and is bordered by Western Hajar Mountains. Although it does not have any natural water surfaces, it has a natural inlet of the Persian Gulf; that is Dubai Creek (or Khor Dubai in Arabic) which allows the passing of large container ships (Figure 4.12) [48]. The creek divides the city into areas: Deira in the northeast, and Bur Dubai in the southwest [64].



Figure 4.12 Dubai Location in the United Arab Emirates.

Just like Sharjah and most Emirati cities, it started as a small fishing village while also being a transit trade port connecting Iran, India, and The Arabian Peninsula. Both trade and pearling activities helped the city expand and host immigrants from India and Iran in the 1900s. After discovering oil in 1966, It continued to grow to become a tourism and luxurious hub known today with most of its population consisting of foreign labor. (Figure 4.13) demonstrates the city's urban expansion over the years. Historically, the creek helped the city develop and gain its trading importance. Nowadays, the conserved parts of the Creek are popular tourist destinations, featuring traditional markets such as Deira Souk, and cultural sites, such as The Fahidi Historical Neighborhood [4].

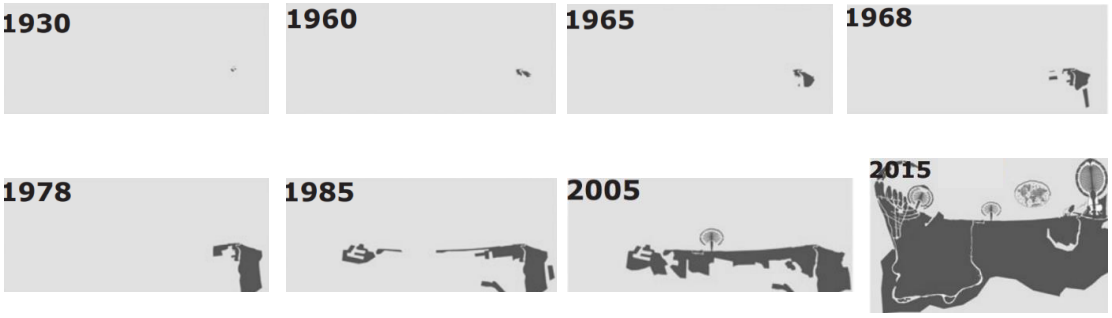


Figure 4.13 Urban Expansion of Dubai City through the years. Source: [65]

4.3.2 Morphological Transformations of Dubai

- Dubai's history traces back to the third millennium BC, but its recorded socio-economic history dates back to the 18th century when it was a fishing village [13]. At the time, and according to British documents, the city was no more than an oval-shaped fishing village

surrounded by a defensive wall and inhabited by less than 1000 inhabitants with its buildings built of mud.

- In the 19th century, All the original settlements Al-Ras, Shindagha, and Bur Dubai that developed were alongside the Khor on both sides. The Khor was then shallow and narrow and its shores were mostly composed of mudflats and mangroves [66].

- By the 1900s, Dubai started transforming into a trading hub port town and as a result of the early urban expansion, the three major areas of Dubai (Bur Dubai, Deira, and then Jumeirah) were formed on traces of the old settlements. In 1959, the first master plan of the city was drafted by John Harris at the time, a British architect residing in Dubai (Figure 4.14). This plan divided the city according to function into areas for work, entertainment, and industry [67]. In the 1960s an airport was built, and a bridge across the creek connecting Bur Dubai with Deira. During these years, the creek was dredged and deepened to allow the passing of large container ships, while also lining it with concrete walls to prevent erosion. This helped in developing the trade and the city's growth [12]

- In 1971, the discovery of oil led to further urban expansion and many people started to leave their old houses in Al Fahidi, Deira, and Shindagha for more modern neighborhoods and suburbs seeking more comfort. Concerns that the rapid urban growth would not allow old and new urban forms to coexist in harmony started to emerge. Thus, the master plan was reviewed, and the second master plan was introduced (Figure 4.14) after acknowledging that there are historical locations that need to be studied and documented and building regulations must be applied to them. By this time, The Bastakia area, now known as Al-Faheidi historic neighborhood, was the last and the most surviving historical urban fabric in the city, despite the modernization affecting it too and vehicle roads going through it. Its wind towers were considered the most important architectural element of Khor Dubai [66].

- By the middle of the 1980s, urban growth slowed down, offering an opportunity to assess the remaining urban and architectural heritage. At the same time, a growth in heritage conservation awareness was forming with the graduation of some Emirates architects and

urban planners. Foreign experts also participated in conservation practices and the development of conservation plans. The Architectural Heritage Department (AHD) in Dubai has adopted three main processes to manage the historical area, which include maintenance, restoration, and urban conservation and reconstruction [66].

- Further morphological transformations took place and are still occurring to date, such as the creation of parks across the shoreline, the construction of new roads and bridges to increase connectivity across the creek, the rehabilitation of the creek's ecosystem, the expansion of the creek and the commercial and residential areas along the creek, and building new developments on its shores, including the Dubai Creek Tower and the Dubai Creek Harbor. All these efforts helped highlight the creek as a popular tourist destination that combines traditional and modern urban forms.



Figure 4.14 On the left, the 1st master plan of Dubai made in 1959 by John Harris. On the left, the 2nd reviewed version in 1971.

4.3.3 Mapping the Urban Heritage in Khor Dubai

Throughout history, human settlements in Dubai cantered around the Creek on both sides, as it served as a crucial trading center, hosting the city's only harbor and playing a vital role in the pearl diving industry. Nowadays, the remaining urban heritage of those earlier periods located on the banks of the Khor is separate and scattered across poorly connected patches, However, depending on its location, this urban heritage can be classified into four areas, Al Fahidi Historic District, Al Shindagha Historic District, Deira in Al Ras, and Al Seef Street (Figure 4.15).

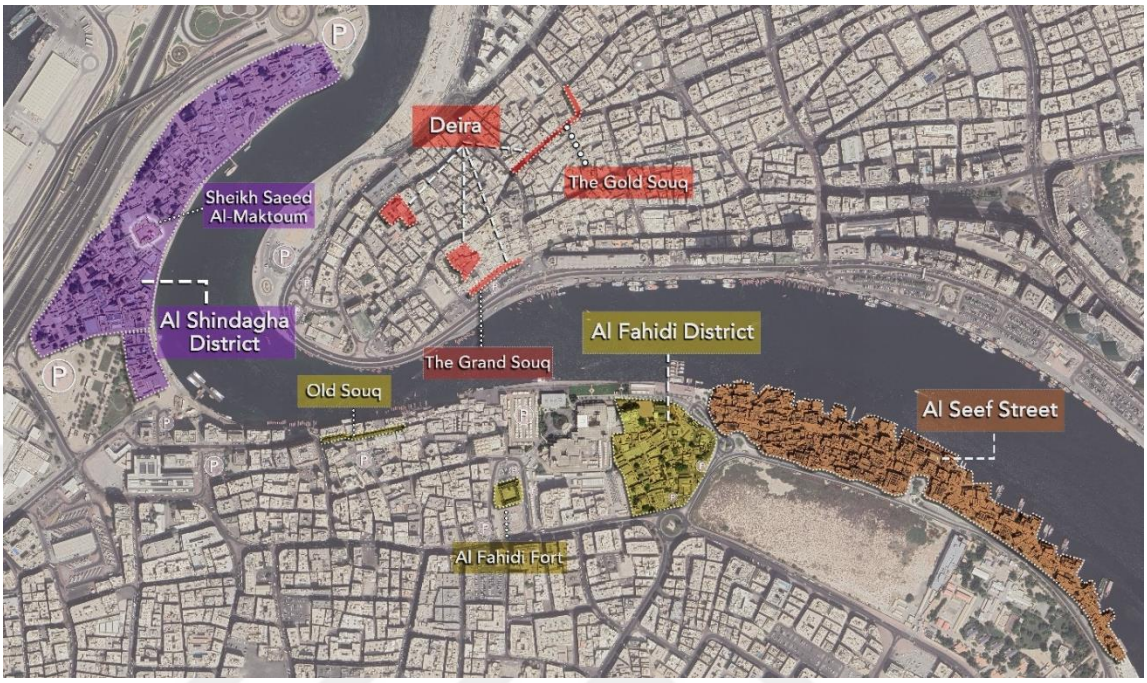


Figure 4.15 Map of Khor Dubai showing the different heritage patches and the location of heritage buildings assessed. Source: Google Earth, edited by the author.

4.3.3.1 Al Fahidi Historic District

Formally known as Al Bastakiya Quarter, Al Fahidi district is one of the oldest historical neighborhoods in Dubai, located in Bur Dubai. It was established in the late 19th century as a residential area by merchants from the Iranian province of Bastak, who came to Dubai to trade and settle in the area. The buildings were constructed from coral and limestone, and feature traditional courtyard designs and traditional wind towers, which were used for ventilation before the advent of air conditioning. Although it is considered the urban patch with the most authentically preserved urban forms, the modernization practices in the 70s left its print on its layout by dividing it with a vehicle main road and a network of sub-roads (Figure 4.17). This has led to isolating the Fort as well as the Old Souq which was originally connected to the main urban body. The Bastakiya Quarter has been restored and preserved as a cultural and heritage site, and it is now a popular tourist destination that hosts many art galleries, museums, cultural centers, traditional markets, several traditional

restaurants, and cafes, where visitors can try local cuisine and enjoy the traditional atmosphere. The district's popular heritage buildings were re-purposed as museums. e.g.

Al Fahidi Fort, which now houses the Dubai Museum, and Sheikh Saeed Al-Maktoum House [68]. The district hosts many cultural and art events, most notably Sikka which lasts three days within the year [67]. Visitors can also take a traditional Abara (water taxi) to reach this district while also exploring the entire Khor area.



Figure 4.16 Al Bastikia Area and its surviving traditional urban fabric. On the left: The area in 1970. On the right: The area in 2003. Source: [4].

4.3.3.2 Al Shindagha Historic District

Also Known as the heritage village, Al Shindagha District is mostly a re-constructed heritage district that has undergone intense conservation and revitalization efforts as a part of the broader urban conservation initiatives in Dubai, where the focus has shifted from protecting individual buildings to the conservation of entire areas, recognizing the value of heritage in urban development. The restoration/reconstruction efforts included the former residence of Sheikh Saeed Al Maktoum (now a public museum) and around 150 traditional houses have been restored or reconstructed to match available documentation and historical records, four of which were converted into museums, including Craft Weaving and Textile House, Traditional Healthcare House, Jewelry House, and Traditional Fashion House. Visitors to Al Shindagha navigate through narrow alleys, known as "Sikkah," leading to a six heritage houses complex that showcases old sailors' sea navigation techniques, instruments, and skills. The exhibition areas depict various

living environments in the UAE, such as living by the sea, desert, and oasis, connected by a courtyard garden, educational centers, cafés, and restaurants. Yearly, the area hosts "The Shindagha Days" festival which lasts 10 days and offers workshops and events on various heritage topics.The area offers a holistic experience, preserving not only the physical structures but also the cultural and social life associated with them, through a holistic restoration and adaptive reuse, which transformed it into a vibrant tourist destination. The integration of public areas into rehabilitation efforts strengthens people's sense of belonging and contributes to the overall quality of the neighborhood [62]. However, although the working hours are lively when the museums operating and the government entities working and the flock of usual tourists taking their tours, the area suffers from a decline of activity in the nighttime after the closing of the museums which leads to the emergence of some illegal activities like betting stalls [67].

4.3.3.3 Deira, Al Ras

Deira area is with the least urban heritage as it had been demolished largely for building four to five-floor residential buildings for expats since the 60s. Its scarce heritage forms include Ahmadiyya School (old schools turned into museums), House of the Poet Al Oqaili (Turned into a museum displaying the poet's life and works of literature), The Gold Souq, a covered traditional linear market known for its wide variety of gold and jewelry shops and is considered one of the largest gold markets in the world, with over 300 shops selling gold, silver and precious stones. Deira Grand Souq which is specialized in selling spices and textiles. Conservation practices in Al Deira are limited to restoring the markets, renovating their traditional architecture, and introducing new shops, restaurants, and cultural venues that can help revitalize the site [7].

4.3.3.4 Al Seef Street

Al Seef Street is an artificial extension of the Al Fahidi district which expands for almost 2 kilometers along Dubai Creek. Although it may share the characteristic of being an open-air museum with the previous urban heritage patches its construction follows a fundamentally different approach [69]. Developed by “Meraas” and completed in 2017,

the project aspires to blend contemporary elements with historical influences from the mid-late 1900s [70]. It includes shops, restaurants, and avenues with designs reflecting Dubai's vernacular architectural elements such as narrow corridors, market stalls, and other structures constructed to mimic traditional style. It also incorporates buildings with poor interpretation of traditional wind tower houses and uses new materials and artificially aged finishes such as rust on roadside structures and air conditioning units to boost the heritage atmosphere.

The project's main aim is to elevate the identity of Dubai as a modern city while preserving its cultural heritage and promoting it as an international tourism destination [68]. Its design critics may describe the project as a "historical fraud" as it borrows elements from the vernacular architecture of Dubai without a clear interpretative key. Another example of this is the replacement of narrow alleys "Sikka" -which are a characteristic of the urban fabric of Dubai- with historically unfamiliar enlarged routs, as the latter are more functional for contemporary uses [69]. The conflicting trends in development are clear in this project as it undermines the more serious preservation and rehabilitation initiatives undertaken by cultural and municipal entities in the neighboring Fahidi District. Further, the project houses completely contemporary structures that disrupt the historical context with an industrial and globalized style, creating an intense contrast with the heritage context [67].

Table 4.8 Comparing the urban heritage conservation and management approaches in Khor Dubai

	Al Fahidi Historic District	**Al Shindagha Historic District**	**Deira, Al Ras**	**Al Seef Street**
Historical Authenticity	**Authenticity is preserved** with buildings constructed from coral and limestone, retaining traditional courtyard designs and wind towers.	**Authenticity is considered** with the conservation, restoration, and revitalization of 150 traditional houses restored or reconstructed based on documentation.	**Limited Authenticity:** Scarce and scattered built heritage with a heavily disrupted traditional urban fabric.	**Limited Authenticity:** Developed as an **artificial** extension with a blend of contemporary elements and historical influences.

Table 4.8 Comparing the urban heritage conservation and management approaches in Khor Dubai (continued).

Urban Development Level	**Moderate:** - Interruptions in urban fabric with vehicle roads **reduce** urban quality. - Integration of heritage sites into the tourism sector **increases** urban quality.	**Moderate:** - Restoring physical structures and their associated cultural value **increases** urban quality. - Decline in activity during nighttime **reduces** urban quality	**High:** - Although heritage was demolished, the later residential apartment buildings meet the housing and working needs. - Conservation practices mostly focused on economically valued heritage forms i.e., the Souks.	**High:** - Lively area with shops, restaurants, and cafes. - Acts as an open-air museum. - Slight criticism for historical inaccuracy
Conservation & Management Approach	Restoration, Partial Reconstruction, and Adaptive Reuse	Restoration, Reconstruction, and Adaptive Reuse	Selective Restoration: Limited to restoring markets and two other heritage buildings.	Poor re-interpretation of heritage elements in a blend of old and contemporary styles.

4.3.3.5 Charters-based Urban Heritage Assessment

conservation practices in urban heritage patches across Khor Dubai are to be assessed according to instructions and guidelines stated by International Charters explained in (table 2.4). It is worth mentioning that Deira's urban heritage patch is not a whole, but rather scattered and divided among two large souqs and two other patches of adjacent heritage buildings, but in the context of this assessment, it will be treated as a whole urban heritage area infiltrated by modern structures and vehicle roads. Moreover, For the continuation and consistency of the research, Al Seef Street will also be treated and assessed as an urban heritage fabric. The assessment concludes that:

- In Al Fahidi District, Al Shindagha District, and Al Seef Street, the historic character of the urban heritage and its material and spiritual elements have been preserved successfully as they host structures of unified features of scale, style, materials, color, and decoration and reflect the historical theme, hence these three urban patches meet

principle 1. Contrastingly, Al Deira's urban heritage patches are extremely scattered among modern structures and therefore don't reflect any historical character.

- None of the urban conservation practices consider the housing function, therefore, none of them meet principle 2.
- Physical and functional interventions in Al Fahidi District, Al Shindagha District, and Al Seef Street did not mainly aim to improve life and work conditions, thus, they don't meet principle 3. However, the interventions in Al Deira's urban heritage patches - mainly the souqs- improved the work conditions for merchants there.
- In both Al Fahidi District and Al Shindagha District, architecture was carried out by experienced professionals. However, public participation was not considered, and hence, they partially meet principle 4. Expertise was also employed in Al Seef Street, but considering its Poor re-interpretation of heritage elements, its architecture does not seem historically or culturally sensitive or aware and therefore doesn't meet principle 4. Architecture in Al Deira is heavily modernized therefore don't meet the principle.
- both Al Fahidi District and Al Shindagha District have portions of Pseudo-historical that aim to mirror vernacular architecture; therefore, they partially represent what should be avoided according to principle 5. Al Seef Street is entirely manufactured so it doesn't meet principle 5. Al Deira doesn't have any pseudo-historical designs.
- Al Fahidi District, Al Shindagha District, and Al Seef Street are sporadically surrounded by modern structures that don't consider cultural-historic context, especially in terms of volume and height, therefore they only partially meet principle 6. Al Deira displays an intense presence of modern structures that are not harmonious or compatible with the historical context so it doesn't meet this principle.
- Public spaces in Al Fahidi District, Al Shindagha District, and Al Seef Street are well-managed and encompass a variety of urban furniture and features that contribute to good urban quality; thus, they meet principle 7. Al Deira however, doesn't have any public space in the traditional sense of the term, but its souqs can be classified as public spaces and they are too well-designed and managed, so it partially meets principle 7.
- Al Fahidi District and Deira don't meet principles 8 and 9 as they host numerous parking lots and are heavily penetrated by vehicle roads and surrounded by traffic. Al

Shindagha District and Al Seef Street, on the other hand, enjoy better isolation from vehicle roads and more pedestrian-centered movement patterns especially alongside the cornice, therefore they partially meet principles 8 and 9.

Table 4.9 Charters-based assessments of urban heritage conservation across Khor Dubai.

Urban Heritage conservation principles from international charters	Al Fahidi District	Al Shindagha District	Deira	Al Seef Street
Principle 1. The historic character of a historical area and its associated material and spiritual elements including scale, style, construction, materials, color, and decoration should be preserved	Met	Met	Hardly met	Met
Principle 2. The improvement of housing should be one of the basic objectives of urban conservation.	Hardly met	Hardly met	Hardly met	Hardly met
Principle 3. Physical and functional interventions in historical urban areas should improve life and work conditions.	Hardly met	Hardly met	Partially met	Hardly met
Principle 4. Architecture in historic areas requires cultural knowledge and public participation.	Partially met	Partially met	Hardly met	Hardly met
Principle 5. Pseudo-historical design must be avoided.	Partially met	Partially met	Met	Hardly met
Principle 6. Modern structures in historic areas should consider the cultural-historic context, and respect the context's scales, volumes, and heights.	Partially met	Partially met	Hardly met	Partially met
Principle 7. Public spaces should be designed and constructed with respect to historic fabric and to improve urban quality.	Met	Met	Partially met	Met
Principle 8. Traffic and parking lots in a historic urban area must be controlled and planned so that they do not damage the historic fabric.	Hardly met	Partially met	Hardly met	Partially met
Principle 9. Main Vehicle roads in a historic urban area should improve its accessibility without disruptively penetrating it.	Hardly met	Partially met	Hardly met	Partially met

4.3.3.6 Khor Dubai Enlistment as a UNESCO Heritage Site

Khor Dubai has been nominated under criteria (ii) as "an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change"

Additionally, Khor Dubai is also nominated under Criteria (iv) as "an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history"

The nomination of Khor Dubai as a World Heritage Site is still under review by UNESCO's World Heritage Committee and it's yet to be decided whether it will be granted the status of World Heritage Site [71].

4.3.4 Assessing Heritage Buildings Conservation Across Khor Dubai

4.3.4.1 Sheikh Saeed Al-Maktoum House

located in the Al Shindagha area, it was the residence of Sheikh Saeed Al-Maktoum, the ruler of Dubai from 1921 to 1958, and the administrative headquarters for the city. It was built in 1896 with an area of 3600 square meters and is considered the largest and oldest house in Al Shindagha District. The house is a two-story building of a traditional courtyard design with a grouping of four living units through the main courtyard with two smaller courtyards on the sides and a total of 30 rooms. Each living unit can be considered an independent suite for each of the Sheikh’s sons. The layout also encompasses a public majlis on the ground floor and a summer majlis on the first. The house has two entrances, a main one and a secondary one from the creek side. The building also has a terrace offering a panoramic view of the creek and the city of Dubai [72].

In 1981, it underwent a restoration process managed by Dubai Municipality based on architectural documentation and aiming to repair its components and preserve them as they were. It started with strengthening the structure, its foundations, and ceiling and installing electromechanical networks while preserving the original design. Then, wall finishes were applied externally and internally with Faroosh plaster made of sand, lime, and some cement [73]. The restoration was prioritized using traditional building methods and local materials including palm trunks, coral shells, coral stone, wood joists, and woven mats. In walls, a combination of clay, sands, gypsum, and limestone was used, and the wall's thickness was 0.5 m and 1.6 m on the interior and exterior respectively. Roofs, on

the other hand, are of different heights which allowed air circulation and natural lighting, and they were reconstructed using palm and wood [74]. The work was completed in 1986 and the house re-opened as a museum featuring several exhibitions that showcase the history and culture of Dubai, the historical development of the region, and the lifestyle of its inhabitants. It also displays the life of the ruling family through Sheikh Saeed Al-Maktoum's personal collection of photographs, maps, and artifacts [72].

The layout also features other notable architectural elements including four wind towers, the colonnaded verandahs on the ground floor, gypsum decoration above the openings, arched niches for decoration or arched windows. Its exterior facades are solid with minimum openings to provide privacy and reduce sun exposure. Interior and exterior walls also have recesses with gypsum decoration of geometric patterns and plant motifs [73].

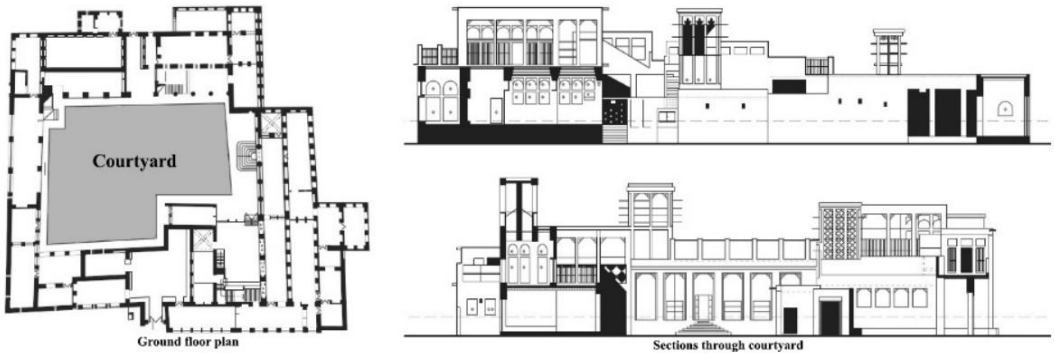


Figure 4.17 Sheikh Saeed Al Maktoum's house plan and sections. Source: [75].

Heritage values displayed in Sheikh Saeed Al-Maktoum House:

- Design value: The house layout is the most sophisticated example of Dubai's traditional architecture. The design value increases with it being a rare example of a multi-courtyard design with multiple wind towers and independent living units which gives an insight into the social life of its past inhabitants.
- Aesthetic value: Most notably the aesthetic value derives from the diverse handling of the opening with some of them being arched, others having multiple recesses, and

others having decorative recesses on top of them covered with gypsum decorations of geometric and plant patterns. Teak woodwork doors, windows, and mezzanines of different designs are of visual value. Another feature is the recesses on exterior and internal walls used for hidden lighting.

- Technical value: The construction of walls using traditional materials based on the geographical location including coral stones, lime mortar, and palm trunks, and the usage of wind towers have technical value.
- Historical value: Being the oldest and largest houses in historic Shindagha, reflecting the architectural evolution over time and providing documentation of lifestyles and social structures in the ruling family.
- Environmental value: Building materials and wall thickness ensure thermodynamic efficiency. Wind towers help replace heated air with cooler air through a natural process. Openings, courtyards, and the difference in heights regulate the local climate by adjusting airflow and providing natural lighting.
- Functional value: The house has an economic value in its adaptive reuse and role in promoting cultural tourism. It has an educational value in its new function as a museum. And a social value as it reflects social practices and cultural beliefs and boosts national identity.

Table 4.10 Value shift post interventions in Sheikh Saeed Al-Maktoum House.

The value	Criteria met		Interventions made	Value shift
Design	- Example of sophisticated traditional architecture. - Example of multi-courtyard layout.		-Restored / Repaired original design and architectural style. - Structural elements strengthened.	Preserved
Aesthetic	- Diverse decorations of openings. - Decorative recesses - Ornamented woodwork	 	Restored / Repaired as per the original	Preserved
Technical	Usage of local materials and building methods		Restored with using the same original building materials and techniques. - Occasional usage of modern materials like cement in finishes and steel in strengthening.	Preserved
Historical	- The oldest and largest houses in historic Shindagha. - Documentation of lifestyles and social hierarchies in the ruling family		Adaptive reuse to a museum displaying the life of the ruling family and the evolution of Dubai City.	Preserved
Environmental	- Wind towers and courtyards for air circulation. - Thick walls for thermal efficiency.		- Electromechanical installations. - Wind towers are not operating.	Decreased
Functional	Original function: administrative, residential, and social		- Adaptive reuse gives Economic value in promoting cultural tourism, educational value as a museum, and social value in promoting national identity	Preserved

4.3.4.2 Al Fahidi Fort (Dubai Museum)

Constructed in 1799 near Dubai Creek, and located in Al Fahidi District, Al-Fahidi Fort was originally the residence of the ruling al-Maktoum family from Abu Dhabi in 1833, the fort is the city's oldest extant building, serving a defensive purpose to guard the town's land entrances against neighboring tribes. The fort was built of coral stones and mortar in several phases, starting with the oldest tower in 1787. Its low mud-brick walls with wind towers reflect influences from the Indian Ocean region. It contains the ruler's palace, a garrison, and a prison. In 1971, The Fort was repurposed to a museum, later in 1995 modern galleries were added in the basement level (Figure 4.18). The original Fort has a square layout with towers on three of its corners. Outside its southern wall, there is a reconstruction of the old city's defensive walls. The walls of the Dubai Museum contain shards of coral stones and shells mixed in the mud, and their dilapidated condition is preserved to maintain a sense of its history. The museum's gate is surrounded by cannons to emphasize the structure’s original defensive functions. In the outer square in front of the fort, there is a tower and a large dhow (traditional boat) that serves as an outdoor monument holding the museum's signage. This square covers the underground basement galleries. Insider the fort, rooms surround a central courtyard. In the courtyard, there is a bronze cannon with cannonballs, a well, and various boats. In the corner stands a traditional summer suite called Arish which is constructed solely of weaved palm fronds. This section is designed to act as a separate house used during summer, it has sleeping areas, living areas, and a kitchen. It is now used to display heritage household items and furniture. This section also has its own wind tower for wind catching and cooling in the past times. The basement is also a gallery with Visual display media narrating Dubai's history, from archaeological discoveries to underwater exhibits of marine life in the Persian Gulf. Other exhibits display weaponry, military technology, and a reconstructed exemplary wooden “Barasti house” which is a village architectural dwelling style unique to the region and constructed with palm fronds on a wooden frame). This building helps construct a nationalist history, emphasizing native locals’ narrative and their connection to the land [76].

Heritage values displayed in Al Fahidi Fort:

- Design value: The fort's architecture is a prime example of the vernacular architecture of the UAE, reflecting the distinctive style of the Arabian Gulf with influences from Indian and Persian styles. Unique architectural elements of the regional architectural style include the wind towers, the Areesh, and the courtyard. It also reflects in its layout of defensive architectural façade elements such as machicolations, or spatial elements such as the three defensive towers, the prison, and the garrison.
- Aesthetic value: The fort's walls' texture and colors complement the heritage theme and ensure a harmonious visual integration with the natural surroundings. The attempts to maintain their dilapidated condition further elevate the sense of their history and create a holistic sensory experience which is further boosted by the installation of "monuments" across the fort such as the canons and the boats. The ornaments are simplistic and humble focused mainly around the openings' niches and the parapets.

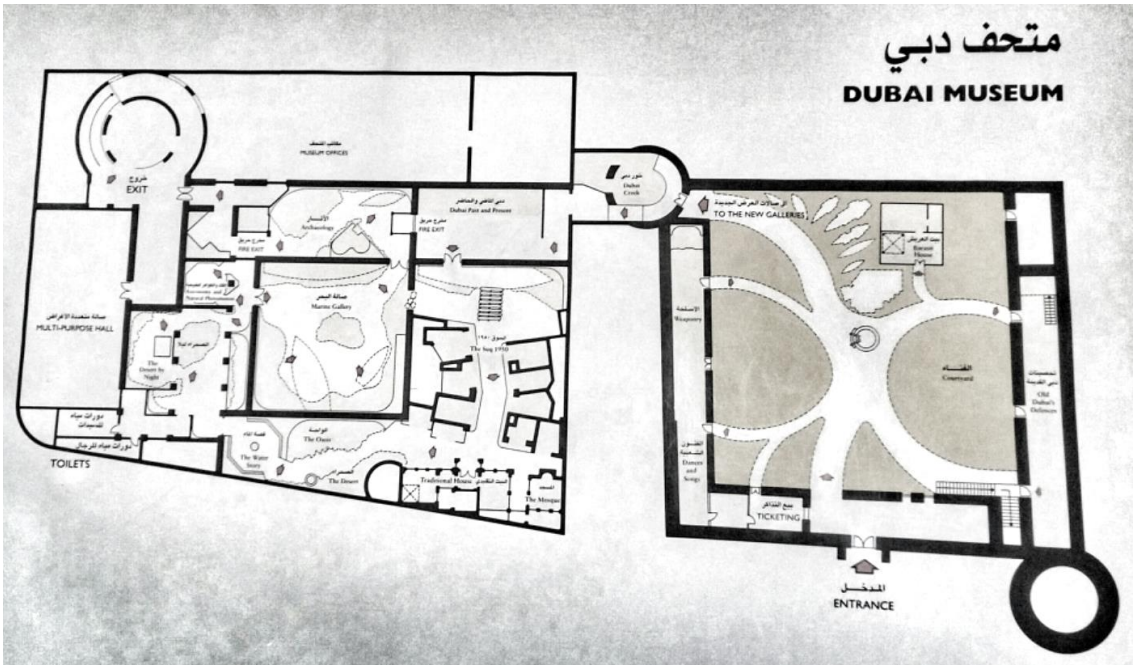


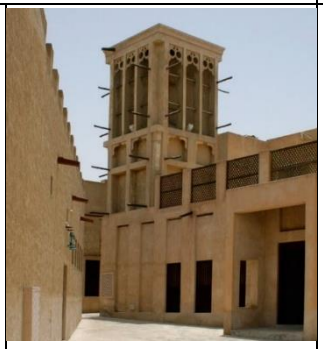
Figure 4.18 Al Fahidi Fort aka Dubai Museum's plan showing the ground floor on the right and the underground galleries on the left.

- Technical value: Located near a body of water "The Creek", the fort is built using coastal building methods including shells, coral, and marine stone, joined by mortar. Al Arish -as a summer suite- is built of weaved palm for maximum ventilation.
- Historical value: Being a defensive structure and a former ruler's residence, the Fort reflects distinctive features from various historical periods and serves as a tangible record of political, social, and economic trends, documenting the past events that continue to hold symbolic significance for society.
- Environmental value: is evident in the adaptivity of its building strategies to the harsh climate and resource scarcity through the use of locally available materials, the construction of thick walls for isolation, and the incorporation of a wind tower and a courtyard for natural cooling and ventilation. Moreover, Al Arish as a full housing summer housing unit for summer days further boosts passive design strategies that respond to the environmental context.
- Functional value: despite omitting the fort's original function as a defensive and administrative structure, its adaptive reuse into a museum serves an educational value in promoting cultural heritage and historical awareness. Its social value lays preserving collective memory and strengthening the community's identity. It also has economic value in boosting cultural tourism and branding the city's urban identity.

Table 4.11 Value shift post interventions in Al Fahidi Fort.

The value	Criteria met		Interventions made	Value shift
Design	- Example of regional defensive architecture / vernacular architecture.		Reconstructing/restoring original design and architectural style. - The addition of underground galleries to the original basement.	Decreased

Table 4.11 Value shift post interventions in Al Fahidi Fort (Continued)

Aesthetic	- Wall texture and colors - Simplistic façade ornaments. - Contextual compatibility		Reconstructed authentically following historical records and photographs	Preserved
Technical	- usage of coral, shells, and limestones in walls. - Usage of weaved palm in Al Arish	 	Reconstructing using the same original building materials and techniques	Preserved
Historical	- Former residence of the ruling family. - Documentation of past events.		Adaptive reuse to a museum displaying the military history of Dubai and the life of the ruling class.	Preserved
Environmental	- Locally available material - Al Arish as a summer housing unit - Wind tower.		Electrical installations and air conditioning.	Decreased
Functional	The original function is administrative, legislative, and residential.		Adaptive reuse creates educational and cultural values through raising awareness of cultural heritage, economic value by promoting cultural tourism, and social value in preserving collective memory and a sense of belonging	Preserved

To conclude, in assessing the conservation of heritage buildings across Khor Dubai, two prominent structures, Sheikh Saeed Al-Maktoum House and Al Fahidi Fort (Dubai Museum), showcase distinct architectural, historical, and cultural values. The conservation practices range from preservation, repair, restoration, adaptive reuse, and partial reconstruction. Comparatively, both structures showcase evident commitment to conserving heritage and successfully balance preservation with dynamic adaptation as they both undergo adaptive reuse, transforming into museums. Sheikh Saeed Al-Maktoum House leans on traditional restoration methods that stay true to its original design and values. While, Al Fahidi Fort, although preserving most of its features, introduces slight modifications to the original design through the additional galleries. Unfortunately, both structures had a decrease in environmental value due to modern interventions of electrical installations and air conditioning. To restore environmental value, it can be recommended to revitalize wind towers to reduce the reliance on electric ventilation and air conditioning, integrating renewable energy solutions like solar panels to enhance sustainability. It can also be recommended to develop community programs within the museums to foster social interaction.

4.3.4.3 Charters-Based Architectural Heritage Assessment

In the following section and (table 2.3), the heritage buildings examples selected from Khor Dubai, that is Sheikh Saeed Al-Maktoum House and Al Fahidi Fort, will be assessed according to their adherence to International Conservation Charters' principles and instructions displayed in (Table 4.12), as follows:

- Both heritage buildings underwent a period of decay and had some of their parts demolition, therefore they don't fully meet principle 1.
- Both heritage buildings partially meet principle 2 as they still hold most of their cultural significance, however, the cultural significance was undermined by omitting their original function.
- The regular maintenance instructed in principle 3 and the safeguarding of the heritage buildings are applied in both examples.

- Sheikh Saeed Al-Maktoum House meets principle 4 as it employed traditional building methods and materials in its restoration/reconstruction process and limited the usage of modern techniques unless needed. Al Fahidi Fort, on the other hand, used modern techniques even when they weren't needed in the underground galleries and the additional ground-level separate museum entrance.
- Both buildings met the 5th principle as their conservation process followed historical documentation.
- Both buildings meet principle 6 since they display historical continuity and readability as no traces of certain periods were erased.
- Both buildings partially meet principle 7 because the interventions they underwent which reduced their cultural significance are limited and therefore do not need to be reversed.
- Both buildings meet principle 8 as they had reconstructions only in their damaged and incomplete parts.
- The original uses of Sheikh Saeed Al-Maktoum House and Al Fahidi Fort, that is, a ruler's residence and headquarters respectively, are clearly of cultural significance, therefore, the buildings don't meet principle 9.
- Sheikh Saeed Al-Maktoum House meets principle 10 as its adaptive reuse did not require any alteration to its layout and physical attributes, Al Fahidi Fort however, underwent a few changes represented in the addition of underground galleries and the separate museum entrance.

Table 4.12 Charters-based assessments of heritage buildings' conservation in Khor Dubai.

Architectural conservation principles from international charters	**Sheikh Saeed Al-Maktoum House**	**Al Fahidi Fort**
Principle 1. Demolition of parts of a place is not acceptable.	Partially met	Partially met
Principle 2. All aspects of cultural and natural significance should be considered equally	Partially met	Partially met
Principle 3. Maintenance should be conducted regularly.	Met	Met
Principle 4. Restoration must prioritize using traditional materials and techniques and only resort to modern techniques when the structure is at risk.	Met	Partially met

Table 4.12 Charters-based assessments of heritage buildings' conservation in Khor Dubai (Continued).

Principle 5. Restoration must follow historical documents and avoid conjecture. Modern interventions should be identifiable.	Met	Met
Principle 6. The contributions of all periods to the building of a monument must be respected.	Met	Met
Principle 7. Interventions that reduce cultural significance should be reversible.	Partially met	Partially met
Principle 8. Partial reconstruction is permitted only where a structure is incomplete and damaged and it should be identifiable.	Met	Met
Principle 9. If the original use of a structure has cultural significance, it must be preserved.	Hardly met	Hardly met
Principle 10. Adaptive reuse is permitted with minimal change to the structure's layout and physical attributes.	Met	Partially met

4.3.5 Comparison with Jeddah Historic District

A. Comparing general features

- Both cities are coastal; Jeddah is on the Red Sea and Khor Dubai is on the Arabian Gulf. Both became strategic hubs for coastal trade. However, the importance of Jeddah’s location was re-affirmed due to Haj and for being the landing harbor for all the pilgrims coming through the Red Sea.
- Both cities underwent similar morphological evolution phases and they share a similar coastal hot climate that shaped their local traditional architecture.
- As for historical areas, Jeddah Historic District (JHD) has been inhabited since the 7th century while Khor Dubai's recorded history traces back to the 19th century. Yet, both historical districts were built as houses for rich merchants and were considered examples of sophisticated architecture in their time.

B. Comparing Urban Planning and Management

- Both historical areas underwent similar neglect and degradation phases with the vast modernization in the mid-20th century. They witnessed the construction of medium-rise apartment buildings in the 70s and had an awakening national recognition of the importance of urban heritage since the 90s which led to government-led revival and conservation efforts. Within this phase, JHD's urban plan seems compacted and

uninterrupted, it showcases a clear urban core surrounded by a clearly defined buffer zone that eases the transition between old and new (Figure 3.2). Khor Dubai's layout is more fragmented and consists of four separate urban heritage areas without clear buffer zones (Figure 4.15).

- JHD is a lively historical urban center that is used today for living, various types of work, and other activities. This renders the site socially sustainable and improves its social engagement. In contrast, the urban heritage patches of Khor Dubai on the other hand, function mainly as an open-air museum and tourist attraction with some economic, cultural, and administrative activities but without any residential role. This makes the site lifeless and deserted after working hours.
- Both areas host a range of cultural and artistic events and seasonal festivals that highlight their heritage.

D. Comparing Heritage Conservation Practices

- Both sites show a commitment to preserving and reviving their regional architectural heritage. JHD's most celebrated traditional architectural form is the Roshan tower houses, while Khor Dubai's one is the wind towers and courtyard houses. JHD's conservation process values historical accuracy as it mainly includes repairing and rehabilitating damaged buildings with occasional reconstruction projects. They employed adaptive reuse to restore buildings turning them into museums, hotels, and restaurants. Khor Dubai on the other hand, across its different patches of urban heritage showcased a range of authentic reconstruction, authentic restoration, repairing, interpretive reconstruction, and replication. Adaptive reuse is also used in Khor Dubai mainly for cultural functions.
- Both cases used traditional building materials and methods in their authentic restoration practices. In JHD, a broad urban development process was carried out to improve roads and services infrastructure and rehabilitate public spaces. Khor Dubai showed a lower level of infrastructure development. Both areas designated heritage walkways for visitors.

E. Recognition as a World Heritage Site

- JHD as a recognized world heritage site, and Khor as a potential world heritage site, have both submitted their file under the “Outstanding Universal Value”, with JHD meeting criteria 2,4,6 and Khor Dubai seeking criteria 2,3,5.
- In their shared criteria (ii), both sites reflect an exchange of human values on architecture and urbanism in a regional context and a specific era. JHD uses building materials related to the Red Sea region, has been an international sea trade route since the 16th century, and has a rich cultural and religious background. Khor Dubai exhibits an important interchange of human values and influences, bringing in elements and forms from different architectural styles that produced a specific and intense use of wind towers and courtyard houses.
- Regarding integrity, the current JHD covers about one-third of the original walled-in city. It contains distinct architectural attributes and has managed to preserve its historical relation to Haj and trade. Khor Dubai has partially preserved its physical appearance and fully preserved its economic function as the main commercial axis linking Dubai with the rest of the Gulf. Nevertheless, both sites face challenges in preserving their remaining physical and economic attributes to maintain integrity.
- Regarding authenticity, both sites, underwent restoration processes that tried to respect the original urban, traditional building techniques, materials, and symbolic architectural elements, with JHD being more authentic.

Overall, this comparison highlighted the main differences and similarities between JHD and Khor Dubai. In terms of acknowledgment as a world heritage site, it can be argued that the reason for JHD's success is due to its richer and more ancient history as well as the uniqueness of its tower houses, which are factors Khor Dubai can’t develop. However, it is clear that more focus must be directed to the authenticity of conservation in Khor Dubai which has been undermined by replicas, especially in Al Seef Street. Designating buffer zones and establishing a whole connected and walkable urban heritage site is another practice that can improved. As for general recommendations that may elevate the overall urban conservation and management practices in Khor Dubai, integrating a residential presence is crucial.

CHAPTER 5

CONCLUSION

This research aimed to address the degradation of built heritage in the United Arab Emirates due to rapid urbanization focusing on the Heart of Sharjah and Khor Dubai. During the first stages, the systematic literature review of similar studies addressing conservation practices in Dubai and Sharjah has led to determining the knowledge gap and defining the qualitative methodology for its alignment with the nature of the study. It was decided that the study would employ interpretive qualitative methods, including literature review, visual data analysis, and case studies. Built heritage conservation practices, on both urban and architectural levels, were evaluated according to international charters and other approaches. The research was seeking to answer questions about current practices' effectiveness, strengths, and weaknesses; with the ultimate goal being to propose recommendations for enhancing urban heritage conservation and management practices in Sharjah and Dubai.

5.1 Summary of Findings

5.1.1 Key Findings from Literature

- Throughout history, architectural and urban heritage conservation practices have evolved. In ancient eras, such practices focused on religious and city authority glorification. The Middle Ages saw unconscious attitudes toward past traces, with neglect, and deliberate destruction. The modern era brought recognition of cultural identity, replica reconstruction after conflicts, and diverse conservation approaches.
- International Charters on Conservation, first introduced in the 20th century, gradually shifted from focusing on individual historical monuments to a comprehensive understanding of urban heritage.

- In the past 50 years, urban heritage conservation has evolved with concepts such as a community-based approach, sustainable development, living heritage, and value-led conservation which was used in this study.
- Regional restoration examples in Qatar, KSA, Bahrain, and UAE, have several features in common including historical and socio-economic developments, arid conditions, and social values, therefor they follow similar conservation approaches.
- UAE built heritage is characterized by values encompassing design, aesthetic, technical, historical, environmental, and functional aspects. The design value is evident in vernacular architecture, featuring wind towers, courtyard houses, and a compact urban fabric reflecting the region's cultural context. Aesthetic value emphasizes simplicity, earthy colors, and human-scale structures. Technical value is observed in innovative building techniques responding to diverse regional conditions. Historical value is embedded in the heritage's documentation of past generations' adaptability and cultural practices. Environmental value highlights adaptation to the Gulf region's harsh climate through sustainable architecture. Social value is evident in the heritage's contribution to social interactions, community identity, and cultural practices.

5.1.2 Key Findings from Case Studies

- Results from micro-level assessments of restored/reconstructed heritage buildings suggest that they face the challenges of preserving design authenticity, decreased environmental value, lack of historical documentation that can drive the restoration, and balancing conservation with profitability.
- Results from the charters-based heritage buildings assessment suggest that the main challenges faced are the preservation of cultural significance, use of traditional methods, historical documentation, and adaptability to principles like preventing demolition and ensuring historical continuity. The Souqs stood out for meeting principles related to historical continuity and original use.

- Results from charters-based Marco-level assessment state that, in both Heart of Sharjah and Khor Dubai, challenges include partial adherence to principles due to pseudo-historical designs, neglect of housing, neglect of improving work and life conditions for occupants, lack of public participation, and disruptions caused by modern structures and vehicle roads.
- Results from Heart of Sharjah's public realm assessment declare that they lack urban furniture and greenery, with limited water surfaces, and disconnection from the cornice. While adaptable for events, there's a need for urgent improvements in pedestrian accessibility, social engagement, and environmental sustainability. Safety measures are high, but the confusing road network poses risks.
- Comparison with Souq Waqif concluded that Heart of Sharjah's lack of public engagement is most likely due to its lack of amenities, its poor connectivity, and walkability. Comparison with the Jeddah Historic District concluded that Khor Dubai's challenges include a lack of housing functions, a lack of authenticity especially in Al Seef, and challenges in preserving its physical and economic attributes.

5.2 Recommendation

For Improving Urban Heritage Conservation in Both Cases

1. Focus on authenticity, addressing challenges posed by replicas.
2. Designate buffer zones for enhanced conservation.
3. Establish a connected and walkable urban heritage site.
4. Integrate a residential presence for overall improvement in conservation and management practices.
5. Improve historical documentation for future conservation projects.

For Improving Architectural Heritage Conservation in Both Cases

1. Maintain historical continuity in design and function.
2. Avoid replicas and modern interpretations of architectural heritage. Follow rigorous historical documentation in the conservation process.
3. Emphasize traditional building methods and materials in restoration, limiting modern techniques.
4. Revitalize wind towers to reduce reliance on electric ventilation and air conditioning, thereby restoring environmental value.
5. Integrating renewable energy solutions, such as solar panels, to enhance sustainability.
6. Develop community programs within the re-used heritage buildings (now museums) to foster social interaction and engagement.

For Improving the Quality of the Public Realm in the Heart of Sharjah

1. Introduce more greenery and Increase seating areas, food options, and amenities for a better visitor experience.
2. Re-establish a connection to the nearby sea.
3. Increase environmental sustainability through expanding the green infrastructure and enhancing renewable energy usage and water management.
4. Enhance pedestrian walkways and develop bike lanes.
5. Foster collaborative approaches and consultative planning for inclusivity.

5.3 Importance of the Study

This research attempted to bridge a significant knowledge gap regarding urban heritage conservation practices in the historic districts of Sharjah and Dubai, its importance can be defined mainly in these aspects:

- Holistic analysis and knowledge gap bridging: The study presents a comprehensive qualitative assessment of the entirety of an urban fabric by

undertaking multiple analyses examining the practices applied within its different elements, that is, individual heritage structures, urban fabric, and the intervening public spaces.

- Recommendations and future guidance: The research transcends theoretical analyses by offering practical recommendations that can be considered both in the cases of Sharjah and Dubai, in other conservation or management practices in the UAE, or even in global contexts.
- Regional importance and comparative analysis: Since the study presents an extended regional outlook reviewing other conservation examples of similar features in Qatar, KSA, and Bahrain, it aims to understand the regional common approaches to extract lessons that can be adopted by Sharjah and Dubai. Moreover, the regional importance of this study goes the other way as well since all discussions made regarding Sharjah and Dubai offer valuable insights for any future regional conservation practices.
- Importance in post-crisis reconstruction and rehabilitation field: The recommendations provided offer some insights on rebuilding and revitalizing heritage urban areas after crises. The experiences of Sharjah and Dubai can serve as both a cautionary example in favor of preserving and safeguarding of built heritage, and a role model in committing to reconstruct and regenerate post-crisis.
- Relevance in the heritage conservation field: The study endorses the built heritage conservation guidelines, and its current status analyses of the case studies reaffirm the validity of many conservation approaches advocating for sustainability, public participation, authenticity, and integrity.

5.4 Potential for Future Studies

The current research lays a foundation for further studies in several key areas related to urban heritage management, conservation practices, and post-crisis reconstruction. The potential for future studies is vast, but during the work on this thesis, numerous aspects were found unexplored but seemed to be intriguing and important, to name a few:

- Broader assessment of built heritage conservation practices: Following similar methods to the ones used in this study, further assessments can be made, whether on the levels of Sharjah and Dubai, in other emirates, or other regional or global settings.
- Public participation and stakeholder engagement: Further studies can delve more into surveying and assessing public participation in urban heritage conservation in the planning, decision-making, and management phases. This can also be accompanied by examining the impact of such participation on community building, national identity building, inclusivity, and the social sustainability of conservation initiatives.
- Broader comparative heritage studies: Future comparative studies across different cultural contexts can be made, examining how varying sociocultural, political, and economic factors influence urban heritage conservation practices and outcomes.
- Resilience of the UAE's restored heritage: Disasters as growing phenomena globally and in the context of UAE specifically, are an area that had the potential to be examined and discussed in terms of reconstruction and conservation. Most of UAE's urban heritage is located in coastal areas threatened by rising sea levels in the future and urban floods yearly. The vulnerability of the built heritage, the protection measures, and the consideration to which the conservation practices have paid to this risk can all be assessed.
- Conservation practices and sustainable development potential: Future research could systematically integrate the United Nations' Sustainable Development Goals (SDGs) into the evaluation framework for urban heritage conservation. This approach would align conservation efforts with broader global sustainability objectives, and interconnect with some of the UAE's future visions and plans such as Vision 2030 and 2050.

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CURRICULUM VITAE

PERSONAL INFORMATION

Name Surname: Juman Hasan

Date of Birth:

Phone:

E-mail:

EDUCATION

High School: Younes Al Rashed High School, Aleppo, Syria.

Bachelor: B.A.Sc. in Architectural Engineering, Aleppo University, 2019

WORK EXPERIENCE

Administrative and Project Coordinator: Contracting L.L.C, Sharjah, UAE. 2020 - 2022

Architectural draftsman: Decoration and Interior Design L.L.C. Dubai, UAE, 2023 - present.

TOPICS OF INTEREST

- Architectural and Urban Heritage Conservation and Rehabilitation.
- Architectural Design.
- Project Management.