FORMULATION OF CONSERVATION GUIDELINES FOR RESIDENTIAL HERITAGE BUILDINGS IN THE OLD CITY OF GHADAMES, LIBYA

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FORMULATION OF CONSERVATION GUIDELINES FOR RESIDENTIAL HERITAGE BUILDINGS IN THE OLD CITY OF GHADAMES, LIBYA

by

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LIST OF ABBREVIATIONS

AAF	Ain Al-Faras
AC	Appleton Charter
ACP	Approaches of Conservation Program
BC	Burra Charter
CIB	Conseil International du Bâtiment (in English: International Council for Building)
BTU	British Thermal Unit
ICCROM	International Centre for the Study of the Preservation and Restoration of Cultural Property
ICOM	International Council of Museums
ICOMOS	International Council of Monuments and Sites
IGO	Intergovernmental Organisation
IIC	International Institute of Conservation
MDGs	Millennium Development Goals
MGC	Municipality of Ghadames City
OCG	Old City of Ghadames
OG	Operational Guidelines
OUV	Outstanding Universal Value
UNA	United Nations Agencies
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VC	Venice Charter
WHC	World Heritage Centre
WHS	World Heritage Site

PEMBENTUKAN GARISPANDUAN PEMULIHARAAN BANGUNAN KEDIAMAN WARISAN DI BANDAR LAMA GHADAMES, LIBYA

ABSTRAK

Libya sangat kaya dengan warisan dan budaya kuno. Bandar lama Ghadames (OCG), sebuah tapak warisan dunia berdaftar UNESCO, merupakan sebuah contoh seni bina kukuh yang menyediakan keselesaan, kefungsian dan keberkesanan kos (*cost-effectiveness*) dalam gaya seni bina Ghadamsi yang unik dan teknik binaan tradisional. Walau bagaimanapun, tahap kepekaan (*awareness*) mengenai bangunan-bangunan warisan di Libya adalah pada tahap yang sangat rendah. Kebanyakan bangunan-bangunan warisan ini mempunyai risiko mengalami kerosakan yang tinggi dan ianya mempunyai kesan negatif (*negative effects*) terhadap *Outstanding Universal Value* (OUV) bagi OCG. Selain dari itu, apa yang ketara adalah tidak banyak penyelidikan yang telah dibuat mengenai bangunan-bangunan warisan, secara amnya, di Libya dan khususnya di OCG. Penyelidikan ini bertujuan menentukan integriti struktur bangunan warisan kediaman OCG serta menyediakan dan membangun garis panduan bagi pembaikan serta pemuliharaan bangunan warisan tersebut. Metodologi yang digunakan dalam penyelidikan ini termasuk sorotan literatur, analisis kes kajian dan tinjauan pembinaan dan kecacatan bangunan warisan kediaman OCG yang dikendalikan bagi menghasilkan data yang mencukupi. Tambahan pula, sesetengah maklumat tentang isu dan masalah pemuliharaan bangunan warisan kediaman OCG dikumpul melalui temu bual dengan pakar binaan tempatan dan dua jabatan kerajaan di Libya iaitu Kementerian Pelancongan dan Majlis Perbandaran. Penyelidikan ini telah mengenalpasti beberapa kelemahan di dalam proses pemuliharaan bangunan-bangunan kediaman warisan di OCG dan mengutarakan beberapa garis panduan asas untuk menangani keadaan ini agar proses pemuliharaan dibuat dengan, yang paling utama adalah: mengambil kira nilai-nilai sejarah dan rekabentuk yang tersendiri dan teknik pembinaan asal hendaklah diguna pakai. Rekabentuk bersejarah hendaklah dibaik pulih dan tidak diganti. Reka bentuk, tekstur dan warna hendaklah dikekalkan jika gantian perlu dibuat bagi bahagian-bahagian yang sudah rosak teruk. Selain dari itu, proses rawatan kimia yang boleh menyebabkan kerosakan kepada bahan-bahan bersejarah tidak boleh digunakan. Kajian juga mendapati bahawa kerja-kerja penyenggaraan berkala tidak dilaksanakan dan cuaca dan keadaan persekitaran juga menyebabkan kerosakan yang dialami. Dapatan dari penyelidikan yang dibuat ini boleh digunakan untuk mengenalpasti elemen perundangan baru atau yang boleh diperketatkan, yang perlu diberi pertimbangan sewajarnya oleh kerajaan Libya dalam usaha melindungi peninggalan warisan, dan, memperbaiki polisi pemuliharaan dan pembaikpulihan, juga untuk mengekal atau meningkatkan OUV bagi OCG.

FORMULATION OF CONSERVATION GUIDELINES FOR RESIDENTIAL HERITAGE BUILDINGS IN THE OLD CITY OF GHADAMES, LIBYA

ABSTRACT

Libya is a treasure chest of heritage and ancient cultures. The old city of Ghadames (OCG), a UNESCO registered world heritage site, is an outstanding example of sound engineering practices providing comfort, functionality and cost-effectiveness in a uniquely Ghadamsi architectural style and traditional construction techniques. However, the level of understanding of the heritage buildings in Libya still remains very low and many heritage buildings are at risk from defects which in turn affects the Outstanding Universal Value (OUV) of the OCG. Furthermore, there is a significant lack of researches conducted on heritage buildings in Libya in general and in the OCG in particular. This research aims to determine the structural integrity of the residential heritage buildings of the OCG as well as to provide and develop conservation guidelines for repairing and conserving those heritage buildings. The methodologies used in this research include a literature review, analysis of case studies, and a survey of construction and defects of the residential heritage buildings of the OCG that has been conducted to generate sufficient data. Moreover, some information about issues and problems of conservation of the residential heritage buildings of the OCG are gathered by carrying out interviews with local experts on construction practices and two local official government departments in Libya which are, Ministry of Tourism and Municipality. The research concludes some conservation guidelines for the residential heritage buildings in the OCG; the most important of them were: the historic character of a property, distinctive features and construction techniques shall be retained and preserved. Deteriorated historic features shall be repaired rather than replaced. If the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, colour, texture and materials. In addition, chemical treatments that cause damage to historic materials shall not be used. The research also finds that the lack of routine maintenance and severe environmental conditions have caused extensive damages to many OCG residential heritage buildings. The research's findings may be used to identify new or strengthened legal elements that Libya should take into account in its protected heritage area legal frameworks as well as to enhance conservation policies and the OUV of the OCG.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Heritage conservation is important for identifying, recording, analysing and protecting heritage and cultural resources. Conservation of heritage buildings is an important tool in city development which can be seen in some cities in the world. It plays an important role to define the landmark within the heritage area as well as to generate economic return and to support the tourism industry. Conservation of heritage buildings is very important because it provides a sense of identity and continuity in a fast changing world for future generations. Heritage buildings basically represent the past history and culture of a nation. They constitute together the architectural heritage of an area. Heritage buildings possess historical values resulting from their beautiful architecture and their correlation with important events that occurred in the heritage area such as religious, social and political events.

1.2 Background Information

Heritage buildings are existing buildings with significant cultural value to society. Existing buildings are subjected to processes of degradation with time, which leads to a situation in which they are not able to fulfil the purpose for which they have been built. Sometimes, there is the need to improve the conditions offered by the existing buildings or to study its structural integrity. Studying the structural integrity of heritage buildings is the evaluation of the collected data related to the safety of the building, with the objective of deciding whether its structural safety is sufficient, or not. It is an essential phase of an

intervention of conservation, because it is when it is decided if measures are necessary and to what extent (CIB Commission, 2010).

Therefore, structural damages of heritage buildings can result from the degradation of the construction materials or from the damage of the heritage building elements due to mechanical actions. The degradation of the construction materials is a process that develops naturally with time, and can be accelerated by chemical, physical or biological actions (CIB Commission, 2010). In Canada about 20 percent of pre-1920 heritage buildings over the last 30 years has been lost by demolition (Heritage Canada Foundation, 20 December 2012). Lausche, (2011) mentioned that growth in protected heritage areas has continued to trend upward since the 1960s from about 1.5 percent of the earth's surface covered to more than 12 percent of the earth's surface. Although the growth in protected heritage areas has gone up; however, the same researcher "Lausche" confirmed that scientific assessments indicate that ecosystem integrity are continuing to decline at an accelerating rate.

For this reason, several researches were conducted all over the world to study the existing conditions of heritage buildings. For instance, A Ghafar Ahmad et. al. (2008) assessed the existing conditions of heritage buildings in Malaysia with the main focus on the conditions of building defects and conservation approach used for these buildings. Their research found that most of the defects that occurred in heritage buildings in Malaysia were at external walls followed by internal walls. Other research by Hashimah & Shuhana (2005) where the two researchers assessed the strength of the old shophouses and the impending factors that threaten the continuous presence of these heritage buildings Malaysian town. The findings indicated that the practice of conserving the old shophouses

is still not effective. A more effective measure in preserving the old shophouses needs to be undertaken. In addition, Itma, (2007) assessed the situations of conservation projects in Palestine especially in the old city of Nablus. He found that heritage buildings of the old city of Nablus, Palestine, suffer from much random preservation.

Although structural damages of heritage buildings can result from the degradation of the construction materials or from the damage of the heritage building elements due to mechanical actions; however, there is another risk which threatens the sustainability of the heritage buildings. Move of inhabitants of heritage buildings to modern concrete buildings with modern amenities is also a great risk that leads to heritage building's deterioration. When inhabitants live in their heritage buildings, their houses are well maintained; some continue to be in excellent conditions and are properly cared for. If inhabitants stay in their heritage houses, they surely perform maintenance works periodically. In contrast, if they abandon their heritage houses, it will lose its vitality. This occurred in many heritage cities in the world. For example, many people moved away from the neighbourhood of Le Village in Cornwall, Ontario in Canada and sold their houses to investors who rented them out, when the textile mills in the area shut their doors. The layoff of many residents of Le Village marked the beginning of the deterioration of the community's physical conditions. To resolve this problem, Friedman et. al. (2002) developed urban and architectural guidelines for conservation of the neighbourhood of Le Village in Cornwall, Ontario.

Another example occurred in China, when many younger and richer residents have moved from the old city of Yangzhou to the new city areas due to the deteriorating physical conditions of the heritage buildings. To make people return to the old city of Yangzhou, Longbin (2007) developed a detailed design guideline for the whole old city

Yangzhou in China. Likewise these situations occurred also in the OCG. In the early 1980s, the inhabitants moved out of their heritage houses of the old city to modern city. Since then, the United Nations Development Programme (UNDP) has carried out a project in the OCG where its objective was to encourage and motivate the inhabitants to come back to the old city. The project was completed in 2004 as part of the Tourism Master Plan (United Nations Development Programme and UNDP Office for Project Services Report, 2007). Even though the project maintained source of water (Ain Al-Faras), restored some heritage buildings and repaired streets; however, until today the inhabitants have not yet come back to the old city. This is also confirmed by UNESCO Report (2010) where the report mentioned that the OCG has not yet seen the return of its inhabitants.

Heritage buildings need an important tool to protect them. No protected heritage area will be secured over time without a supportive legal and policy framework (Lausche, 2011). Accordingly, conservation guidelines of heritage buildings are one of the proposed resolutions for protecting heritage buildings. Appropriate conservation guidelines usually serve as an important tool for the building conservators and building contractors. The absence of these guidelines leads inevitably to deterioration of heritage buildings. They must be created and developed to ensure that any important changes in conservation work are undertaken in the most ways possible to conserve the heritage structure's, historic character and features. Conservation guidelines prevent the random works that have spread in the conservation projects of heritage buildings. On this basis, conservation guidelines for developing and utilising these properties must be established.

According to the paragraph 78 of the Operational Guidelines (2005), to add a heritage building to the World Heritage List (WHL), the heritage building should meet at

least one or more of the criteria (See Appendix E), the conditions of authenticity and integrity, as well as the requirement of protection and management. These requirements that the heritage building should meet to inscribe it to WHL are called the Outstanding Universal Value (OUV). Conservation guidelines are also a good tool to enhance the OUV of heritage buildings. The absence of this tool leads to deterioration of heritage buildings which in turn affects the OUV. There is a big problem if the OUV of a property is at risk, which in the end may lead to deletion it from the WHL.

Libya is a treasure chest of heritage and ancient cultures. Great civilisations flourished in the country, including Phoenician, Greek, Roman, Byzantine and Islamic. They all left lasting imprints of their cultures. Libya has five official UNESCO cultural heritage sites (See Table 4.1 in Chapter Four of this Research). The five sites inscribed to the World Heritage List between 1982 and 1986 supply an obvious illustration that Libya has a heritage whose incalculable value belongs to all humanity. The old city of Ghadames (OCG) is one of the official UNESCO cultural heritage sites that Libya has. The OCG is a major desert city and played an important role as a cultural and trade centre between the Mediterranean and Africa for over 1400 years (Yoshaa, 1973). It was declared a world heritage site by UNESCO in 1986 in recognition of its rich cultural heritage.

The OCG is composed of a set of residential heritage buildings. It is protected by those residential heritage buildings which are on the outside, and with their reinforced external walls. The external walls comprise gates and projecting bastions. Ghadamsi residential heritage buildings are practically identical in their architectural design which is a perfect response to the human needs and scale and to the economic and environmental constraints both on the individual and community levels. The builders of Ghadames

traditionally used only locally available materials for their architecture. The architecture of residential heritage buildings is well adapted to desert life, as the old city remains comfortable even in the heat of the summer. Although many families have moved out of the traditional residential heritage buildings into newer housing with modern amenities, many people return to the OCG during the summer when air conditioning cannot keep the new buildings cool.

This research attempts to determine the structural damages of the residential heritage buildings in the OCG as well as to provide and establish conservation guidelines for repairing and conserving those heritage buildings. Conservation guidelines to be established by this research are established according to all factors of conservation including structural damages. Therefore, structural damages are not the only factors to determine the guidelines for the OCG.

1.3 Problem Statements

There is a significant lack of researches conducted on the heritage buildings in the OCG in spite of its heritage importance. Although few studies were done in the old city and the modern city of Ghadames; however, none of them studied the structural damages of the heritage buildings in the OCG. Additionally, none of them attempted to develop conservation guidelines to protect the residential heritage buildings in the OCG. Some research studies were carried out by Chojnacki, (2003); Elwefati, (2007); and Nura S. et. al. (2006). Therefore, a study of the structural damages of the residential heritage buildings in the OCG is very important before developing the conservation guidelines for those buildings in the OCG.

Besides that there is a lack of expertise and specific conservation guidelines for residential heritage buildings in the OCG resulted of dilemma in the management of the municipality to preserve the residential heritage buildings. The level of understanding of the heritage buildings in Libya still remains very low. Without any documentation the beauty of the residential heritage buildings will be lost due to age factor and climate change. Lack of expertise in the maintenance of heritage buildings is also a source of beautiful heritage buildings are damaged or destroyed. There is a lack of technical knowledge to repair and maintain residential heritage buildings in the OCG.

Since late 1980s, several studies on the conservation of heritage building of the OCG have been undertaken with the assistance of the United Nations Development Programme (UNDP) and specialised United Nations Agencies (UNA) and other private or government entities. However, none of these studies have led to any concrete steps or conservation of heritage buildings in the OCG in translating the plans into specific actions (United Nations Development Programme and UNDP Office for Project Services, 2007). So far, no conservation guideline for preserving residential heritage buildings in the OCG has been established in spite of its importance to protect heritage buildings (Arrabti, 2011; Al-Hasi, 2011). This was also confirmed by Azzuz (2000) who clarified the non - existence of any guidelines to maintain and enhance the character and integrity of the heritage buildings in the OCG.

Based on the discussion above, the main issue of this research results from the lack of: (1) Studies conducted on conservation of heritage buildings in Libya, (2) expertise and specific guidelines for heritage buildings in the OCG, and (3) a fit system in force to discover and record the heritage buildings in Libya. Therefore, the current research aims at

identifying problems encountered in the residential heritage buildings in the OCG, and suggests some conservation guidelines and references for the conservation of residential heritage buildings in the OCG and which are all gazetted as national heritage buildings. Policies and guidelines to be provided are generally based on an analysis of the residential heritage buildings.

1.4 Research Questions

Based on the research problem statements, the research questions mainly focus on the following areas:

1. What are the structural damages of the residential heritage buildings in the old city of Ghadames, world heritage site, Libya?
2. What are the causes of structural damages of residential heritage buildings in the old city of Ghadames, world heritage site, Libya and their level?
3. Are there any conservation guidelines for the residential heritage buildings in the old city of Ghadames, world heritage site, Libya?

1.5 Objectives of Research

The main objective of this research is to determine the structural integrity of the residential heritage buildings in the OCG as well as to provide and to develop conservation guidelines for repairing and conserving those heritage buildings. There is a need to improve the conditions offered by the existing buildings or to study its structural integrity.

Studying the structural integrity of heritage buildings is the evaluation of the collected data related to the safety of the building, with the objective of deciding whether its structural safety is sufficient, or not. It is an essential phase of an intervention of conservation, because it is when it is decided if measures are necessary and to what extent (CIB Commission, 2010).

Studying the structural integrity of heritage buildings aims to document the existing state of a residential heritage building and, subsequently, its assessment. In other words, identifying a detailed description of the architectural and structural states of the individual elements (foundation, walls, roofs, floors, etc.) of a residential heritage building. In addition, defining types, causes and treatment of damages and estimating quantities of materials needed for conservation (A. Abufayed & S. A. El-Azhari, 2003). The objectives of this research are as follows.

1. To determine the structural integrity of the residential heritage buildings in the old city of Ghadames, world heritage site, Libya.
2. To investigate the causes of structural damages of residential heritage buildings in the old city of Ghadames, world heritage site, Libya and to classify those buildings according to the level of damages.
3. To establish the conservation guidelines for the improvement and conservation of the residential heritage buildings in the old city of Ghadames, world heritage site, Libya.

1.6 Scope of Research

Generally, the conservation of heritage sites includes buildings, artefacts, structures, areas and precincts of historic, aesthetic, architectural, cultural or environmentally significant nature (heritage buildings and heritage precincts), natural feature areas of environmental significance or the sites of scenic beauty. The research does not discuss heritage in general, but mainly focuses on the built environment. The economic and social aspects are discussed, but are not the main emphasis in this research. For instance, when discussing about the impact of conservation on the economy, the built environment is regarded as the main emphasis.

The main scope of the research is the formulation of conservation guidelines for the residential heritage buildings in Libya. Residential heritage buildings in the OCG were chosen as a representative city for the formulation of conservation guidelines for the residential heritage buildings in Libya. This was done so that to address the city's past, present and its future possibilities. The OCG is one of the most typical tourism cities in Libya. However, tourism is not the main issue in Ghadames. This research does not cover all heritage cities in Libya, but the case of the OCG has some characteristics and features with other heritage cities. Namely, the present research covers residential heritage buildings in the OCG. Accordingly, Mosques (Masjids), shops, public buildings and the surrounding environment of the heritage area in the OCG are not addressed by this research. Therefore, the study only focuses on heritage residential buildings in the OCG as one of the famous places in the Ghadames heritage area.

1.7 Significance of Research

The significance of the research results from the historical importance of the residential heritage buildings in the OCG. Residential heritage buildings in the OCG are an interesting case for investigation because the OCG is considered one of the most prominent tourist destinations, and one of the most beautiful heritage cities in the desert. It has been recognised by several important international organisations such as the UNESCO and the Organisation of World Heritage Cities. The UNESCO has classified the OCG as a heritage city and protected by the organisation in 1986, and classified it the third oldest city in the world (United Nations Development Programme and the UNDP Office for Project Services Report, 2007).

The significance of this research also highlights from the architectural design of the residential heritage buildings in the OCG which makes it important for studying its residential heritage buildings. The architecture of the residential heritage buildings in the OCG is focused on resolving the climate problem and privacy. According to Nura S. et. al., (2006), most of the people leave their houses in the new town of Ghadames and migrate to the old town and other cities during the summer, because the material of building construction and the air-conditioning in modern houses is unable to cope with the torrid heat of the desert and only the clay houses in the old town maintaining a degree of coolness, in summer-time the old town is still comfortable for living because of the good shelter against the extreme desert heat.

Figure 1.1: Examples of some residential heritage buildings in the OCG
Source: Municipality of Ghadames City, Libya

This research is important because it focuses on heritage conservation which generates significant benefits to the economy. Based on the literature, benefits of the conservation of the heritage buildings are many. Economical benefits are considered one of them. Several studies confirmed that historic conservation yields significant benefits to the economy. In other words, these studies revealed that historic conservation is considered as an economic development tool. For example, Rypkema (1991) compared the relative costs of building conservation versus new construction, and found that building conservation makes more economic sense than new construction. Another study by Wolf et. al. (1999) reached the same conclusion by Rypkema (1991). They found that in many cases; it is more efficient and profitable to preserve historic buildings than to construct a new

building. In addition, A Colorado Historical Society report, based on an economic study conducted by Clarion Associates, et. al. (2002), mentioned that, “Studies across the country have shown that historic preservation acts as a powerful economic engine, creating tens of thousands of jobs and generating significant household income”. On this basis, this research is deemed very important because it helps to develop tourism resources and exploitation of the architectural patrimony through re-using them and creating jobs.

The significance of the research appears also from its main objective. As mentioned previously, this research attempts to establish conservation guidelines for the residential heritage buildings in the OCG. According to the literature, conservation guidelines should be developed to control changes done by conservation works on heritage buildings and to prevent random conservation works that lead to deterioration of the heritage building. A research by Itma, (2007) confirmed that issuance of guidelines for maintaining heritage buildings such as obtaining the official demobilisation to change, demolition, or addition of a supplement of a heritage building is very important. Therefore, conservation guidelines ensure a better way to preserve heritage buildings. It is also a good tool for protecting heritage areas.

1.9 Research Contributions

The following contributions can be highlighted from this research:

1. The research is expected to give a contribution in providing policy and guidelines that become the future reference for other residential heritage buildings located in the desert region. In addition, the appropriate conservation guidelines provided by this research

can be used by the building conservators and building contractors in the conservation works.

2. The investigation into this area increases the understanding of the role of conservation guidelines to protect residential heritage buildings and contribute to the literature by extending the current body of knowledge on this issue.
3. The research can be benefited by policy maker, urban planners, architects, and historians. In addition, this research also contributes some benefits to the building owners, developers, designers of projects, consultants, different government agencies, heritage body and by all those who interested in the conservation and care of heritage buildings in Libya.
4. An important role is played by tourism in the OCG with many visitors coming from all over the world for attending the Dates Annual Festival that is held in October. The conservation of residential heritage buildings in the OCG preserves and restores a valuable piece of Libya's heritage. Therefore, this research contributes to the development of the OCG as an important tourist destination. This research has a positive impact on tourism in the OCG. Many previous studies such as Rypkema (1991) and Wolf et. al. (1999) revealed that conservation of heritage buildings generates economical benefits. It represents a good way for national economic development across tourism (Itma, 2007).

1.10 Organisation of the Research

The research is organised and divided into seven chapters as follows.

Chapter One: Introduction

It provides background to the research and delineates the structure of the thesis. It presents research issues including the research problem and outlines research questions. The Chapter exhibits the research objectives which establish the purpose of the study, considers potential limitations, discusses significance of the research and outlines the contributions of the research findings.

Chapter Two: Literature Review

It reviews the relevant literature regarding conservation of heritage buildings. It discusses international organisations that have an interest with heritage buildings, approach of architectural conservation and heritage buildings. In addition, the Chapter outlines conservation theory related to this research.

Chapter Three: Research Methodology

It explains the way, which is selected for this independent study to show the applied research method in this part. It gives an understanding of how the practical work and data collection has been conducted, as well as how the results have been analysed. It describes the research methodology base on the literature review in Chapter Two.

Chapter Four: The Overview of the Old City of Ghadames

It outlines the case study of the OCG. It provides background information on the residential heritage buildings in the OCG. The Chapter discusses also the Outstanding Universal Value (OUV) of the World Heritage Site of Ghadames and shows the heritage sites added to the World Heritage List in Libya.

Chapter Five: Case Studies

It discusses selected case studies concerning conservation guidelines for residential heritage buildings in five countries. It presents guidelines for conservation areas and heritage buildings in George Town, Penang, Malaysia; conservation guidelines implemented in the residential heritage buildings in Springfield, USA; conservation guidelines adopted in the residential heritage buildings in the city of Richmond, USA; conservation guidelines for residential heritage buildings in the city of Binbrook, Canada; and conservation guidelines for residential heritage buildings in the city of Maitland, Australia.

Chapter Six: Analysis and Findings

It offers an in-depth analysis and discussion on the assessment of the structural integrity of the residential heritage buildings in the OCG and the development of the conservation guidelines for the residential heritage buildings in the OCG.

Chapter Seven: Conclusions

It discusses the outcome of the research (i.e. design guidelines). It also provides a discussion of the implication of the policy including legislative instrument, conservation policy, the outstanding universal value of the OCG and stakeholders in conservation of residential heritage buildings. Recommendations for further research based on the topic area are also included.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides some definitions and concepts concerning the heritage building conservation. It outlines previous researches related to objectives of this research. In addition, the chapter summarises past researches conducted on the heritage buildings in the old city of Ghadames, world heritage site, Libya. Theory of conservation, laws and international legislations and international organisations that have an interest with heritage buildings are also discussed in this chapter. Figure 2.1 summarises the literature review of the research.

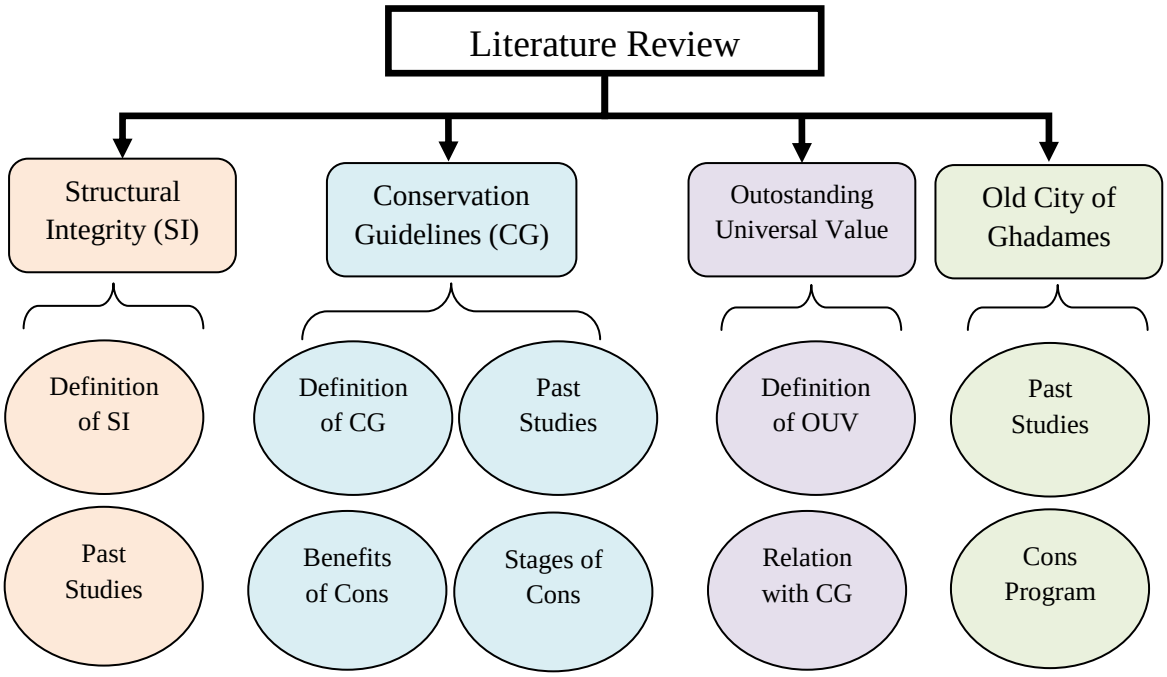

Figure 2.1: Summary of the literature review of the research

2.2 Definitions and Concepts

2.2.1 Heritage Buildings

Heritage buildings are defined as those which are old and significant either in terms of architecture or of history (Chien, 1992). Heritage buildings are also defined as existing buildings with significant cultural value to society (CIB Commission, 2010). Feilden, (1994) defines heritage building in his book, Conservation of Historic Buildings, that building which gives us a feeling of admiration and make us need to know more about the people who lived in this building and their culture as well as knowing it's beautiful, historic, archaeological, economic, social and political value.

At the beginning of last century and after signing the Venice Charter in 1964 for architectural conservation, the heritage building concept has been extended to include all buildings that have architectural value and cultural. The architectural conservation concept has also been extended. It has not been limited on archaeological landmarks and religious and palaces as was in the past but according to Itma (2007), the buildings that should be conserved have been divided into two main types:

i. **Monuments**

They are important buildings correlated with a collective humanitarian value on international, regional, or denominational religious level, and to conserve them, their original case must be retained without any change, this can be applied only to archaeology and some distinctive architectural buildings such as the Dome of the Rock - Jerusalem (Kobbat Assakhra- Kodos) in Palestine and Colosseum in Rome, Italy.

ii. **Documentary buildings**

They are considered as documentation for historic phases of a heritage area. In general they have less historic value than the previous buildings due to their availability in several areas around the world. They usually are found in heritage centres for old cities and towns.

In addition, UNESCO World Heritage, (30 December 2012), UNESCO's Convention related to the Protection of the World Cultural and Natural Heritage (1972) has defined and classified cultural heritage as follows.

i. **Monuments:** works of architecture, monumental sculpture works and painting, structures or elements of an archaeological nature, inscriptions, cave dwellings and features combinations, which are of outstanding universal value (OUV) from the standpoint of science, history or art;
ii. **Groups of buildings:** groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
iii. **Sites:** works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

Deciding how old a building must be in order to be called "heritage" is difficult. In some places, 100 years old is heritage, while in other places, 50 years old is enough. However, based on the Italian Law, Itma (2007) classified buildings as heritage buildings if their age is more than 50 years. In Malaysia, if a building has fifty or more years old,

then the building is heritage except buildings underwater which should have hundred or more years old in order to be called heritage (Malaysian National Heritage Act, 2005).

2.2.2 Approach of Architectural Conservation

Strategies for action are being identified in present time in the field of preservation and restoration for heritage buildings according to international standards created by UNESCO, whether through International Conventions issued by International Council on Monuments and Sites (ICOMOS) or through versions of International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and conventions issued by World Heritage Centre (WHC), where standard definitions for methods of cultural properties preservation and standards have been issued. Generally, there are seven (7) approaches in a conservation program, used individually or a combination, depend on the circumstances and objectives of a conservation project. In the following context, some approaches of a conservation program are explored.

1. Conservation

Heritage building conservation can be described by many words. According to Norlizaiha Harun (2011), conservation is a technical activity towards heritage buildings. It includes physical action to preserve the fabric and construction material of the heritage buildings. It is a process to prevent decay and the action is aiming to prolong the life of the buildings. According to the National Heritage Act 2005, Malaysia, "conservation" includes preservation, restoration, reconstruction, rehabilitation and adaptation or any combination. An article, Historic preservation projects can be green, by Wishkoski (2006), defines conservation as a process that preserves, protects and maintains during physical change.

The International Charter for the Conservation and Restoration of Monuments and Sites in its Venice Charter (1964:4) describes the process of conserving a historical monument as: "it implies preserving a setting which is not out of scale. Wherever the traditional setting exists, it must be kept. No new construction, demolition or modification which would alter the relations of mass and colour must be allowed." Burra Charter (1990), Article 1.4, defines conservation as all the processes of looking after a place so as to retain its cultural significance.

2. Preservation

Preservation is a process aiming to stop the deterioration, decay or dilapidation state. It provides structural safety and should be carried out only in such a way that evidence of the construction or use of the fabric would not be obscured (Norlizaiha Harun, 2011). According to Civic Amenities Act, (1967) as quoted by Farayune Hajjar (2008), preservation is to protect individual buildings, structures and other artefacts that were preserved because of their relation to the great figures from the nation's heritage. Moreover, it was concerned with groups of historic buildings, townscape and the spaces between buildings. Preservation is also concerned with limiting change, and the conservation is about the inevitability of change and the management of that change. The National Heritage Act 2005, Malaysia, defines preservation as a process aiming to halt further deterioration, decay or a state of dilapidation and to providing structural safety and well being but does not contemplate significant rebuilding and includes:

i. Techniques of arresting or slowing the process of deterioration, decay or state of dilapidation of an item or structure;

ii. Improvement of structural conditions to make a structure safe, habitable, or otherwise useful; and

iii. Normal maintenance and minor repairs that do not change or adversely affect the fabric or historic appearance of a structure.

3. Restoration

The Burra Charter (1999) as referred in Article 1.7, defines the restoration approach as returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material. The Venice Charter (1964) as referred in Article 9, defines the process of restoration as a highly specialised operation that aims to preserve and reveal the aesthetic and historic value of the monument with the main focus on respect for original materials and authentic documents. Accordingly, restoration is the process of returning a building to its original condition at a specific time period. It should work from actual evidence, as stated in the secretary of interior's guidelines (See Appendix F Standard no. 6) that repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structure. Therefore, the restoration in any case must be preceded and followed by an archaeological and historical study of the monument (Venice Charter, 1964).

4. Reconstruction

Reconstruction approach means the building of a historic structure using replicated design and/or materials. This approach is taken when a historic structure no longer exists but needs to be physically in place for contextual reasons. Reconstruction means also returning a place to a known earlier state and is distinguished from restoration by the introduction of new material into the fabric (Burra Charter, 1999, Article1.8). Additionally, according to Appleton Charter, (1983) reconstruction means recreation of vanished or irreversibly deteriorated resources.

5. Rehabilitation

According to the Malaysian National Heritage Act 2005, rehabilitation means the process of returning a property to a state of utility through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic architecture. Old building sometimes becomes unfit for the modern needs and that requires some modifications. These modifications make this building able to continue and perform its functions again with retaining its original value. In particular, architectural rehabilitation means a series of stages of rebuilding a building to its original case to perform its old functions or a suitable new function. In other words, it means repairing and developing the building by preserving its parts and components that possess historical, architectural and cultural values during the eras in which the building has passed since its construction. This means finding a new function for the building that makes the building useful and usable, and at the same time able to continue to insure the existence of people who perform maintenance works (Itma,

2007). According to Tyler, (1994), rehabilitation describes a suitable approach when existing historic features are damaged or deteriorated but modifications can be made to update portions of the structure, even rehabilitating the building for a new purpose. When rehabilitation is chosen as the appropriate intervention technique, alterations or additions may be made, but they should not be confused with original historic elements.

6. Maintenance

Maintenance means the continuous protective care of the fabric and setting of a place, and is to be distinguished from repair. The repair involves restoration or reconstruction (Burra Charter, 1990, Article 1.5). Maintenance can also be defined as some work focuses on retaining a property in good working condition by repairing features as soon as deterioration becomes apparent, using procedures that preserve the original character and finish of the features. In some cases, preventive maintenance is carried out before noticeable deterioration. Maintaining properties in good condition often assures that more aggressive (and expensive) measures of rehabilitation, restoration, or reconstruction are not needed at some future date (Denver Landmark Preservation Commission & Planning and Development Office, 1995).

7. Renovation

Renovation is refurbishing and/or adding to the appearance of an original building or elements of a building in an attempt to "renew" its appearance in keeping with contemporary tastes and perceptions of conservation (United Nations Educational, Scientific and Cultural Organisation, 2008). Renovation means also to improve by repair, to revive, and thereby enhance the usefulness and appearance of the building. The basic