THE DEVELOPMENT OF LUXOR OPEN AIR MUSUEM AND ITS

SOCIAL IMPACTS

AN ASSESSMENT USING GEOGRAPHIC INFORMATION SYSTEMS

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Abstract

This thesis investigates the impacts that the open air museum in Luxor may have on the residents of city. Although the open air museum project has involved a development framework for the city in different sectors and some social benefits, the implementation and the procedures that were used have largely be unsuccessful and have not met the social needs for residents, which has created tensions between the local people of the city and the Egyptian government. Further, the Egyptian revolution in 25th January in 2011 affected the process of the open air museum project which is reflected again on the residents' way dealing with the Egyptian government in seeking to achieve their needs.

The study adopts a mixed method approach qualitative and quantitative to understanding the impacts of this museum project on the social aspects of the city. The qualitative methodology was represented by semi-structured interviews to cover the many aspects of the open-air museum's plan. The quantitative methodology was based on the secondary data and geographic information systems analyses, where 3D visualisation and visibility analysis were used to show how the face of the city changed between 2004 and 2012 through a sequence of open-air museum strategies. It can be concluded that the open air museum in Luxor has failed to achieve its aim to improve the social life of the areas surrounding the open-air museum. Therefore on balance, the construction strategies of the open-air museum have produced a negative social impact. The thesis makes a contribution to the context of the Luxor Open Air Museum, that has a firm geographic identity, through showing how this it effects the city structure and its social arena.

Dedication

To my dear husband Mohamed, and my lovely kids Tasnim and Zyad

ACKNOWLEDGEMENTS

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Glossary

MOH   Ministry of Housing, Utilities and Urban Communities Cairo, Egypt

MOT   Ministry of Tourism Cairo, Egypt

SCA   Supreme council of Antiquities, Cairo, Egypt

GOPP   General of physical planning, Cairo, Egypt

CAPMAS   Central Agency for Public Mobilization And Statistics, Cairo, Egypt

CDCL   The comprehensive Development of the City of Luxor

Chapter 1. Introduction

1.1 Introduction

Cities need museums like people need memories: not as a repository of their past, but as a token of their identity and a guide to the future. (Rykwert, 2008)

This thesis discusses the development of an open-air museum in Luxor, Egypt. The museum was designed to present a new vision for Luxor, turning the heart of the city would make it the first of its kind in Egypt. This museum is a particularly interesting case, because it is located in a historic city famous for its Pharaohs archaeological temples. The open air museum in Luxor city is used as instrument in the urban development project incorporating an antiquities preservation plan involving the removal of houses to allow excavation of the Avenue of Sphinxes, and to create a corridor around the museum and a buffer zone. In reality, the concept of an open-air museum has a broader scope and implication. The museum has played various roles in the city, only one of which is reflected by its urban development, or regeneration role. In addition, the museum assisted the city's development across various sectors; for example the economic regeneration and the social inclusion, the museum was designed and planned to meet and manage the needs of the city and its people.

This thesis makes an original contribution to the body of knowledge at the intersection between museums, urban geography and Geographic information systems (GIS) .Each of these knowledge help to interpret the museum context and how it functioned and how it could affect the city. This has been done through a unique approach to open up a debate about the Luxor open air museum and its implications on the residents within the city. Mixed methods were used to construct a better understanding about the museum experiences and its implications. For example, the context of urban geography helps to analyse the urban development plans of Luxor from 1984 to 2004 in order to explore the original idea to create the open air museum in Luxor. However, these analyses were not enough to assess the original idea and hence the empirical methods (interviews) were used particularity with the people who were involved in

creating the open air museum in order to access how this idea was generated and other aspects. Also, GIS analyses were used in this stage for mapping the city i.e. the urban growth of the city and the open air museum its areas and boundaries (more details in chapter 3).

The contribution of urban geography with GIS helped to interpret the museum experiences and how it functioned (see chapter 4). This has been done by using visibility and visualisation analyses that used to explore the effectiveness of urban planning and the visitors experiences (more details in chapter 5). Further, the urban geography context helped to explore and interpret the museum implementation through the urban policies, particularly the gentrification processes; this has been done using empirical methods to assess the museum impacts on the city and its residents as illustrated in chapters 6 & 7.

Further, they were used to explore how museums could serve many functions in cities; for example, many scholars have argued that museums can function as powerful tools improving various facets of city life, by promoting its culture, tourism, the economy and social life (Orleff, 2008). There is a wider need to understand museums' effects on their host cities in the wider context, as will be discussed in detail in Chapter 2.

Luxor's open-air museum was designed with the aim of returning the city's heritage district to its former glory by connecting the Temples of Karnak and Luxor via a processional way: the Avenue of Sphinxes (Kebash Road). The museum required the inclusion of a number of aspects directed toward urban regeneration, and designed to improve the economy and increase the number of tourists. The researcher attempted to present the relationship between museums and discuss their roles in cities, by referring to the challenges associated with the open-air museum and the challenges raised in Luxor from a geographic viewpoint; also illustrating the link between the museum and urban planning and the museum's contentious impact on the city, especially upon its social fabric.

The thesis attempts to situate the project within the wider context of museums worldwide, focusing on their roles within cities. It asks: How can a museum

improve a city's image? Can a museum preserve a city's identity? Can museums be used for urban regeneration or play different roles for the city and its social fabric? A review of the literature pertaining to museums reveals that many cities have been influenced by their museums, such as Bilbao in Spain, which is home to the Guggenheim Bilbao. Various scholars (e.g. Soto, 2009; Reuben, 1999) have described museums as playing an essential role in the urban regeneration of declining areas, in addition to providing urban landmarks and attracting visitors. Others scholars opine that the Guggenheim Bilbao has significantly improved the city's economy by attracting visitors. However, research reveals that the Guggenheim Bilbao played more than one role in the city, as is discussed in detail in the literature review chapter of this thesis. The literature review also explores how the development of an open-air museum in Luxor has the potential to affect the city's built environment and its social fabric. These effects are discussed and evidenced throughout the thesis.

The research methodology used provides a combination of quantitative and qualitative research. Quantitatively, Geographic Information Systems (GIS) were used to develop analyses to explore the changes taking place in those areas surrounding and adjacent to the open-air museum. Visualisation and spatial analyses were used to explore and interpret the conflict that emerged between the city and the museum, as a consequence of the restoration of the museum area and the Avenue of Sphinxes (Kebash Road). In addition, a 3-D visualisation was used to present the heritage district, allowing exploration of visitors' experiences through assessment of the museum's spatiality and its relationship to visitor perceptions.

The qualitative component of the study is provided by interviews, which are undertaken, based on two approaches, to analyse and measure how changes affect local residents, particularly in the areas within and surrounding the museum's boundaries. Thus, it is possible to assess the open-air museum's effect on the social fabric of the city, in an attempt to assess the governmental policies used to implement it. These policies mostly relate to urban regeneration and the needs of tourists rather than the local population's social needs. The open-air museum project has had both positive and negative implications, especially for residents of the city.

This chapter is divided into six sections. The next section, Section 1.2, briefly explains the study area, Luxor, and the problems it experiences. Section 1.3 details the underlying principles motivating the study. Section 1.4 outlines the study aims and objectives. Finally, Section 1.5 describes the organisation of the subsequent chapters.

1.2   The context of Luxor city

Luxor is one of Egypt's most historic cities, containing heritage resources that make it one of a chief cultural centre in Egypt. Its story dates back thousands of years, to when it was known as 'Thebes'. Between 1500–1000 B.C., it was one of the most spectacular cities in Egypt, with a population of an estimated 50,000 (KVM, 2009). During the era of the Pharaohs, the East Bank was called the 'City of the Living', where temples, the palaces of kings and ministers, priests, employees and local citizens could be found. The West Bank, on the other hand, was termed the 'City of the Dead', and it was the location for tombs, such as those present in the Valley of the Kings and other funerary temples (Sullivan, 2008).

Luxor remained part of the ancient city of Thebes; the Egyptian Pharaohs, however, moved their capital city to Memphis, in the north. After Islamic conquest in 639 A.D., Luxor was merely a small village in the district of Kouse. The passage of time witnessed a huge increase in population and urban growth meaning that the demands of the population surpassed any need to cater to tourists. At this time, Luxor was known as an administrative centre, and was called Markaz. Subsequently, Luxor was supervised and managed by the Qena Governorate (any other small town would be managed and mentored by one of the Egyptian governorates when it is not the capital of the region). In 1896, Luxor was designated the centre of the Luxor Governorate. Finally, Luxor became separated from Qena in accordance with administrative amendments in 1989 (Information & Decision Support Centre, 2004).

In February 1989, monuments were discovered at Luxor Temple, which prompted the President of the Republic to recommend, during his visit, that studies be undertaken to discover more information about the possible presence of

antiquities in Luxor (MOH, 2004). On 27th April 1989, Presidential Decree No. 153 of 1989 separated Luxor from the Qena Governorate, due to the nature of the archaeological finds there, and the associated opportunities for tourism, both of which were considered very important for Egypt. Luxor was re-constituted as a city with a council responsible for mentoring and supervising 21 villages on the banks of the River Nile; the majority of these villages contained sites of antiquity (SCA, 1999). Finally, Luxor was designated a province under presidential decree, on 10th December 2009. The Governorate is divided into six Sheikhdoms: Luxor, Karnak Old, Karnak New, Awamiya, Monshait Imari and Qurna. All are located on the East Bank of the River Nile, except for Qurna, which is located on the West Bank (Ghonema et al, 2012).

By 2009, the city had changed; like all Egyptian cities it was suffering from overpopulation and rapid urban growth. The city's population, based on national census data from 1986, was reported as being 123,600 inhabitants. In 2006, statistics showed a four-fold increase, with the population rising to nearly 218,000 inhabitants living over 277 square kilometres at a density of about 1,550 inhabitant per square kilometre. The most populated areas were in the city centre and New and Old Karnak villages. Figure 1.2 shows that rapid urban growth had occurred in parallel with the population increase. In 1891, the populated area covered about 0.32 square kilometres; in 2004, it was about 8.56 square kilometres.

During this growth, serious problems appeared, such as urban sprawl, which threatened both historical sites and agricultural land. Many parts of the city lack infrastructure. The Cairo–Aswan railway track was generating vibrations that threatened the safety of temples. The rising underground water table also represented a threat. Uncontrolled cruise ship traffic was causing serious environmental problems, as a consequence of sewerage and other discharges from the vessels (MOH, 2004; Ashour, 2009). Rapid, uncontrolled growth of cruise ship travel led to serious traffic and environmental problems on land as well. It was evident that action had to be taken if Luxor were to maintain its viability as a desirable tourist destination and accommodate rapid expansion of both tourism and agriculture (Deif-Allah, 2006). These problems threaten the historic

environment of Luxor, leading to national and international conferences and appeals, calling for the preservation of Luxor's cultural heritage. While the overall aim of development plans was to promote development for Luxor, the plans failed to deal with and manage the needs of the city and its social fabric, especially the Luxor Master plans produced in 1984 and 1993. Rashed (1994: 3) commented:

> *"The main problem in planning in Luxor, as well as in all Egypt, is that all plans present solutions without understanding the main causes. There is a very big gap between the real causes of the problem and the superficial solutions; quick solutions never solve long-standing problems, rather they create more difficulties for the coming generations. To find correct solutions for problems, we have to find the root of the issue; otherwise, it will be a waste of time, effort, and money".*

In addition, these plans did not implement funding to develop the city (KVM, 2009), despite Luxor's historical value making it one of Egypt's major tourism resources.

In 2000, a comprehensive development plan was presented for Luxor calling for improvements and development in various sectors. This plan presented the Western experience of developing historic cities while preserving their identity: outlining the idea of creating an open-air museum. Today, there is a worldwide focus on cities: their economic importance, their spectacular growth and the problems and possibilities they represent. Matters for debate regarding these cities are almost endless: pollution, regeneration, private cars, public transport, suburbs, the destruction of heritage and insensitive development. The Committee aims to be at the centre of debate, not least by supporting and encouraging city museums in their work of collecting, preserving and presenting original materials on the city's past, present and future, to reinforce the city's identity and contribute to its development (ICOM, 2008).

The plan was updated, and in late 2004 presented through coordination, according to a protocol established between the Ministry of Housing, Infrastructure and Urban Development and the United Nations Development Programme (U.N.D.P.)

(MOH, 2004; Ashour, 2009). This solution suggested reshaping Luxor to form an open-air museum. The museum was intended as part of the comprehensive master plan of 2004; involving creating massive cultural and urban change throughout Luxor, including development of the Karnak and Luxor Temple plazas, creation of new tourist services and the restoration of the Avenue of Sphinxes (also referred to as Kebash Road or the Processional Way). In addition, the plan proposed that residents of the city's urban areas, including residents who had settled unofficially in the Karnak zone, should relocate to planned, residential areas with adequate infrastructure and services. However, establishment of the museum caused controversy between residents and the local government of Luxor. Problems increased, particularly after the Egyptian revolution on the 25th January 2011, which caused great political turmoil and regime change, negatively affecting both the local people and the project's progress.

Set against the above background, the study examines the social impact resulting from the museum's development. Research will document the emergence of the concept of creating an open air museum, as discussed in detail in Chapter 4. In addition, the museum's spatiality will be identified in three main elements considers the museum's spatial forms, the experience and its function are manifest museum spatiality. The study also explores the museum's effects on local residents and identifies the factors leading to disagreement between local residents and the local government. Furthermore, the Egyptian national government supported the open-air museum and alterations to the heritage district site, viewing the museum to be part of a comprehensive development plan for Luxor that would create many positive changes within the city. This support was expressed by the governor of Luxor, Samir Farag, and by former Egyptian Prime Minister Dr. Ahmed Nazif (Almasry Alyoum, 2009). However, in reality, the museum presented several problems related to enhancing the quality of life of the local population and urban regeneration programmes, as is examined in Chapter seven. This research was undertaken at a point where there was a major restructuring of the political structure of Egypt associated with the so-called Arab Spring

1.3   Rationale and Justification of the Study

Today, museums have emerged as significant components of the urban setting; leading them to widely figure as options in policies promoting urban regeneration; as noted in many countries including the UK. This work explores the contribution of museums to the urban environment, studying how they have been incorporated into urban regeneration proposal and considering their implementation and impacts. In much of the literature such as Jones and Evans (2008) and Plaza (2008), there is a suggestion that museums actively promote the rebirth and regeneration in cities. Thus far, however, there has been only brief discussion of the geography of museums in such studies. This work seeks to address this knowledge gap by adopting a multi- disciplinary perspective drawing on practices common to urban geography, museum studies and geographic information systems literature.

The previous research had many gaps where the focus came from a single perspective. For example, existing research in urban studies focuses on solving several urban problems in cities; however many of these studies neglecting the social needs particularly in terms of social justice/inclusion. On the other hand, previous research on museums studies for example show that museums have several roles in cities but did not illustrate either how museums could regenerate cities and solve their problems or what tools are needed to regenerate the host cities?   Therefore, this research provides a unique approach to fill the knowledge gap in this area by drawing a multi- disciplinary perspective on urban geography, museum studies and geographic information systems. This multi- disciplinary perspective offers the basis for logically understanding the museum experience and how it could function and be implemented. The analytical use of geographic information systems is not common in museums studies as opposed to urban geography; the use of GIS within this study is unusual in that it is used to reflect the outcomes of the museum such as visitors' experiences, and to explore urban planning scenarios. GIS is also used to help to predict changes to urban areas (Langley, 2002) and the possibilities of future development and its consequences on cities as well Yeh (1999). However, GIS techniques (3D visualisation and

visibility) are not sufficient to clarify human behaviour where urban regeneration policies act in tandem with gentrification processes, leading to extensive displacement forcing inhabitants to move (Carter, 1995; Hall, 2001; Lees et al., 2008). These policies can cause a range of social impacts that are difficult to measure (Smith, 2012). Therefore, the latter demands qualitative methods (interviews) to open up debate into social attitudes towards the museum constructions and the urban policies used to create them. The majority of studies and urban development plans prepared for Luxor city focus on the main goal of conserving the urban heritage and creating a suitable environment for monuments, while relocating the residents and excavating areas in other areas such as the west bank. Despite the residents' of Luxor suffering from a poor environment, employment, and lack of essential necessities, the plans give Luxor residents limited consideration in comparison with heritage preservation and planning (Rashid, 1994). However, in the case of the open-air museum development plans in 2000 and 2004, these presented a comprehensive development plan that seemed to make more attention to providing for the interests of Luxor residents (MOH, 2000; MOH, 2004). However, since 2004 when the open-air museum was accepted by the authorities as a tool to regenerate Luxor, the city has been reimagined and actions taken that have lead to the displacement of many of its residents from their place of residence. The museum was intended to support urban regeneration, thereby promoting social inclusion; however, in practice it may be seen as a process of gentrification that whilst seemingly created an improved physical and potentially economic environment has also involved processes of exclusion and displacement.

 In response, this thesis attempted to identify the root intentions when creating the museum, its influences on the city and its social character, through employing a geographical approach that supports collaboration between urban geography and museum studies. This offers a broad vision by which to map out how the open-air museum reimage Luxor city. In addition, the study will seek to position the museum in relation to contemporary understandings of space and social inclusion, explore their relevance and implications for museum studies.

To appreciate how the open-air museum is viewed as able to rectify city problems and see how its constructions actually impact on the city and its inhabitants, geographic information systems (GIS) analysis will used in combination with archival and interview study. 3D Visualisation will be employed to explore multiple levels of understanding of social space and visualise how the city of Luxor has changed over time and in the context of different urban redevelopment with plans. Analysis will begin with a brief overview outlining the emergence of ideas that have shaped the development of a plan for the creation of an open air museum before using GIS analysis to investigate their impacts on the heritage area (museum site) and an area surrounding it that is deemed necessary to ensure the preservation of the museum site and also potentially to add to the experience of visiting the museum.

I will then proceed to highlight spatial forms of the Luxor open air museum and the experiences of implementation at the museum. Extending beyond an evaluation of government policies for the museum's construction and implementation, the research will characterise and explore issues that relate to possible improvements and compare the museums aims concerning urban regeneration, heritage conservation and visitors' experiences to assess and address any deficiencies. The outcomes will then be discussed and I will conclude with insights regarding how I intend to address limitations, and hence how my research will contribute to current knowledge.

1.4   Research question, aims and objectives

The main purpose of this research is to address the origins of the social effects of the development of Luxor City's open-air museum through understanding the reasons for its creation and assessing its effects. In order to answer this research question, the study establishes the following research aims:

1. To trace the idea behind the origin of Luxor open-air museum and its translation into urban development plans.
2. To critically evaluate the spatiality and functions of the open-air museum in plan and practice.

3. To examine the social consequences of implementation of the open-air museum on the surrounding areas

To address these research aims, the research sets out the following objectives.

Objectives linked to aim 1:

1.1 To explore the origins of the idea of the open-air museum in Luxor.

1.2 To analyse the relationship of plans for establishing an open-air museum with urban development planning with Luxor.

Objectives linked to aim 2:

2.1 To examine the changing spatial forms and functions of the planned open-air museum

2.2 To assess the spatial forms, functions and experiences of the implemented Luxor open air museum

Objectives linked to aim 3:

3.1 To outline the strategies (upgrade, redevelopment and relocation) employed in relation to the areas surrounding the site of the open-air museum

3.2 To evaluate the social effects of the strategies to upgrade and redevelop the areas surrounding the construction of the open-air museum

3.3 To assess the effects of relocation of people away from the site of the open-air museum.

1.5 Structure of the Thesis

This thesis is organised into seven chapters, each reflecting a particular theme, beginning with an introduction to the literature, followed by the research

methodology, four chapters, and then the conclusion, which synthesised the argument of the thesis, project contribution and research future. Within the body of the text, certain key words and phrases are used for emphasis or to express ideas encompassed by non-English words that may have a broader meaning in their original form. The contributions and quotes of some interviewees are referred to by codenames to guarantee anonymity, while others are clearly named (where consent has been given to do so). Supplementary information in the form of maps and texts that are not readily integrated into the substantive chapters are compiled as appendices, these figures and maps are presented in a separate volume.

Chapter two provides a multidisciplinary review of the literature in three sections, relating to museums studies, urban geography and geographic information systems. First, there is a review of a limited amount of available research literature, germane to the effect of museums upon their cities. Given that this research aims to understand this effect, it is important to understand the nature and position of museums today. This chapter therefore outlines debates over how a museum is defined and functions, before considering the roles museums can play with respect to cities and wider society. Attention is also given to changes experienced over time. Following this, the literature review provides an insight into current issues that confront cities and introduces concepts associated with contemporary urban polices particularly urban regeneration, gentrification and city reimaging. These processes are presented through this literature review in relation to large-scale urban projects, such as the Guggenheim Museum in Bilbao, Spain, and the London Olympic City, as well as illustrating their effects on social conditions, in terms of social inclusion and social justice. Lastly, the third section in literature review is concerned with the contribution of Geographic Information Systems to urban geography, and particularly on urban planning and the 3D visualisation role in examining city development plans .

Chapter three describes in detail the research methodology and provides a justification for the adoption of mixed research methods (qualitative and quantitative) based on the need to gather information from primary and secondary sources. A qualitative methodology is represented by semi-structured interviews

and fieldwork, covering many aspects of the open-air museum's plans i.e. its origin idea and its impacts on social. Quantitative methodology is based on secondary data and geographic information systems analysis. These methods are used to answer the research question and also achieve the research's aims (see section 1.4). Semi-structured interviews were important to the research strategy, reflecting the key debates regarding the social impacts of Luxor's open-air museum strategy. In addition, these interviews provided an opportunity to investigate the purpose and original concept behind this type of museum. GIS was used to analyse the Luxor Open-air museum and to create a city wide 3D model. This analysis was used to assess the spatial relationship between the museum and the city and to present the changes to the city and their effects on the residents of Luxor.

Chapter four describes the emergence of the open-air museum in Luxor that will be explores the function of particular elements within the open air museum. This chapter draws on interviews with people who involved in 2004 development plan, including the city planners and archaeologists in Luxor. In addition, previous master plans for Luxor, along with many studies and documents are reviewed. The issues presented in this chapter relate to the original idea of the open-air museum, the plans for its construction and development plans for the city.

Chapter five describes the open-air museum's spatial forms and functions. The spatial forms of the museum including, the redesigned areas are presented in a 3D visualisation to obtain an interpretation of the museum's spaces. Further, this spatiality is discussed in terms of its relationship in respect to its social implications, such as, its influence not only on local residents but also on visitors and observation routes within the heritage site. In addition, the chapter describes the spatial layout at the site and explores the role it plays in forming the visitors' routes and facilitating observation of the temples. Additionally, the open-air museum's spatiality is explored in reference to its effect on the functions of preservation and urban regeneration.

Chapter six assesses the social effect of the open-air museum on urban planning policies (re-development and upgrading) in the areas surrounding the site,

including the strategy for relocation of local residents. The way that the open-air museum applies its policies in these areas is subsequently discussed.

Chapter seven, offers an evaluation of the social effects of the construction of the open-air museum, and is completed in three stages: the planning process, the implementation process and the outcomes of implementation.

Finally, Chapter eight summarises the findings of the research, including the roles of museums in cities and their social influences, by highlighting previous experiences, such as, Luxor's open-air museum and how it has changed the city's' image and their communities.

1.6 Conclusion

Research integrating museums studies within the framework of urban geography and geographic information systems is unique. A key aim of this thesis is to bring issues of museums and urban regeneration to the attention of geographers, to understand the role that the open-air museum in Luxor played in regeneration and rectifying environmental and societal problems. This thesis attempts to set out something original, by introducing data about the museum and its relationship with urban regeneration, in the context of social inclusion. The following chapters will introduce the development of the open-air museum as it is purported to present a development plan for Luxor in areas such as antiquities conservation; economic development, especially in tourism; urban form and social development. However, when the idea began to become a reality, in 2009, problems became apparent in its implementation and in its social impacts where tensions quickly emerged between Luxor residents and local government. The residents of the city should be designated a major priority in any such project, as the Egyptian government had indeed stated they would be. This means abiding by the requirement to understand the many issues related to the museum. This study attempts to address these issues by exploring the emergence of the idea to establish the open-air museum. In addition, the research identifies the open-air museum's spatiality. Through the medium of the museum's spatiality, the study

attempts to assess visitors' experiences of the museum. As a result, it is intended to address the origins of the social effects of the Luxor open-air museum.

Chapter 2. Literature review

2.1 Introduction

This chapter reviews the literature on the concepts, theories, propositions and practices that relate to the key aims of this research introduced in Chapter One. The review has two aims. First, to demonstrate the relationship that exists between museums and cities. Second, to locate the Luxor Open-Air Museum in the limited amount of literature that connects museums to cities. Therefore, the second section of this chapter will review literature concerning urban geography studies, particularly in relation to the processes of urban transformation. This section of literatures aims to specifically identify range issues of urban processes that can be characterised as urban regeneration, city reimaging, and gentrification in relative with social justice and inclusion, which can be seen to connect to museums at the first section of this chapter (see section 2.7). However, the third section will focus on illustrating the contribution of Geographic Information Systems (GIS) in relation to the aims of this thesis (see section 1.4) to urban geography, particularly on urban planning of Luxor city and how its analyses helps to understand museums experiences (see section 2.8). Further, this section aims to clarify the role of 3D visualisation in urban planning and its effects on examining city development plans.

Today museums are found across the world. As will be discussed later, the precise nature of these museums is potentially quite varied, but there have been attempts to identify features that all museums might have in common. The Canadian Museums Association (CMA), the American Association of Museums (AAM) and the International Council of Museums (ICOM), for example, all seek to define museums in terms of some basic features and the functions, with ICOM (2007) defining a museum as:

> *"a non-profit making, permanent institution in the service of society*
> *and of its development, and open to the public, which acquires,*
> *conserves, researches, communicates and exhibits, for purposes of*

study, education and enjoyment, material evidence of people and their environment."

There are potential problems with such a definition: many museums in the USA, for example, are profit making. Other elements of this definition may be indeed be more reasonable, such as its highlighting of museums as institutions that acquire, conserve and research material evidence for study, education and enjoyment.

In this thesis will combine analysis of four approaches (see Table 2.1); classical approach, cultural approach, socio-economic approach and visitors. These approaches help to emphasise the contribution of the thesis with museum studies, urban geography and Geographic Information Systems (GIS). For example, the first sections of this chapter (2.2 to 2.6) review issues surrounding museums studies analysed in terms of the four approaches ; classical approach, cultural approach, socio-economic approach and visitors. The perspectives of museums in the literature are illustrated the contribution of museums to these approaches in order to open up a better understanding about the museum. experience and how it could affect cities culturally, economically, physically and socially. which is illustrated in detail from section 2.2 to section2.6. However, in an urban geography context certain approaches are emphasised such as the social approach (see section 2.7). These approaches help to incorporate the museums literature with urban geography to evaluate how urban policies such as urban regeneration are used with museums as instruments to solve cities problems and how it impact on cities. The Guggenheim Museum of Bilbao is used to exemplify the literature on this subject. (More details in section 2.7)

The definition of a museum is reflected upon before considering a related subject of debate, namely the functions of museums which here are divided into four types. The chapter will then, in Section 2.4 will examine aspects of the geography of museums. In Section 2.5 the chapter will consider the character of open air museums Section 2.6 provides insights into current issues confronting cities over the functions of a museum in serving social needs. The roles that museums play in cities, and how these have changed over time, are also discussed. The other sections of this chapter will review issues in the literature concerning urban

geography studies, particularly in relation to the processes of urban policies (urban regeneration, gentrification, and city reimaging) with reflections on issues of flagship development and highlighting the Guggenheim Museum Bilbao's experience in urban regeneration.

2.2   What is a museum?

'Museum' is a word that means many different things to different people, which makes defining it difficult and complicated. There is little agreement about what precisely constitutes a museum (Anderson, 2005; Wittlin, 1970). In addition, the definition of a museum has changed as societies have changed.

The word 'museum' has often been linked to the Greek word '*muse*', which means to cogitate, meditate, think, dream, ponder, contemplate and deliberate. The word 'muse' is derived from '*mouseion*', which means the 'place of the Muses' and this word through time has become 'museum' (Glaser and Zenetou, 1996:10). It is probable that the word 'museum' was first used over two thousand years ago.

Many authors define museums according to their own points of view. However, museums may be broadly defined in terms of the four approaches (see Table 2.1). The first approach identified is what can be described as the 'classical approach', which defines a museum as a collection of objects. Allan (1960), for example, said,

 "A museum in its simplest form consists of a building to house collections of objects…"

This view of museums is present in the ICOM definition discussed in the Introduction, which emphasised museums as institutions that acquire, conserve and material evidence of people and their environments. Another illustration of a classical definition is provided by (Harrison (1967:4–5) who argues that museums are collections of original source materials that are gathered together for public view, supposedly to encompass the richness from all the Earth, from all periods of history and from all styles. Often these definitions of museums assume that collections can have an educational purpose and a moral value.

Reference to education and morality links to the second perspective on museums, defines them as cultural institutions. . Rectanus (2010:384), for instance, describes a museum as a cultural centre, which merges community outreach and education with consumption and entertainment, thereby, highlighting the fact that museums often play a part in cultural events. These events are often related to media communication to reach audiences and to fundraise. Duncan and Wallach (1978:448–450) define museums by the way they exhibit collections. The authors describe museums as modern ceremonial monuments that belong to the same architectural classes as temples, churches, shrines and certain kinds of palaces. This reflects that museums present different aspects of culture, i.e. scientific, art and ideal learning.

Table 2-1: Perspectives of museums in the Literature

Conception of museum	Focus of definition	Museums Functions	Geography of Museums	Open Air Museums	Role of Museums in cities
Classical	Museum as a collection of objects	Preservation of artifacts	Geography of collections	In-situ open air museum (e.g. Archaeological museum)- Outdoor museum	Preserve city identity
Cultural	Museum as a cultural center	Education: Research. Learning	Colonial and post-colonial museums; globalization	Ethnography museum- eco-museum	Representing urban life
Socio-economic	Museum as a economic and social institution	Generation of economy, social cohesion	Museums as agents of regeneration and social inclusion	Visitor attraction	Museums regenerating and revising cities
Visitors	Museum as a attraction	Entertainment	Geography of museums visits	Living museum Non-living museum	Museums as places of sociability, labour, and other social skills

A third approach is a social-economic one where the focus is on how museums contribute to economy and society. Here museums are viewed as economic institutions and sources of social cohesion and identity. Barker (1999), for example, describes museums as an instrument of business for instance, the Guggenheim Bilbao museum. It can be argued that museums have become institutions that play an important role in regional or urban development, and have important social effects on the locality in which they are situated. This perspective on museums can again been seen in the ICON (2007) definition mentioned in the Introduction, which included reference to museums as institutions 'in the service of society and of its development', a view also evident in ABS and ICOM (2006) which argues that museums have many functions, such as, education and entertainment that serve the community as well as attracting visitors to their cities, thus increasing revenue for both.

A fourth approach is concerned with the visitors that museums attract. Today, museums often strive to have an international or even global presence and there is considerable competition to attract visitors through innovative and unusual exhibition designs or programmes. The Canadian Museums' Association (CMA) (2005), for example, defines museums in terms of their visitors and their connections with surrounding societies. According to Gurian (2002), the CMA further specifies that visitor's enjoyment can accompany education and instruction but they explicitly disqualify for-profit institutions. They suggest that museums are,

> *"...institutions created in the public interest. They engage their visitors, foster deeper understanding and promote the enjoyment and sharing of authentic cultural and natural heritage. Museums acquire, preserve, research, interpret and exhibit the tangible and intangible evidence of society and nature. As educational institutions, museums provide a physical forum for critical inquiry and investigation."*

This definition highlights a range of elements of the classical and cultural definitions of museums, making reference to museums as institutions undertaking the acquiring, preserving and exhibiting of collections and the fostering of deeper

understandings, but also emphasise the presence of visitors who seek to understand the museum collections and see interesting exhibits.

The above example illustrates how the different approaches to defining museums are often present in combination within any specific definition of museums, with definitions often varying from each other largely in terms of the emphasis given to one or more aspect: some definitions emphasise collections, others the benefits that museums might bring to society and culture as well as education and entertainment. There is also a temporal issue, with definitions such as those of Alan (1960) very much viewing museums buildings to house collections of objects whilst the more recent definitions of organisations such as ICOM stress a range of other elements, suggesting perhaps that the definition of museums has changed over time, perhaps as museums themselves have evolved different functions to meet changes in societies and the needs people.

2.3 Museum functions

Throughout the museum studies literature, museums are not only presented as having the role of storing objects but also having many functions that serve social concerns. These functions are seen to evolved over time with the development of museums. Hooper-Greenhill (1992, P: 1), for example, argues:

> *"... it is a mistake to assume that there is only one form of reality for museums, only one fixed mode of operating. Looking back into the history of museums, the realities of museums have changed many times. Museums have always had to modify how they worked and what they did, according to the context, the plays of power and the social, economic and political imperatives that surrounded them. Museums, in common with all other social institutions, serve many masters and must play many tunes accordingly. Perhaps success can be defined by the ability to balance all the tunes that must be played and still make the sound worth listening to. At the*

present time, in many areas where decisions are now being made
about the funding and maintenance of museums, hard questions
are now being asked about the justification of museums, about
their role in the community, and their functions and potentials..."

Museums can be seen to have many functions. Traditionally, their core activities or functions have been seen to be the conservation and restoration of their collections and the pursuit of scholarly research, along with the display of these objects. From such a perspective, a museum's functions usually includes preservation, documentation, research, collection, display and interpretation (Dexter, Lord, and Lord, 2001; MCU, 2011). There are, however, other possible functions for museums, including entertainment and economic functions. The various functions that museums have been seen to perform are discussed below.

2.3.1   Store of Artefacts

It has been argued that museums originated as 'cabinets of curiosities' where storeroom of rare objects, from different places in the world and exhibited them. One, however, should not forget that one of fundamental functions of a museum is to store artefacts. This function involved the documentation of collections and objects as well as a conservation role, which is important for the storage of these artefacts.

Today, documentation is one of a museum's most important functions. Museums can establish themselves as 'documentation centres', i.e. as institutions that gather, manage and disseminate cultural information. This information can be just as important as the collections themselves or more so. Documentation in the museum must be understood in a dual sense (MCU, 2011). Firstly, it must be understood as the set of documents held by the institution, which may be highly varied in terms of formats, content, origin and cultural value. Secondly, it must be seen as a process, that is, a series of working sequences applied to the collections of documents or in the management of the museum in accomplishing its different

functions (MCU, 2011). This researcher considers that documentation is important in terms of formats, content, origin and cultural value, which are good sources of information that facilitate a museum's education function, particularly for research.

Museums conserve cultural assets in order to guarantee that they are passed on to future generations. This function is essential and justifies, on its own, the existence of the museums. From a classical perspective, this may be seen as one of the main functions of museums (Burcaw, 1997:174). Paul M. Rea, director of the AAM from 1919 to 1921, emphasised early on that the functions of a museum should be 'the acquisition and preservation of objects, the advancement of knowledge by the study of objects and the diffusion of knowledge for the enrichment and of the life of the people' (Low, 1942:32).

Scientific analysis methods currently available in the area of conservation allow us to obtain a series of data on the nature, technical make-up and degradation of materials and their causes. Based on these analyses, one is able to select the perfect treatment in each case. The varieties of situations that arise from these studies show how difficult it is to establish common conservation conditions for all assets. Conservation is carried out in two areas: preventive conservation and restoration (MCU, 2011). A basic premise is the importance of proper preventive maintenance, which is an on-going integral action that affects all cultural assets.

2.3.2 Education

Museums perform an educational role. The earliest museums were founded on the premise of 'education for the uneducated masses' (Bennett, 1995). Museums have education as one of their main functions once people become aware that a museum contributes to their own or to other people's sense of culture and, therefore, come to value it (Mire, 2003). For instance, in the British Museum, different cultures and civilizations are displayed in its departments, such as, the Egyptian and Indian collections. Visitors can get sense of these cultures and their values. Hence, a

museum is not an educational institution in the formal sense of the word. Museum education is education in its broader sense (Singh, 2004: 71-72). Hooper-Greenhill (1988) considers a museum, in the context of education, as an institution that can offer an educational experience across a wide range of variables and in relation to a wide range of institutions and organizations. The meaning of museum education is that situations are provided where visitors experience learning. A learning situation is a condition or environment in which all the elements necessary for promoting learning are present. The learning experience is the mental or physical reaction one has through seeing, hearing or doing the things to be learned and through which one gains meanings and understanding of the materials to be learned (Singh, 2004).

2.3.3   Generation of economy

Museums may be viewed via their economic function. Museums may be seen as economic institutions because they are capable of contributing toward economic regeneration. A museum's economic regenerative function is capable of being understood in different ways. Museums and its environs benefit from visitors. Visitors are a source of income; admissions income provides part funding for museums as well as private donations and sponsorship or shops and restaurants (Rosett, 1991).

Meier and Frey (2003:1) linked the economic function of museums to visitor attractions. He clarified that museums consume a large part of people's leisure time and are very important tourist attractions. Substantial amounts of money are spent when visiting museums in terms of both entry fees and expenditure in their restaurants and shops. Visitors have a strong effect on the local economy, especially in tourist locations. Not surprisingly, therefore, more and more museums are found located in spectacular new buildings.

2.3.4 Entertainment

Museums may be viewed as an attraction for visitors and, therefore, are expected to provide interest, education and enjoyment. The quality of the experience depends upon many variables that include the age and education of the visitor, the type of museum collection, the exhibitions presentation and visitor services (Capstick, 1985). Today museums compete to present exhibits that offer entertainment to attract visitors not only to themselves but also to their cities to help improve and enhance the urban area close by. Even international and national museums compete to attract visitors through innovative and unusual exhibition designs or programmes, which aim to educate and entertain at the same time (Dierking and Diane, 2000).

Museums function in relation to their mandated discipline, and their geographical and chronological fields while attempting to identify the community to whom these functions are intended to serve. (Dexter. et al, 2001). Traditionally, a museum's core activities have been the conservation and restoration of their collections and the pursuit of scholarly research. Meanwhile, there are other possible functions for museums, such as, entertainment, education and economic functions. All of these functions are related to one another; they are parts of a process and they support each other. For example, entertainment affects the economic function by attracting visitors. At the same time, education related to entertainment offers a more engaging experience for visitors. Hannigan (1998:98) described the process of museum functions as functional intermeshing.

2.4 Geography of museums

The main purpose of this section is to explore the relationship between geography and museums. According to Geoghegan (2010), museums are important spaces for discussion, investigation, performance and representation of themes and issues of significance to geographers. The importance of museums, she claims, is supported by the numerous Geography Departments in British Universities that are

interested in museum studies. Geoghegan feels that this interest, however, does not yet qualify as a fully formed museum geography, although she highlights a growing range of geographical works that are paying attention to aspects of museums, including collections, the physical architecture of museums, modes of categorisation and visitor practices (e.g. Naylor, 2002; Hill, 2006).

Drawing on these concerns and previous debates about museums and their functions, the relationship between museums and geography will be discussed.

2.4.1 Geography of collections

As previously discussed, museums can be classified according to the differences of their collections. These collections themselves have a geography, being both collections of objects from somewhere and being potentially ordered to be a display of somewhere. . For example, national museums like The British Museum or Louvre Museum involve collections from different places. These collections express national cultural pride and are part of a citizen's sense of self. Regional or local museum collections express provincial cultures or city places and their histories too. Geoghegan (2010) argued that geographical studies of museums are incorporated in their collections. She noted that museums are stores of collections and are important places for scholars from all disciplines. These collections affect museum space. Where they are displayed by the museum depends upon priorities. Geoghegan (2010) noted that geographical research achieves knowledge transfer, which can be undertaken museum spaces with their visitors and staff.

2.4.2 Cultural

Geoghegan (2010:1467) said, "Geographers have been able to extend their understanding of where, why and how knowledge and understandings of the world are constructed and maintained throughout the eighteenth and nineteenth centuries."

Studies made by historical geographers describe the role of museums as spaces producing knowledge. Livingstone's (2003) study describes museums as 'cabinets of curiosities' or 'spaces of diagnosis' or 'the body of scientific knowledge' (Entrik, 2006:440). Meanwhile, cultural geographers define another role for museums, i.e. shaping identities, knowledge and spaces for place-based identities (Geoghegan, 2010).

Another role of geography in relation to museums has been explored, i.e. heritage, tourism and how the past is understood (Harvey, 2001). Here, heritage studies begin to overlap with the geography of museums. Heritage preservation in the context of museums involves rescuing old buildings from demolition or decay and maintaining them in good condition. From a classical perspective, this may be seen as one of the main functions of museums (Burcaw, 1997:174). Paul M. Rea, director of the (AAM) from 1919 to 1921, emphasised early on the function of a museum should be when he said, "The acquisition and preservation of objects, the advancement of knowledge by the study of objects and the diffusion of knowledge for the enrichment and of the life of the people." (Low, 1942:32)

Museums are described by Kenne (2005) as an international network that contributes to globalisation since they are a means by which countries and regions respond to its influences to maintain their cultural identity. Therefore, Colonialism has affected the daily life of millions of people around the world and it is made obvious by the many cultural processes in museums (Barringer and Flynn, 1998:7). John Mackenzie (2010), in his work, *Museums and Empire*, explains the relationship between the development of museums and the colonial past (British Empire). For instance, Wilkinson (2004) claimed the British Museum collections are largely composed of objects from Britain's colonial past and issues, such as, cultural ownership and interpretation are crucial. Jonathan Williams, the director of collections at the British Museum, supports Wilkinson. He explains how the British colonial past affects the museum's functions of collecting, interpreting and national identity. He said (Wilkinson, 2004:7),

"…if the 20th Century was a century characterized by conflicts of ideology, the 21st Century is all about conflicts of identity…I think our current concern with questions of culture and identity and our increased awareness of their potentially explosive sensitivity is more about this than about post-colonialism, though clearly the two developments intersect in interesting ways… political ideology and social class are not the only things which unite and divide us. Other, older ingredients in human identity religion, culture, language have gained prominence and shown themselves to be anything but blandly harmless objects of benign curiosity…Culture came out of the museum, arm-in-arm with religion it has asserted itself as a driving force for re-establishing or inventing afresh communal identities…"

Another effect of colonialism on museums is the European style of museum architecture, which spread to the colonies of Britain, France and Spain. This influence was responsible for the appearance of colonial museums, such as, The National Museum in Jakarta, Indonesia, established in 1778, and The Indian Museum, India, established in 1778. Museums including national and regional museums spread all over the world in the nineteenth century, taking a range of forms (National Museum in Jakarta, 2000).

By the beginning of the twentieth century, museums in North America were beginning to become established as places to preserve objects of art and cultural of historical importance. Initially, North American museums were strongly influenced by European ones, which had already amassed large and valuable collections of artefacts from their long histories (Dana, 1917). North American museums, however, were influenced by European colonialism, which was one of the main factors that helped them to become established. Museums in this era were built as symbols of national pride, icons of national strength and testaments to communities (Skramstad, 1999; Welsh, 2005). The colonial powers used museums as instruments of European penetration and domination (Reid, 2002:95) or in

another sense; European colonialism left signatures on museums as well as on city planning and urban architecture (Godlewesska and Smith, 1994:216).

Museums have also been shaped by globalisation. Most museums today can be described as global museums in that they have developed global exhibition programmes, seek to attract visitors from around the world and they are often housed in buildings created by globally renowned architects. Globalisation, like the museum itself, is a contested terrain. For example, the Guggenheim Museum, with its ever-expanding universe of branches (in Berlin, Bilbao, Las Vegas, and Venice), seems to epitomise the 'global museum', both in terms of its successes as a vehicle for cultural tourism and also in its controversial relations with local cultural politics (Rectanus, 2002:381).

Museums also began to change in response to new social trends and technical developments related to globalisation. Herreman (1998), for example, notes that museums have become more diversified and specialised. Exhibitions have become more culturally and socially aware and advances in conservation technology have changed display techniques and styles. The temporary exhibit was one such change that was introduced as a way to attract new attention and draw large numbers of visitors (Bradburne, 2001). There are many resources that museums can use to become more global, including the use of so-called 'signature architecture' and new exhibition programmes. Museums are also often viewed as central components of global place marketing strategies with new museums being established as a part of global events, such as the Olympics (e.g. The New China Science and Technology Museum).

2.4.3 Museums funding

Museums play an effective role in generating the economy. Museums constitute a prime element by representing urban life and in regenerating, revising and preserving cities (see section 2.5). Thus, another connection between urban geography and museums is through the museums' roles in cities. Museums are

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widely viewed as agents of urban regeneration, not only through the provision of museum facilities that attract visitors who stay and spend in cities but also because museums play a role in promoting investment and may perform a series of social and cultural roles (Jone, 2008; Lohman, 2008; Hebditch, 2008). These roles emphasise how museums are funded. Three types of funding exist: national, local and international. Local funding comes from local authorities for federated, state, provincial or city museums, etc. or by public societies, foundations, educational institutions. Central or federal government authorities administer national funding. International funding is a combination of funding by government and international authorities, such as UNISCO. In the context of this thesis the focus is on evaluating how the museum's funding affects the on success of the museum outcomes. For example, the affect is not only on museum implementations, promoting investments and economic regeneration but also on the social particularly in terms of compensations as well (more details see Chapters Six & Seven).

2.4.4 Area served

The western concept of a museum developed from a 'cabinet of curiosity' (Hudson, 1987; Lewis, 2010) into various types of museums that are classified according to their collections, funding, the way collections are exhibited and the areas served by them (Ambrose and Paine, 2006). Thus, museums can be described geographically, based on the areas they serve and hence classified into three main groups. The first group is 'national museums', which are established in capital cities, such as, the national museums in London. The second group is 'provincial museums', which are located in areas, such as, the provinces or regions of Britain (Hooper-Greenhill et al., 2009:175–177). Thirdly, there are numerous so-called 'local museums'. Museums might also be presented in geographical fashion related to the five classes as presented in the *Renaissance in the Regions Report Resource* (2001): 'national museums', which often include a number of sites, 'large regional museums' with encyclopaedic collections, 'small local museums' run by local government or independent organisations, the armed services. In addition, there

are 'university museums' based on the geographical distributions of universities and with relatively largely collections and 'National Trust and English Heritage' museums.

To sum up, many studies have explained how museums are shaped and how their contents have changed over time through the changing needs of society and the economic and political effects of processes, such as, colonialism and globalisation. Colonialism has a profound effect on museums, for example, in terms of architecture and the spread of the museum idea to many countries, such as, North America and Africa. In addition, globalisation is one of the factors that affect contemporary museum development as museums seek to attract visitors from all over the world. This means that museums become enmeshed in the wider marketing of places to global investors and visitors.

2.4.5   Museum Spaces

Though spatiality has been addressed by several different approaches in various kinds of literature, such as human geography, art, technology and photography, it is difficult to point to a strictly formal definition of spatiality. The geographer and urban planner Edward Soja in 1985 used the term Spatiality to refer to the space that is produced as a result of the social life. (Soja, 1985)

In human geography, another way that the term 'spatiality' is used is also to present the complex ways in which social life literally takes place and the ways in which social relations and sub-activities are constituted within the space (Kuhlenbeck, 2010). However, Gregory, et al (2009: 697) claimed that time-Geography associated with Torsten Hagerstrand and the Lund School presented the spatiality of social practice through how social activities are distributed across time and space. Other authors, such as Paturel (2009), considered spatiality to play a role in conflict with the reconfiguration of space, affecting residents' daily social lives and held that this conflict redefines spatial relations and vice versa. It can be understood that spatiality is presented through the interaction between social

relationships in time with space. In another meaning, the social needs and their relationships with the space produce the spatiality, which can change over time (The time is seen here as change, movement and history (Gregory et al, 2009)) as social life changes.

According to this argument there is no clear concept for spatiality which presented through various kind of literature (Soja, 1985; Paturel, 2009; Gregory et al, 2009; Kuhlenbeck, 2010). However, most of these literatures noted the space is produced from spatiality, and this argument is pursued in this thesis. From considering museum spaces more generally brings the discussion to the notion of museum space in particular.

"*What do we mean by 'museum space'*? (Fleming, 2005: 57)

Through different literatures on museums (Soja, 1985; Massey 1993 & 1994; Paturel, 2009; Gregory et al, 2009; Kuhlenbeck, 2010), space has different meanings according to human perspectives. A museum can be described a store of artefacts such as 'cabinets of curiosities', its space described as 'spaces of diagnosis' (Livingstone, 2003). Here, the exhibition or display of collections in interior spaces as spaces for (moveable) social art, are different in their display or exhibit of collections of, say, outdoor and in-situ Egyptology. The nature of the person experiencing the space too is important; the way spaces of museums or galleries are ordered is for example known to affect the learning and experiences of young children within them (Teres, 2009).

Consequently, museum space can be discussed in this section under two main headings. The first is interior museum spaces, which visitors encounter having entered the museum while the second one is the exterior space of the museum building with its surroundings. Museum interior spaces could be seen as a sequence of halls involves i.e. exhibits, galleries, displays of collections, community spaces, and gift shops where visitors act with it. Exterior museum spaces, such as the surroundings to museum buildings (e.g. squares, streets, park or even country

side) can have two potential effects on museum visitors; they might deter them, or attract them (Fleming, 2005) . He added that the physical design of a museum might be deter visitors for a variety of reasons; the first time visitor to a museum might find a stately entrance portico daunting, while at the other extreme find the museum entrance at all can be problematic in some cases (e.g. Urbis in Manchester). As will be developed further in Section 2.8 and throughout the thesis, the notion of the Open Air Museum blurs these interior-exterior dichotomies.

Furthermore, Fleming (2005: 55) illustrated another space of museums in which people either pre-visit, or never visit a museum using the virtual space of the internet.

> " *... the visitor enters the 'psychological space' of the museum perhaps long before actually visiting. And it is a space shared with people who have no intention of visiting the museum. The whole point of marketing and publicity and image-building and branding, is to prepare people to make contact with museum ...*"

Based on above all, spaces of museums are different in their power, for lifelong learning or social inclusion. Within these spaces, some visitors can find their way around inside, some cannot; but it does not mean most of them hate museums. Some people love Guggenheim Museum in Bilbao while others hate it, as Fleming (2005) illustrated.

2.5 Open air museum

The present study will look at one particular museum and its relationship with a city. Many of the issues that arose in the preceding discussion on museums and cities are clearly relevant to this study. It is important also to consider the particular type of museum to be investigated, namely, the open-air museum.

Over the years, many theories about the origin of the idea for open-air museums have been put forward. Alexander (1983), for example, suggests that the idea of creating an open-air museum emerged with Artur Immanuel Hazelius. Hazelius was interested in Swedish history and its folk traditions. He decided to collect old costumes, furniture, furnishings, tools, paintings, music, dance and sayings. Over time, his collection grew and he searched for a place to rent to exhibit it.

In October 1873, he opened the Scandinavian Ethnography museum on an island in central Stockholm. This was later to become the Nordic Museum, established in 1880. Hazelius' museum collections grew rapidly and the exhibits become crowded and confusing to visitors. In 1880, he began to formulate the concept of a folk museum and consequently he instituted field studies on the way folk lived, i.e. their houses, gardens, interior furnishings, household implements, tools, clothing, customs and amusements.

In 1891, Hazelius opened the first open-air museum in Skansen, Sweden. This was not only the first designated open-air museum in Sweden but also in the world. The museum included buildings, settings, furnishings, household crafts, folk music, dance and costumed guides to help visitors to understand the museum's activities.

Jong and Skougaard (1992) argue that the museum's buildings were used as a framework for functional exhibitions, dioramas, tableaux, etc. The buildings were a source of Hazelius's idea for establishing an open-air museum and were also inspiration for founders of other ones but there can be no doubt that the great international exhibitions of this period, where art, handicrafts and antiques were shown together with the most recent industrial products also played an important inspirational role. Open-air museums can be classified into four types, which can connect into earlier discussions of the definition, functions, histories and geographies of museums.

2.5.1 The open-air museum as a collection of objects in the outdoor

Open-air museums are often classified on the basis of their collection, as in the classical approach to museums discussed earlier. Examples of these include the identification of archaeological and and-in-situ museums (Alexander, 1983). Whilst in a sense the term open-air museum might be applied to any museum in the outdoors, in practice the term has been used to imply some thing more specific. The idea of open-air museums appeared not only in Europe but also in North America and around the world. In the United States, it has been suggested that these museums have taken two particular forms. In their first, archaeological and historical sites have formed the basis of the museum. The sites focused on preservation and formed the centre of the museum. In the second form of open-air museums, buildings of historical or artistic importance are transported to a dedicated and convenient location of no particular historical significance. An example is the colonial capital of Virginia, Williamsburg, where 500 structures were moved from other locations and rebuilt to create a seemingly historical cultural landscape. Whilst having important differences, these two forms of open air museum retain a common conceptual focus in that the meaning of an open-air museum is not simply of being a museum in the outdoors, but also centres on the museum being a collection of objects. These objects are most commonly buildings, but as the concept of an archaeological museum implies may take other, more specific forms. Open air museums, for example, are also identified by other collection focused descriptions, such as farm museums or industrial museums.,

2.5.2 The open air museum as cultural museums

As discussed earlier, museums have widely been seen as places of culture and differentiated into types of museums according to the type of culture they promote. Such approaches can also be identified in relation to studies on open air museums. As previously noted, the world's first open air museum was Skansen, in Sweden. This museum contains not only buildings but also artefacts that relate to rural folk culture within Sweden. The museum was in a sense a folk museum in the

outdoor, with the buildings, which were drawn from across Sweden rather than just being in-situ artefacts, being just part of the collection on display. Other similar examples include the Weald and Download Open Air Museum in Singleton, England and the Latvian Open-Air Ethnographic Museum in Riga, Latvia. As well as open air folk or ethnographic museums, are open air eco-museums. These museums all share an identity that links their collections to the interpretation and promotion how people lived and acted in the past, which is often linked to scientific studies and ideas about education and study (Rentzhog, 2007).

2.5.3 Living museums

Contemporary open air museums often involve more than just buildings and the display of objects and associated interpretations, but also include the presence of museum staff, volunteers or museum visitors as performers of actions, singing and dancing. Such activities were a feature of the original Skansen Open-Air Museum, and although widely present across contemporary open air museums are far from universal and should not be taken as a definitive feature of open air museums. Instead the term living museum might be applied to many open air museums, in the sense that there is an attempt to make the collections "come alive" through performances that seek to combine the promotion of education with entertainment and imaginative/experiential engagements. (Jong and Skougaard, 1992). Such museums often seek to create performances related to everyday living through, for instance, the enactment of household tasks, such as, cooking on an open hearth, churning butter, spinning wool, weaving and farming without modern equipment. Many living museums also feature traditional craftsmen at work, such as, blacksmiths, coopers, potters, millers, sawmill workers, printers, doctors or general storekeepers. An example of this is Muang Boran, which recreates an ancient city in Japan (Museums of Learning, 2010).

2.5.4 The open air museum as heritage attraction

According to Alexander (1983) not all historical preservation areas can be operated as open-air museums, although many of these sites have a museum-like appearance; they contain house interiors, shops, professional offices, restaurants, community organizations, even small museums and other modern activities. In addition, historical districts add a pleasant historical aura to contemporary living in order to attract tourists and to the different performances in living museums.

To conclude, the open-air museum may be seen as a distinctive type in terms of its exhibits. These museums present the past to visitors in a different way compared to traditional museums. Through their use of performers they become attractive to visitors of different ages, especially children. (Although it must also be noted that many non-open-air museums now also engage in such activities.) Today, the open-air museum idea has spread around the world and every country has established them to present its history and social customs to visitors for the purpose of entertainment and learning about their past lives. It has, however, been shown that open-air museums, just like museums in general, take a range of forms; hence, they have been classified into such forms as living farm museums, living history museums, folk museums, eco-museums and outdoors museums.

2.6 Museums in cities

The focus of this study will be on the effect of establishing an open-air museum in Luxor city. It is therefore important to consider the relationship of museums to the cities in which they are located. This section examines this relationship. It will be shown that the relationship between museums and cities is complicated. Some studies argue that museums reflect cities whilst others hold that museums exert an effect on cities. It has been suggested that the relationship between museums and cities can be distinguished by four approaches: classical, cultural, socio-economic and visitor as outlined below:

- museums preserving cities and urban life
- museums representing urban life
- museums regenerating and revitalising cities
- museums as places of sociability, labour and other social skills

2.6.1 Museums preserving cities and urban life

Museums can be classified through the classical approach as preserving cities and urban life. Mouliou (2008) has also suggested that museums can act as symbols of an urban historic heritage. In his analysis of the culture of cities, Mumford (1949:4) argues for the need to have museums in them. He contends that over time, buildings, monuments, streets and city's life deteriorate. There is, thus, a need for the city to preserve itself, its buildings and monuments by establishing museums. This means that the museum acts as a guardian for a city's memories and a mechanism for preserving its identity. Similar to Mumford, Rykwert (2000) notes the necessity of museums in cities, believing that cities need museums just as people need their memories, not for their past but also for their identity and as a guide to the future.

Museums, like planning and growth, can shape cities in different ways and change their environments. Van Aalst's (2002) for example study of the role of museums in cities such as Amsterdam and Berlin. The study focused on the state of art in a cluster of museums and their roles in their city's development. It was discovered that museums were involved in the redevelopment of Amsterdam and Berlin though their positions within public space but the process also involved the rehabilitation of individual museums as well. The study explored the effects of museums upon their cities, including how they enabled the redevelopment of many urban areas, such as, public spaces.

2.6.2 Museums representing urban life

Museums have been described as cultural centres. Kirchberg (2003:61) states that the term 'museums in the city' refers to the notion of 'city-life museums' where the

social, civic and urban history are collected and presented. This suggests that museums form one of the essential parts of a city's cultural and urban landscape.

Other researchers have directed their attention towards supply-side concerns that include the urban environment, growth and planning. Johnson (1995), for instance, has argued that a museum can act as a starting point from where to begin to discover a city. A museum can enable people to look with freshly informed and perhaps more tolerant eyes upon the richness of the present urban environment, potentially imagining it as being beyond its past and present form but looking to its possible future. City museums often present the public experiences associated with the city's plan and design. To clarify, city museums can reflect the shape and personality of their cities through exhibitions and other programmes. Mouliou (2008) has argued that museums and cities shape each other. For example, museums may act as instruments of urban growth. One characteristic of city museums is they can give a sense of order to urban chaos and act as hallmarks of urban identity and traditions. Ceballos (2004:177–186) studied the role of the Guggenheim Bilbao Museum in the urban development of Bilbao city. The Guggenheim has created popular satisfaction while the landscape has acted as a mechanism of social control, which been recognised by the civil authority.

2.6.3 Museums regenerating and revising cities

Today, museums act as agents of economic regeneration. O'Connor (1998) reported that contemporary cities try to increase their appeal by building and refurbishing cultural facilities often using museums as tools to redevelop or regenerate part of the city by attracting tourists to particular areas (Van Aalst and Boogarts, 2002:196; Lilla, 1985:79). In the report *Renaissance in the Regions* (2001:8), museums were described as catalysts for urban regeneration, elements of specific redevelopment schemes or as part of a wider renewal of a city's profile. Museums in places such as Walsall, Liverpool, Manchester and Birmingham are attracting national attention and are helping to develop a favourable image for their cities. In the south-west of England, a study has shown that museum-related

tourist spending has made a significant contribution to the region's economy. Major museums could play a role in developing a clearer sense of regional identity and in developing a sense of place. Museums need to work in partnership with local learning councils, urban regeneration companies, local authorities, and private sector interests to bring forward regional programmes to develop skills for young people focused on using museum collections.

Gladstone (1998:23) supports this view and claims that cities today offer a wide variety of leisure opportunities, including specific attractions, such as museums, galleries, shopping and nightclubs in addition to their particular built-heritage and overall atmosphere (Gladstone, 1998: 23). Researchers such as Jansen-Verbeke and Van Rekom (1996:365) have studied the relationship between museums and tourism. They suggest that for industrial tourism, the museum has become one of the most important tools in developing this sector through its role as a tourist attraction. For example, in Ottawa, Canada, a Renoir exhibit in Canada's National Gallery reportedly increased local hotel revenues by 4.8 million dollars (Tufts and Milne, 1999:616).

Many studies refer to the roles of city museums and their effect on the urban environment. According to Edwards and Bourbeau (2008:143), museums play a critically important role in city planning because their primary focus is on cultural value and identity. Gorbacheva (2006:51–53) reported that museums include objects and representations of urban spaces and thereby reflect the past, present and future of the city itself and its communities. Orloff (2008:28-34) found that museums support urban planning. They provide historical details of previous planning and act as proactive providers of insights into current ones. Similarly, Grewcock (2006) claims that city museums play a visible and creative role in urban planning and place making. The researcher also suggests that urban planning and museum policy and practice are often two worlds in convergence, yet often unaware of their relevance to each other.

2.6.4 Museums as places of sociability, labour and other social skills

As discussed above, museums attract visitors. Galla (1995) believes that it is appropriate to view museums as urban cultural and heritage centres that are involved in integrated cultural development based on the adaption of holistic approaches to arts, culture, heritage, festivals and special events. Galla argues that all of this can be systematically developed through cultural planning approaches. These approaches are complex and assume that the engagement of a museum with a city is an on-going process. Moreover, museums in post-colonial societies offer exciting opportunities for the democratization of the museum construct.

Furthermore, museums have been viewed as vehicles for urban regeneration or at least as institutions that might help halt urban deterioration. Additionally, they can be viewed as meeting grounds for socially different groups, thereby providing a valuable place for multicultural sociability. Depending on their mission and policies, museums can be seen to either reinforce social segregation or act as agents of social inclusion and rapprochement between different social groups in a city. Within this perspective, museums become centres of knowledge that inspire learning amongst recipients of objects and stories that reflect the past and contemporary life of the various communities in the city (Mouliou, 2008).

Finally, museums may become important landmarks and institutions that undertake a series of services for the city and society. Museums have an effect on city growth (Mudenda, 2002), urban planning and provide an important tourist attraction. Governments, therefore, should put policies in place to improve city museums as in Berlin and Amsterdam (Van Aalst, 2002).

These debates about city museums demonstrate the way they play a role in urban regeneration and the preservation of metropolitan life. Cities can use museums to regenerate and develop themselves and counteract problems of shrinkage. The Research Centre for Spatial and Organizational Dynamics (CIEO), University of Algarve, Portugal, described Algarve towns (Portimão, and Olhão and Vila Real de

Santo António) in Portugal as case studies of shrinkage problems. The industry in these Algarve towns was mostly related to rich fishing resources and the food-canning industry. After the entrance of Portugal into the European Union, with more strict environmental laws, an exponential growth in tourism and globalization, industrial activities declined. This left industrial areas derelict and consequently these cities suffered from shrinkage problems.

In Portimão, during the nineteenth and twentieth century, the sardine canning industry flourished and a strong connection was establish between the industrial landscape, the fishing port, the city and the Arade River. In the 1960s, the industry collapsed, leaving several industrial facilities abandoned on the Arade riverside. The whole area has now recovered. As part of the riverside recovery, an old canning factory, the Feu Factory, was converted into a municipal museum, which opened 17 May 2008.

To view the museum, the public can choose three different paths. The first one is called 'The Origin and Destiny of a Community', the second is 'The Industrial Life and the Sea Challenge' and the third is 'In Deep Water'. The latter is about the Arade River and the ocean bottom. As part of the second path, the museum maintains the factory structure, showing its functions.

Olhão used the heritage preservation approach. One of the canning industry factories in Olhão was the Ramirez Factory, where tuna was canned in olive oil, sauces or brine. The factory was located near the port area and founded in 1936. Olhão's decline affected the Ramirez Factory, which was sold to another canning company from Vila Real de Santo António, José António Rita, Lda. This factory was recently rehabilitated and transformed into a municipal auditorium. The building itself was not maintained but out of respect for its cultural heritage, some cultural and architectural elements were identified and maintained in order to transmit a sense of place (Panagopoulos, 2011; Panagopoulos and Barreira, 2013; Andrade, et al., 2011).

By noting these experiences in city regeneration and development described above, other cities are attempting to increase their appeal by using museums for many purposes, such as, developing tourism, preserving memories and improving the urban environment.

2.7   Museum and urban geography

The previous section of this study has indicated that museums have recently emerged as significant elements of public policy, particularly when it comes to urban regeneration. For this reason, this section will review literature concerning urban geography studies, particularly in relation to the processes of urban transformation. By the twentieth-century, urban geography had become even more diverse than previously. It became an amalgam of different approaches and multidisciplinary in its analysis of its object, rather than neatly structured systematic geographical study (Carter, 1995). Urban transformation was one of its major components and has been analysed through different approaches and perspectives. Urban transformations can be described in the following terms: renovation; revitalisation; rehabilitation; renewal; upgrading; gentrification and regeneration. This study aims to specifically identify range issues of urban processes that can be characterised as urban regeneration, city reimaging, and gentrification in relative with social justice and inclusion, which can be seen to connect to museums at the first section of the chapter.

Cities are now regenerated through attracting major sporting or cultural events, such as the London 2012 Olympic Games (Plessis, 2007), or use museums as instruments of regeneration, e.g. the Guggenheim Museum, Bilbao. Despite many of these cities are records of the successful aspects of urban regeneration projects others failed to success as were expected e.g. Glasgow, UK (Hall, 2005). In this light, the next sections are focuses in approaches of urban regeneration, gentrification,

city re-imaging and flagship development, the other section 2.7.5highlighted the Guggenheim Museum Bilbao's experience in urban regeneration and other issues.

2.7.1 Urban regeneration

This section focuses on exploring studies of urban regeneration of relevance to museums. A particularly clear illustration of these connections is provided by studies of the Guggenheim Museum in Bilbao, but research on major sporting or cultural events (such as the Olympic Games, the Commonwealth Games, or the World Cup) can also be seen to be of relevance attempting to regenerate cities and tackle their problems. Urban regeneration has long been important in urban studies, many scholars such as; Roberts and Sykes (2000); Maginn (2004); Pacione (2005); Jones and Evans (2008); Tallon (2009; 2012); Smith (2012) argued that urban regeneration has an important role in the history and development of the world's cities. Further, its theoretical and application issues are increased its importance to governments and local populations. For example, many cities in the UK and Europe have succeeded in urban regeneration projects. However, others proved not to be as successful as expected and failed in their outcomes. Regeneration policies cause transformation and reimaging of inner cities, with consequent impacts on social conditions. According to Roberts (2006: 10) there are three common themes that dominate urban change and policy. All of these urban policies (urban reconstruction, revitalisation, renewal, redevelopment, and regeneration) are summarised in Table 2.2.

Table 2-2: The Evaluation of Urban Regeneration in UK. Roberts (2000)

Period Policy	1950s Reconstruction	1960s Revitalisation	1970s Renewal	1980s Redevelopment	1990s Regeneration
Main strategy and orientation	Reconstruction and extension of older urban areas with slum clearance based on master plan and suburban growth.	Continuation of 1950's theme; suburban and peripheral growth and rehabilitation.	Development periphery and urban renewal in neighbourhood.	Many major schemes of development and redevelopment; flagship projects out of cities projects.	Comprehensive form of policy and practices with integrated on treatments
Key actors and stakeholders	National and local government; private sector.	Public and private sector.	Growing role of private sector and decentralisation in local government.	Private sector and growth of partnership.	Public private partnership.
Spatial level	Local and site level	Regional level	Regional and local level	Local level	Regional level
Economic aspect	Public sector investment with some private sector involvement.	Public sector investment with growing influence of private sector.	Public sector with growth of private sector	Private sector with selective public fund	Balance between public, private and voluntary funding
Social aspect	Improvement of living standards and housing.	Improvement of social welfare.	Community and greater empowerment.	Community self-help with very selective state support development.	Community development
Physical aspect	Replacement of inner areas and peripheral development.	Some continuation from 1950's, in parallel with rehabilitation of existing areas.	Renewal of older urban areas.	Replacement and new development flagship schemes.	Heritage reservation and retention.
Environmental aspect	Landscaping and greening.	Selective improvements.	Environmental improvements with some innovation.	Growth of concern for wider approach to environment	Introduction the idea of environmental sustainability.

The history of urban regeneration has been characterised by a number of distinctive phases during the past decade (Colantonio & Dixon, 2010: 57). Tallon (2010:29) states that urban policies from 1945 to 1986 were characterised by 'bricks and mortar' and physical redevelopment policies were more associated with town and country planning than direct urban regeneration. The period between 1986 and 1979 witnessed the introduction of area-based community initiatives and indicated the importance of a specified urban regeneration policy.

Couch (1990), Roberts (2000), Ho (2012), and Robinson and Shaw (2000) have illustrated that in the 1940s and 1950s urban policy was concerned with reconstruction, tackling the physical problems of the past as well as slum clearance. Reconstruction policy led to the embracing of "high-rise housing and industrialised building techniques" (Couch, 1990:29; Roberts, 2000). However, Ho (2012: 115-116) pointed out that reconstruction policy reflected dissatisfaction, particularly with slum clearance and its effect on their inhabitants. Hence, this led to a series of adjustments to this policy. In the 1960s and 1970s, urban policy focused on social improvement and the renewal of older urban areas, from the local and site level to regional levels. The renewal policy during this period also created coordination between government, public and private sectors in economic, social, and physical aspects. Urban redevelopment became another urban process presented to solve urban problems in 1980. This placed the emphasis on public-private partnerships, rather than a reliance on the central state. In the 1990s, the concept of sustainability was introduced to the UK's urban redevelopment policy, and from then on urban projects in UK cities involved not only physical, social and economic objectives, but also environmental aspects. As a result, this change created a link between the problems of the past and current challenges, so helping to shape the approach to urban regeneration (Ho, 2012). Local people were given a prime role in this policy. However, the concept of 'power to the people' while appearing to be positive, did not tackle the problem of operationalising 'community involvement' (Robinson and Shaw, 2000: 8)

On the other hand, Roberts (2000) argued that urban regeneration has been officially recognised for the first time in the United States in the 1960s, when the transfer of maritime activities led to the abandonment of large areas of land, which became derelict. Municipalities often assigned this land to an urban centre of business activities, as is the case in Boston, Baltimore and New Orleans (Teixeira, 2010). In 1980 there was a launch of the second phase, both in the Docklands in London and in Barcelona (Tallon, 2010). Urban regeneration has led to the complete transformation of empty land, through the re-building of a multi-activity "section of the city." Urban regeneration in many areas was launched in 1990, often with those with high population density, that were heterogeneous and functional, but facing many urban failures (UNEP, 2004).

Others scholars, such as Raco (2003), noted that the mid-late 1990s onwards signals the beginning of the role of place-building as an important element in creating new discourses and practices of urban regeneration. Places are socially constructed, and the role of regeneration agencies (from developers and speculators to government regeneration companies) has enlarged the contribution to the representation of particular imagined spaces. New forms of economic development and 'urban regeneration' are increasingly dependent on the promotion of the discourse of place, both as centres of production and of consumption (Raco, 2003). The majority of these polices were concerning with tackling urban problems and redeveloping city centres and inner city housing.

The context of 'urban regeneration' conjures up different meanings, and can range from large-scale activities promoting economic growth to neighbourhood interventions that improve quality of life (Colantonio & Dixon, 2010: 55). It is therefore possible to argue that urban regeneration is a widely experienced, but little understood, phenomenon (Maginn, 2004; Roberts and Sykes, 2000; Smith, 2012). This is true even as a concept interpreted from a number of different approaches. The term 'urban regeneration' conjures up different meanings, Roberts (2000) defined it as a comprehensive and integrated vision and action which lead to the resolution of urban problems, and which seeks to bring about a

lasting improvement in the economic, physical, and environmental condition of an area that has been subject to change. Others highlighted that urban regeneration processes can range from large-scale activities promoting economic growth to neighbourhood interventions that improve quality of life (Colantonio & Dixon, 2010: 55). Jones and Evans (2008:2) state that 'the large-scale process of adapting the existing built environment, with varying degrees of direction from the state, is today generally referred to in the UK as urban regeneration'

The processes of urban regeneration involves physical, social, environmental and economic transition, and they themselves are prime generators of many such changes.. Economically, regeneration policy attracts investors, creates employment and renews the urban economy, as in the case of former industrial cities such as Manchester (Roberts, 2000; UNEP, 2004) ensuring that housing and social facilities are available to encourage people to live and work in the area (Pacione, 2005). Further, regeneration is used to enhance architectural heritage (i.e. the historic core) and urban tourism, or to attract research and academic institutions.

As urban regeneration is concerned with social aspect, focusing on social, justice, and social inclusion within deprived neighbourhood sit encourages social capital development and community participation, in order to bring about the regeneration of the neighbourhood and the community (Tallon, 2010). All of these aspects reflect on the social factors where enlarging the supply of urban housing and developing local infrastructure works in conjunction with social inclusion such as employment, education and health (Roberts, 2000: 17; UNEP, 2004). The Institution of Civil Engineers (1988:8) warns that all the previous characteristics should be undertaken with strong motivation, local participation and support. Its approach should be flexible and undertaken with a partnership between the private and public sectors and initial public investment. At the same time, these are required in varying degrees in order to create commercially viable investment opportunities.

Since urban regeneration policy has been applied in many countries, Teixeira (2010) noted that throughout history urban regeneration has been related to the improvement of public health, mainly by water treatment and supply, sewerage, waste collection and paved and clean streets. It was also related to the construction of new urban infrastructure and facilities (such as railway stations, schools, university faculties, hospitals, etc.) and the establishment of the provision of minimum standards of housing and a control of urban expansion, as a consequence of the development of urban transport systems. However, Hassan (2012) argued that urban regeneration has evolved from a simple form of renovation or rehabilitation, to targeting the restructuring and the renewal of the urban economy, while seeking social interaction and equity. As the need arose for governments to adopt an enabling approach that supported people living in slums, urban regeneration was considered as the most effective approach to deal with these informal areas of in the inner city.

Although, urban regeneration considers an important chance to rectify the mistakes of the past and create attractive places where people will want to live in the future (Jones and Evans, 2008:1) it could cause problems for residents if it is removed from the principles of social justice. For example, residents have the right to be involved in public participation to express their needs and give their opinion during the urban planning process where they are impacted by these policies (Penz et al. 2011:129). This reflects a fear of losing social networks, anxiety of having new, uncontrolled, neighbours and uncertainty concerning the final costs of the new accommodation (Deboulet and Cnrs, 2011).

2.7.2 Gentrification

This section reviews the key literature relating to gentrification. This process will assist in identifying the effects of an open-air museum in Luxor, the subject of this thesis, where the understanding of gentrification assists in a prediction of the museum's potential impact on the city as regards gentrification-related displacement. The literature of gentrification is extensive (e.g. Smith, N. 1996;

Butler, 2005; Phillips, 2005; 2010; Lees et al. 2008) and has given rise to a wide range of research topics and debating points. As a result gentrification has become one of the most popular topics in urban geography.

The term "gentrification" was first coined by Ruth Glass(1964) in her observations on processes of urban change that were beginning to affect inner London:

> *One by one, many of the working class quarters of London have been invaded by the middle classes-upper and lower. Shabby, modest mews and cottages-two rooms up and two down-have been taken over, when their leases have expired, and have become elegant, expensive residences. Larger Victorian houses, downgraded in an earlier or recent period-which were used as lodging houses or were otherwise in multiple occupation-have been upgraded once again. Nowadays, many of these houses are being subdivided into costly flats or "houselets" (in terms of the new real estate snob jargon). The current social status and value of such dwellings are frequently in inverse relation to their status, and in any case enormously inflated by comparison with previous levels in their neighbourhoods. Once this process of 'gentrification' starts in a district it goes on rapidly until all or most of the original working class occupiers are displaced and the social character of the district is changed. (Glass 1964: 33)*

Lees et al. (2008:171-184) note that since Glass was writing, the issue of gentrification has become more complex. Hackworth and Smith (2001), identified four 'waves' of gentrification largely based on observation of the process in the USA and Western Europe. The first wave of 'sporadic gentrification' began in the 1960s, and has long been observed in many cities, for example in the London boroughs of Islington, Camden and Hackney in the UK and in the older north eastern cities of the USA (Hackworth and Smith, 2010; Phillips,2005; Smith, 2000). The second wave involved 'the anchoring of gentrification', during which the process became increasingly important in smaller, non-global cities and was

associated with the return of investment to inner city areas (Lees et al. 2008:171-184).

The third wave, which has its origins in the 1990s, is known as 'the return of gentrification'. This wave is characterised by the 'highly integrated conquest of urban space' (Smith, 2002: 9) where the role of large-scale capital appears greater than ever as whole urban neighbourhoods were redeveloped, often with state intervention and support (Wyly and Hammel 1999; Hackworth and Smith 2001; Lees et al. 2008; Tallon, 2013). In addition to residential rehabilitation and refurbishment, this wave has also involved reinvestment in commercial developments such as shopping centres, cultural complexes, restaurants and new offices (Smith, 2002; Slater, 2006). Smith and Timberlake (2002) claim that, this wave is now a global process and is occurring in many cities worldwide. For example, Phillips (2005) offers a long list of locations, from Birmingham to Baltimore and Budapest; from Philadelphia to Prague; from Sao Paulo to Sydney and San Francisco; from Copenhagen and Malmo to Edinburgh, Glasgow and Dundee; and from New York to Tokyo (Phillips, 2005).

However, Lees et al. (2008:179) have argued that, in the early 2000s, a fourth wave of gentrification in the USA emerged with 'intensified financialisation of housing combined with the consolidation of pro-gentrification politics and polarised urban policies'. Additionally, encouragement of the process by central government and local authorities was apparent in the US and the UK. Since the late 2000s, the US and the UK have entered another transitional phase, with evidence suggesting a slowing of gentrification, linked to a decline in the economy and property market.

Some studies have framed gentrification within decades-long processes of disinvestment and re-investment in particular neighbourhoods, suggesting that public policies and the owners of capital conspire to enable people on higher incomes to reap substantial profits from gentrification (Smith, 2007). Others use the term interchangeably with urban revitalization, to describe any commercial or residential improvements in urban neighbourhoods. Others define gentrification

more narrowly, as referring to the physical upgrading of low-income neighbourhoods, whilst others have focused primarily on the economic actions of newcomers, namely the renovation and upgrading of the housing stock. In contrast to these property focused visions of the gentrification process, there are those who describe gentrification in terms of class and racial tensions, and of other socio-economic and people-based effects, which often accompany the arrival of new residents in a neighbourhood.

Today gentrification has become a global process, and is used increasingly to refer to changes, which are occurring not only in urban areas, but also in rural areas, in the UK and elsewhere (Phillips, 1993). Phillips (2005a:318; 2010b) notes that the term is frequently used in conjunction with terms such as 'redevelopment', 'upgrading', 'improvement', and 'urban renaissance'. Many urban scholars have investigated the relationship between gentrification and the process of urban change. For example, Smith & Timberlake, (2002), Slater (2006), and Maloutas (2012) argue, that gentrification has become synonymous with urban regeneration. Both processes aim to produce space that will appeal to, attract, and serve the interests of, more affluent users. Furthermore, both involve the displacing of existing residents. Thus, Tallon (2013) has highlighted how literature often connects with research on urban regeneration. Atkinson and Bridge (2004) and Tallon (2013) consider that gentrification as a key urban process and method of regeneration is inextricably linked with a number of other transformations associated with the creation of the post-modern city. For example, gentrification was promoted by the urban regeneration of cities such as San Francisco, New York, Melbourne, Bilbao (Atkinson and Bridge, 2004), and London Docklands, and represents one of the more contentious outcomes of central and local governmental urban development (Tallon,2013).

It has been argued that the repopulation of inner cities through gentrification can result in a restructuring into spatial zones, which act as a filter for different social groups. In this debate, Phillips (2005) argues that the central business districts of cities in which higher quality housing has been built, could face the possibility of

decline over time. This decline would take effect in three stages. In the first stage higher status groups would move out to adjacent housing areas. In the second stage, lower/working class groups would follow in their footsteps. The third stage would involve the population of the now dilapidated inner city zone by the poor and deprived, with a consequent increase in crime, unemployment and delinquency (Figure 2.6).

Another view is presented by Gladstone and Preau (2008), who argue that in many cities, projects designed to encourage tourism have acted as a spur to the gentrification process, leading to redevelopments which provide city residents with increased opportunities for employment, leisure, and cultural enrichment. However, this can also have dramatic and unpredictable effects, notably with regard to redevelopments, which transform working-class neighbourhoods into middle- or upper-class areas catering to tourists.

This process of "tourism gentrification" is defined by Gotham (2005) in terms of the transformation of a middle-class neighbourhood into a relatively affluent and exclusive enclave marked by a proliferation of corporate entertainment and tourism venues. He argues that the changing flows of capital into the real estate market combined with the growth of tourism enhance the significance of consumption-oriented activities in residential space and encourage gentrification. The effects of the opening of the Guggenheim Museum in Bilbao can be seen as constituting a prime example of this process.

Therefore, these processes have been identified as physical, economic, cultural and social transformations (Warde, 1991: 225; Tallon, 2013). The refurbishment of a city's image includes the transformation of the built and un-built environments via revitalisation activities. Economic transformation involves the reordering of property values and opportunities for a range of formal and informal agents in the development industry, plus in many instances an extension of systems of private ownership of domestic property. Cultural transformation involves the emergence of a mosaic of distinctive enclaves of individuals, who have a shared cultural

lifestyle and consumer preference (Warde, 1991). The social transformation refers to processes of in-migration and settlement, plus exclusion, displacement and/or marginalisation of a variety of pre-existing residential populations. Together these processes are seen to produce territorial patterns of social segregation and clustering as well (Warde, 1991: 225; Tallon, 2013).

Pacione (2005:212) defines gentrification as a:

> *Socio-spatial change process where the rehabilitation of residential property in a working class neighbourhood by relatively affluent incomers leads to displacement of former residents unable to afford the increased cost of housing that accompanies regeneration*.

Glass (1964), Smith (2007), Lees et al.(2008), amongst many others, have identified gentrification as a complex urban process, involving a number of key social factors, including immigration, displacement and refurbishment. These key features relate to each other. For example, the physical and economic upgrading of areas in order to attract an inflow of higher income residents, often results in the involuntary migration and displacement of lower income residents (Kennedy and Leonard, 2001).

Atkinson et al., (2011) and Tallon, (2013) argue that the gentrification process attracts a multi-faceted range of different socio-economically selective migrants. This leads to higher income households moving into urban areas, which are undergoing gentrification, where their investment is viewed potentially as having more significant returns than when moving to locations that are more usually viewed in relation to their market power. Consequently, gentrification encompasses a form of household migration that leads higher income families to poorer areas, due to the fact that when these choices 'pay off', they yield greater investment growth over time. However, others like Smith (1996:2) and Tallon (2013) show that in gentrified areas, poor and working class neighbourhoods of the inner city which have been abandoned by their former residents are

refurbished by an influx of private capital and middle class homebuyers. Consequently, displacement is seen as one of the causes of the gentrification process.

Wright et al. (1995) define displacement as being caused by development forces that compel people to move from their current residence. These forces may include the following: land clearance; residential demolition; vacated buildings; investment that renders housing unaffordable for current residents; and rising taxes and rents. Vigdor (2002) highlights concerns that the processes leading to localised household displacement have the potential to develop into a widespread process of social exclusion, in both planning and implementation.

Households in displacement areas are being pushed to the peripheries of the cities. Consequently, not only is lower-cost wage labour in these cities increasingly difficult to find, but such households suffer significant stress in relocating some distance away from their supporting networks of local family and friends. This can affect psycho-social health, educational outcomes, and the incidence of household dissolution and homelessness (Atkinson et al., 2011).

Lees et al. (2008:195) reproduced a table (Table 2.4) summing up the positive and negative effects of gentrification on neighbourhoods, identified by Atkinson and Bridge (2005:2). As can be seen, in their view the consequences of gentrification are mixed, with negative aspects significantly outweighing the positive:

Table 2-3: Positive and Negative Effects of Gentrification on Neighbourhoods

Positive Impacts of Gentrification	Negative Impacts of Gentrification
	Displacement through rent/ price increas s
	Secondary psychological cost of displacement
Stabilisation of declining areas	Community resentment and conflict
Increased property values	Loss of affordable housing
	Unsustainable speculative property
Reduced vacancy rates	Price increases
	Homelessness
Increased local fiscal revenues	Greater use of local spending through lobbying/articulacy
Encouragement and increased viability of further development	Commercial/ industrial displacement
Reduction of suburban sprawl	Increased cost and changes to local services, displacement and housing demand pressures on surrounding poor areas
Increased social mix	Loss of social diversity (from socially disparate to rich ghettos)
Rehabilitation of property both with and without state sponsorship	Under-occupancy and population loss to gentrified areas

Source: Lees et al., (2008:196)

One of the critical aspects of gentrification suggest that what arguably differentiates it from much of the regeneration literature, is that gentrification studies focus attention on issues of social justice and inclusion.

It is known that social justice is a broad term; it should be emphasised, therefore, that this section will focus on this term specifically in relation to gentrification. Initially, it is claimed that geographical social justice discourse is useful, or relevant, to urban planning practice, where there is a need to develop new theoretical frameworks that are sensitive to the geographical and historical interpretations of this concept (Visser, 2001:1673). Recent urban study debates have suggested that development and planning policy should return to normative social justice, as a guide to planning practice (Visser, 2001). This is in addition to

the intersection between urban regeneration and the development of social justice debates within urban geography.

For example, Tallon (2010:79) notes that, although not all urban policy is geared towards issues of social injustice, more recent initiatives in gentrification studies have been focused on, or inspired by, these issues. These can be expressed in terms of social class and poverty, or racial discrimination and lack of opportunities. Pacione (2000:606) points out that the relationship between urban development and social justice requires fair and equitable use of resources, in order to meet all the essential needs and opportunities required to improve social conditions. In reality, however, the poor are often unable to obtain their essential needs.

The importance of social justice to the urban development process is illustrated by Penz et al. (2011:129). They present two points regarding social justice: Firstly, that the main aim of the development and planning process should be to guarantee social justice to those in need. Secondly, that any pattern of economic growth that fails to improve the living standard of major segments of society is unjust.

However, Deboulet and Cnrs (2011) in their study of urban regeneration and its effect on social justice, note that:

> *demolition is associated with the right to another similar social housing apartment. Each household has the right to be offered up to three choices, and sometimes more depending on the goodwill of the organisation and social workers in charge of the rehousing process. It does not mean that every household is rehoused. A minority is in trouble: the in-laws of present occupiers; or sub-renters.*

In other words, if the demolition associated with the gentrification process is not carried out with due acknowledgement of the needs of social justice, serious problems would arise for the residents, who should have the right to participate in public consultation over policies that directly impact their lives. Fear of losing social networks, anxiety over new, uncontrolled neighbours and concerns over the

cost of new accommodation are just some of the issues involved. (Deboulet and Cnrs, 2011).

Many governments claim that their policies regarding gentrification are justified in that they promote social inclusion in matters of living conditions, housing and employment (Lees et al. 2008; Brooks et al., 2012). On the other hand, the failure of gentrification to achieve these outcomes could lead to the negative results described previously. Residents would risk losing those things which are fundamental to their lives, including houses, productive assets, livelihoods, familiar environments to which skills and practice have been attuned, community networks and a sense of local belonging (Penz et al., 2011). The result of such deprivation is social exclusion. Indeed, one of the broader debates in the field of social justice relates to the extent to which social inclusion can be defined in relation to social exclusion.

In this regard, the question of social inclusion has focused more on social conditions within neighbourhoods suffering from deprivation. Tallon (2013) argues that social inclusion encourages the development of social cohesion, social capital and community participation, to bring about the regeneration of neighbourhoods and communities. Many urban regeneration projects have succeeded in achieving this kind of social inclusion, including the Guggenheim Museum in Bilbao.

In conclusion, it can be seen that much of the literature concerned with urban geography is concerned with urban planning processes and regeneration, city re-imaging and gentrification, and the implications of these processes for social justice. There is no doubt, however, that flagship developments and major sporting or cultural events such as the Guggenheim Museum in Bilbao and the Olympic Games could be, and are being, used to promote regeneration for cities and to tackle their problems.

2.7.3   City re-imaging

As illustrated in previous section that flagships are closely linked to the re-imaging of a new urban vision (Seo, 2002, Doucet, 2007). The context of city image so far studied Atik et al. (2009) commentates the city image of people living in a city is composed by generalisation and a set of image elements. These elements have a specified importance and cities remembered by the impression of image elements over people (Atik et al., 2009).

In linking with urban regeneration processes, many contemporary regeneration policies engaged with city re-imaging as a rejection of the city old image, and the creation of a new one, more attractive such as Bilbao city while other cities embrace museums or events through urban regeneration project were failed to success as expected i.e. Sheffield city UK. As a result, Hall (2000) has argued that many cities suffer from a poor image which could be culturally, physically or economically. These poor urban images tend to result from an exaggeration of elements from a poor physical environment, social polarisation and unrest, and economic dereliction. Consequently, cities seek to replace their negative images of a poor environment and urban problems with more positive images.

This is emphasised by Tallon (2010:20-21), who argues that UK cities experienced a widespread and comprehensive 're-imagination' of city centres, and this process involved a combination of physical enhancement and cultural revitalisation processes that can be viewed in parallel to the transformation of the image of cities. This is expressed in a number of landscape elements that have emerged in city centres since the 1980s. These include large flagship developments, retail festivals, landscapes of heritage and nostalgia, cultural revitalisation, gentrification and the rise of city centre living, alongside an emerging re-urbanisation process (Warde, 1991). Post-modern architectural styles have been evident in these new uses of the landscape, illustrated by an eclectic variety of styles. These include spectacular architecture, the use of heritage and pastiche, playful and ironic styles, and an orientation towards niche markets.

Hall (2000) and Bavinton (2013) illustrated that cities seek to rectify their negative images through urban regeneration projects or by attracting events. Richards and Wilson (2004) argued from the same viewpoint, stating that cities aim to reimage themselves, stimulate urban development and attract visitors and investment by attracting cultural and leisure events.

Beyond cultural events (i.e. museums, galleries, and art festival) a number of cities have used sport events to promote this reimaging. This process refers to a process whereby a municipal government (either alone or in partnership with private sector agencies) deliberately exploits sport events or museums in order to modify the image of a place (Smith, 2005). The London Borough of Stratford and the Lower Lea Valley area re-imaged for 2012 Olympic Games (the area surrounding the Olympic park) seeks to create 40000 new houses, health services, schools and other facilities in the wider area, including the water ways and wildlife habitats (Jones and Evans, 2008). As noted at previous discussion in, the Guggenheim Museum in Bilbao enabled the city to be re-imaged from an declining industrial city to become a tourist attraction in its own right, with its spectacular architectural building. These iconic buildings were used to drive urban regeneration activity, which was reflected not only in the reimaging of Bilbo city (Jones and Evans, 2008) but also attract more economic investments (Plaza, 2008). Feinstein (1994:149) argued improving the city image and the living conditions of residents, so that employers and policy makers can recognize the challenges and develop public infrastructure that then encourages private investment. Only then will city imaging frame social justice. Finally, this argument gives further attention should be paid to imagery as represented, allowing due consideration of cultural and sport events as a reimaging strategy for contemporary cities with a range of social and cultural justice issues.

2.7.4 Flagship developments and events

A number of authors have observed that one of the ways in which city elites and governments attempt to 'catalyse' regeneration is through attracting major sporting or cultural events, such as the Olympic Games, or the World Cup (Plessis, 2007). It is argued that flagship developments related to major sporting and cultural events contribute to the creation of new forms of spatial division within cities (Doucet, 2007) and are a major potential source of urban regeneration activity (Jones and Evans, 2008). Events such as the Olympic Games, which are characterised by global significance, large-scale infrastructural investment and a high media profile, can provide opportunities for large-scale urban regeneration projects (Essex and Chalkley, 2004). For this reason, many cities in the world aim to host such mega-events, whilst others have invented their own, which are deliberately intended to stimulate large-scale urban regeneration. For example, Barcelona's Forum of Cultures in 2004 established a new business centre on previously undeveloped land in the north of the city (Essex and Chalkley, 2004).

Although it is widely accepted that events such as these can produce immediate benefits in the form of physical improvements, which attract business and tourism, it is the longer-term impacts, such as new commercial networks, enhanced skills, new ideas and a positive world image, which can have a greater significance for urban transformation (Essex and Chalkley, 2004). Additionally, mega-events are considered by their host cities as an opportunity to gain regional, national and international media exposure at low cost, to create leverage for generating future growth and to give them an advantage in the competitive struggle to attract investment capital (Andranovich et al. 2001).

Despite the obvious attractions of using mega-events as a strategy for urban regeneration, others have argued that such events can have a deep, lasting, and negative effect on local communities, particularly with regard to the effect of the process of gentrification on housing and tenants' rights (Chen and Spaans, 2009),

resulting in the exclusion of working class residents in favour of the middle classes (Plessis, 2007) (Table2.3).

Table 2-4: Summary of issues in the use of mega-events as a strategy for urban regeneration and renewal.

Positives	Negatives
— New development needed to stage the mega-event is encouraged, including new sports, conference and/or exhibition spaces. New development can be directed to derelict industrial brownfield sites.	— Problems in establishing a realistic budget many years in advance of the event.
— Other development to facilitate the smooth running of the mega-event is stimulated, such as new airport capacity, new road and rail links, housing, and tourist accommodation.	— Public expenditure is used to subsidise private accumulation (e.g. public spending diverted to pay for the event, increased local taxes).
— The event attracts considerable 'free' publicity, television coverage and media exposure to create a new image and identity ('symbolic capital') for the host city.	— Difficulty in establishing a robust cost-benefit analysis: bias in evaluations, attribution problems, counterfactual problems, different perspectives.
— New inward investment, both economic and tourist, is generated.	— Economic impacts can be transitory (intermezzo).
— New 'social capital' in the form of new skills and organisations is created from staging the event (knowledge creation).	— Opportunity costs: other forms of investment can be postponed or eliminated by staging a mega-event.
— A more entrepreneurial approach to planning is encouraged.	— While it is being held, the event can create a 'crowding out' effect (tourists discouraged from visiting).
— Development is 'fast-tracked' by the deadline of the event.	— New development promotes gentrification (exclusion of working class in favour of middle class).

Source: (Essex and Chalkley, 2004:28).

Of all the opportunities for flagship developments available to cities worldwide, arguably the most significant relates to the award of the Olympic Games. Although the Games invariably have a huge impact on a host city's spatial structure, due to

the IOC's requirements regarding the construction of enormous sports venues and facilities, studies of the Games have been largely concerned with a city's economic or social motives for hosting the event (Chen and Spaans, 2009). The Olympics' role as a catalyst for urban development and regeneration was first identified in Barcelona and Sydney, both cities with declining industrial economies. In the case of Barcelona, for instance, the impact of the Olympics on urban development practices and policies was demonstrated by a doubling of hotel capacity and a corresponding doubling of tourist numbers (Jones and Evans, 2008).

In the case of Sydney, Chen and Spaans (2009:103) make the following observations "When the IOC signalled its desire to apply the concept of sustainable development to the Olympic movement as a means to raise global awareness of environmental and resource issues, Sydney appealed to this concept in its bid and sought to become the first city to adopt the IOC's environmental agenda and produce a 'Green Olympics'. To ensure a net regeneration and environmental gain, Sydney chose to regenerate Homebush, a derelict 760 hectare former industrial site that had housed the city abattoir and a rubbish dump, located on the Parramatta River, some 19 kilometres from the city centre". Furthermore, Smith (2012) has identified the importance of linking events with regeneration, identifying the increasing role of sporting events as instruments to promote the regeneration of a city.

One recent example of such events is that of the 2012 Olympic Games in London situated at Stratford, in the east of the city, in the Borough of Newham. In his study of the Olympic Games regeneration project, Sampson (2011) demonstrates that the project involved extensive demolition to provide spaces for new housing, hotels and conference centres surrounding the site. At the time of the study, these were in their final stages of construction, giving Stratford a new and unfamiliar image. He states that with modern street lighting and pavements that are no longer cracked and broken, it feels as if Stratford has finally 'arrived'. Once the Games are over, plans exist for the construction of 50,000 new homes, of which 12,000 will be

affordable housing. In addition, the regeneration of the area will involve the creation of new business and retail developments (Sampson, 2011).

As early as 2009, the project was already having direct and indirect impacts upon the urban environment of London (Poynter, 2009). Sampson (2011) identified his concerns regarding the project's outcomes and impacts as follows:

What can we reasonably expect from the Olympic regeneration experiment for the most economically and socially disadvantaged? Can the 2012 Games live up to the expectations outlined by Jack Straw six years ago? Can we expect this latest regeneration initiative to be more or less successful that its predecessors?

However, it is evident that regeneration surrounding this event has transformed one of the poorest and most deprived areas of London, creating thousands of jobs and homes and offering new opportunities for private sector organisations (Poynter, 2009:141). The project has presented as 'success indicators' instances where its infrastructure projects have been completed and where the expected 'gentrification' will be sufficient to achieve targets such as improved educational attainment levels, higher skills and income levels, and increased participation in sport and exercise (Sampson, 2011).

It is therefore evident that major sporting and cultural events have a key role in driving urban regeneration. Nevertheless, the process can also be stimulated by signature buildings. As Jones and Evans (2008:126) state, a signature building is capable of giving developers the confidence to invest in further regeneration. Examples of this include the Guggenheim Museum in Bilbao mentioned above, and two buildings in the UK: Daniel Liebeskind's Imperial War Museum North in Salford and The Sage in Gateshead, designed by Norman Foster and Partners. All three developments have become tourist attractions in their own right (See section 2.9.1) due to their striking and original design. In the case of The Sage the economic regeneration of the area has been further helped by the associated retail, catering and entertainment facilities, in addition to 324 residential units. As a

result, The Sage is considered to be a major economic success, on a par with Salford Quays (Jones and Evans, 2008:126-127).

In conclusion, it can be seen that mega-events, such as the Olympic Games and signature developments like the Guggenheim can make a major contribution to urban regeneration and to the re-imaging of cities. The next section will focus more closely on the issue of re-imaging of cities.

2.7.5   Guggenheim Bilbao's studies

The success of the Guggenheim Museum has helped to reverse Bilbao's previous reputation for urban and industrial decline and has contributed to making the city one of the most successful examples of urban regeneration in Europe. The museum has changed Bilbao's former image, and has become a worldwide symbol of the city's success. Many scholars (NCC, 2000; Cameron, 2003; Doucet, 2007; Plaza, 2007; Plöger, 2007; Ponzini, 2010) argue that Bilbao's experience raises a wide range of issues relating to the role of the museum in urban regeneration, place-marketing, gentrification and social inclusion/justice. These issues are considered important areas in urban geography, which has now become 'an amalgam of different approaches and multidisciplinary in its analysis of its object.'

The Guggenheim Museum, designed by architect Frank Gehryis, is a flagship development, intended to contribute to the re-branding and re-imaging of Bilbao, and to launch a new urban vision; moving away from its traditional image as a declining industrial city to that of a creative, dynamic and profitable environment to visit and invest in (Doucet, 2007). The regeneration of the city has addressed a range of issues, relating to the physical, economic, environmental and social aspects of urban life. For example, the city was formerly suffering from economic decline, and its residents were in need of employment to attract them to take up residence within its boundaries. Attractants involved selective clearance, private house building and improvement to services, such as schools, and leisure and shopping facilities (NCC, 2000: 8; Cameron, 2003).

In terms of urban regeneration, the aim was to develop new activities and overcome local pessimism and lack of faith in the future, which had led to the closure of many businesses (Areso, 2006). Plöger (2007:35) describes the success of the urban regeneration strategies in Bilbao as "putting the city on the map". He adds that Bilbao offers vital lessons for those interested in the process of regeneration in Europe's industrial cities (Plöger, 2007: 20). The city's image has been transformed from that of a poor industrial port city to one of a popular tourist destination (Ponzini, 2010:2).

The Guggenheim Museum opened in 1997, and in its first year attracted over a million visitors; thereby becoming a major tourist attraction (Plöger, 2007:20; Plaza, 2007). This resulted in a significant growth in private sector investment, along with increased employment in the service sector (Plaza, 2007). This led to a significant increase in property prices in adjacent areas, and a subsequent gentrification of the inner city (Evan,2005). However, although regeneration projects have assisted in increasing social inclusion, and have created greater job opportunities in the surrounding area, the process of gentrification can also result in social exclusion. For example, whilst gentrification can create new sections of the city for middle class residents to live in and enjoy, many lower-income residents who had previously inhabited these areas can become displaced.

To summarise, the Guggenheim Museum project in Bilbao raises a number of important issues relating to the role of museums in urban regeneration, the re-imagining of cities and the process of inner-city gentrification, with attendant issues of social inclusion and social justice. These issues are important areas of study in urban geography, which has now become an amalgam of different approaches and is multidisciplinary in its analysis.

2.8 Geographic information systems

The focuses in the previous sections were on the urban geography identified range issues in urban planning processes that can be characterised as urban regeneration, city reimaging, and gentrification in relative with social justice and inclusion, which can be seen to connect to museums and their roles in cities at the first section of the chapter. This section will now focus on illustrating the contribution of Geographic Information Systems (GIS) in relation to the aims of this thesis (see section 1.4) to urban geography, particularly on urban planning of Luxor city. Further, this section aims to clarify the role of 3D visualisation in urban planning and its effects on examining city development plans.

There has been a long preoccupation with urban geography, which describes the evolution of the urban form, with considerable attention paid to the structure of urban morphology. Since the beginning of the third millennium, the focus has remained on process rather than style, although the use of geographic information systems has allowed for new ways of mapping and visualising urban space (Langley, 2002). GIS have also encouraged a number of innovative projects in which detailed information concerning urban change have been made public. The question of what is behind this ongoing interest in documenting the urban change (Group of UK Urban Geographers, 2012) is discussed below.

Schüller (1992) and Yeh (1999), illustrated the ways in which urban planning is linked with geographic information systems, which comprise one of its fundamental practices. GIS are increasingly accessible to planners, and are now also an important tool for urban planning in developed and developing countries alike. Furthermore, GIS can be used in the implementation of urban plans, by carrying out an environmental impact assessment of proposed projects in order to evaluate and minimise the impact of the development on the environment.

The contribution of GIS and urban planning has been clarified by Yeh (1999: 877) by illustrating that GIS serves both as a database and a toolbox for urban planning (Figure 2-7). In database-oriented GIS, spatial and textual data can be stored and linked using the geo-relational model. At the same time, current GIS supports efficient data retrieval, queries, and also mapping. Consequently, this assists planners in extracting data from their databases and inputting this into other modelling and spatial analysis programs. As a result, this technique (when combined with data from other tabular databases or specially conducted surveys) could be used for effective planning decisions.

Both the Royal Town Planning Institute (1992) and Yeh (1999) have pointed out that there are five import roles of GIS in urban planning. The first is the assessment of improved mapping, including: better access to maps; map currency; more effective thematic mapping; and reduced storage cost. The second is greater efficiency in retrieval of information. The third is one of the roles that will perform GIS in this study where it is faster and more extensive access to the types of geographical information important to planning, and the ability to explore a wider range of 'what if' scenarios,. The fourth is improved analysis and communication to both public and staff. Fifth is improved quality of service (for example speedier access to information for the processing of planning applications).

In their contribution to the debate, Masser and Ottens (1999:39) noted that GIS could play a part in improving the effectiveness of urban planning and management when archaeological areas are under threat, by designing a methodology that will enable decision makers to improve the planning strategies for managing archaeological areas and the city. Furthermore, given the linkages between urban planning practice in both developed and developing countries, and the general trends of IT adoption in developing countries, it is reasonable to expect that GIS will become increasingly adopted by urban planners in developing countries.

Furthermore, the integration of GIS with planning models, visualisation, and the Internet will ensure GIS becomes increasingly useful to urban planning. Database management, visualisation, spatial analysis, and spatial modelling are the main uses of GIS in urban planning (Levine and Landis 1989; Marble and Amundson 1988; Webster 1993 and 1994), where mapping provides the most powerful visualisation tools in GIS. It can be used to explore the distribution of socioeconomic and environmental data, and display the results of spatial analysis and modelling exercises. Spatial analysis and modelling are used for spatial statistical analysis, site selection, and identification of planning action areas, land suitability analysis, land use transport modelling, and impact assessment.

The use of the visualisation spatial data leads to the revealing and hence better understanding spatial distributions and relations. Kraak (1999) pointed out the impact of using GIS visualisation in developments through three recognisable roles for visualisation. Firstly, it can be used to present spatial information where this function is needed to create well-designed maps. Secondly, visualisation can be used to analyse (Okunuki, 2001). Thirdly, visualisation permits a visual exploration of the spatial data, for example by animation or linked views (Kraak, 1999).

Consequently, there are different uses of visualisation analyses. Visualisation is a complex and important issue in 3D city model applications. 3D models provide a more comprehensive approach to observing the prediction of urban development (Xua and Coors, 2012). Many authors, such as Mao (2011), have argued that 3D city models make it easier to understand the spatial properties of urban objects, since the real world is in 3D and it is natural for the human brain to interpret 3D scenes. Furthermore, urban planners need 3D city models to visualise the impact of newly proposed projects on the city environment (Sadek et al., 2002; Mao, 2011)

Moreover, a 3D model has been developed to visualise the existing state of cities and to perform simulations of district development plans (Murata, 2000). The

benefits of 3D visualisation have been defined by Sivasamy et al. (2012) as, using 3D view gives an idea to the planners and decision makers to get a clear view of how the city or urban area would look like. By changing the look angle, the view and the feel can also be changed.

3D urban models are produced where buildings (and other elements such as vegetation groups and trees) need to be more realistic. However, 3D models could also represent such urban areas through their history and reflect how it might change over time. In addition, 3D visualisation gives increased potential to undertake spatial analyses, such as Viewshed analysis, and also line of sight analyses for new construction in urban areas (i.e. development projects in cities). This is a reflection of the fact that 3D visualisation is used for exploring various 'what-if' planning scenarios, and the results of usability testing undertaken on the various groups accessing the site (Pettit et al., 2007).

As a result, 3D models assist in planning and detailed design reviews, as well as problems of site location, community planning and public participation. All of these require (and are informed by) 3D visualisation. The focus is upon aesthetic considerations of landscapes, as well as daylight and line-of-sight. Visual representation of environmental impact is also widely supported by 3D models. This concerns various kinds of hazards to be visualised and planned for, and ways of visualising the impact of disasters as well as local pollutants in a detailed manner (Shiode, 2001).

This is clear that geographic information systems have contributed to urban geography, and one of its applications (i.e. 3D city models) plays an important role in daily life. Additionally, it has become an essential part of the modern city information infrastructure (Spatial Data Infrastructure). Similar to 2D cartographic maps, the 3D city models will be used to integrate various data from different sources for public accessible visualisation and many other applications (Mao, 2011:3). It could be concluded that Geographic Information Systems is fundamental to the practice of urban planning. One of GIS' applications, 3D

visualisation, has caused a revolution in urban geography studies. Its enables access to explore urban planning scenarios, and predict changes in urban areas and the possibilities of future development, along with the consequences of these development projects on cities. The context for this thesis is somewhat more unusual, since 3D visualisation is being used to visualise the difference between proposal plans and the reality after their implementation. Further, the visibility analyses (Viewshed and line of sight) are used beyond 3D GIS in museum context in order to fill research gap (more details see Chapter three)

2.9 Conclusion

In this chapter, the literature review has discussed museums in the context of their concepts, theories, propositions and practices, relating to the key aims of the research introduced in Chapter One. The major aim of the review was to outline the relationship between museums, roles in cities as found in the literature, and locate it within the urban geography context and Geographic Information Systems. Despite its sparseness, the literature deals extensively with definitions of museums and the ways in which they have evolved. This chapter has presented a theoretical framework within which to explore the idea, origin and functions of museums in general, and open-air museums in particular. It has also suggested that this framework connects to an emergent area of studies on the geography of museums. It has been argued that whilst museums are often discussed in terms of the collection, conservation, storage and display of historical objects, they have come to serve a wider range of functions. These includes the promotion of particular cultures, the development of knowledge and skills, the provisions of experiences and entertainment and the economic and social development of the localities in which they are located..

The second section of this chapter reviewed literature concerned with urban geography studies, particularly in relation with the processes of urban regeneration, gentrification, and city reimaging that reflect on the city and its social conditions. In relation to the development of the Luxor Open-Air Museum,

many urban policies have been used and others have been discovered through the implementation the museum. Thus, these processes are presented through this literature review in relation to large-scale urban projects, such as the Guggenheim Museum in Bilbao, Spain, and the London Olympic City, as well as illustrating their effects on social conditions, in terms of social inclusion and social justice. The third section is concerned with the contribution of Geographic Information Systems to urban geography, and particularly on urban planning. Further, this section aimed to clarify the role of 3D visualisation in urban planning and the ways in which this affects an examination of city development plans.

The literature review has identified many research gaps to be filled. Therefore, the task of the following chapters will be to explore such issues in relation to the development of the Luxor Open-Air Museum. These issues in this thesis are related to the effect of the development the open air museum in Luxor on the city and it's social. Therefore, these issues involved urban and social issues which need to be explored in relation to the urban policies (i.e. regeneration, gentrification and displacement) that were used to construct the museum, and how these urban polices implemented in terms of social justice / inclusion. Geographic Information Systems play a role in exploring these urban issues; in particular GIS methods help to identify planning action areas and museum scenarios. Further, GIS could be used to examine the visitor's experiences that are planned within the museum and to identify whether there are alternative visitors routes within the museum areas that could be used by visitors or not.

Another research gap that is needed to cover in this thesis related to the social aspects of implementing the open air museum. As outlined in the urban regeneration and gentrification section, this often involves processes of displacement. These processes can affect local residents, forcing them to move and leaving them dissatisfied with what they see as a lack of choice in their rehousing by the local authority and may also involve the loss of jobs in addition to the break-up of local business networks. Therefore, qualitative research methods will be conducted to explore the implementation of the policy on the city and its

residents, to consider whether it either achieved or negated social justice and inclusion (more details in Chapters Three).

Consequently, this thesis will explore the ideas behind the museum's establishment, including the type of museum that has been envisaged and the roles that geography can play within the functions this museum is expected to perform, both now and in the future.

Chapter 3. Methodology

3.1 Introduction

This chapter describes and explains the methodology employed in the research. This study is the first of its kind to adopt a mixed-method approach to examine the development of the open-air museum in Luxor City and its effects on the social fabric of the city. To achieve this, a range of methods was adopted to collect information as required for the study. The chapter includes detailed discussions of the process of designing and conducting the empirical research, including the data collection methods, fieldwork and interviews that were employed, and the ethical issues of the study and analysis of the data. In addition, the chapter describes the geographic information systems techniques that were adopted.

Johnson (1994: 174) has argued that choosing the most suitable research method is a "crucial element" in the research process. Three broad approaches were used in this study, qualitative, quantitative and Geographical Information Systems. The qualitative component centred on the use of interviews, which were conducted with people directly involved with the development of the open-air museum project and with the local residents affected by it. Quantitative methods were employed largely to examine secondary data. Geographic information systems tools, such as 3D model visualisation and spatial analysis, were also employed to in this inquiry. Figure (3-1) illustrates the research methods; the interviews, documentary analysis, survey and GIS analysis were used as research instruments with considerable overlap in the data-gathering process. Each instrument presented different opportunities for obtaining as much information as possible on the potential effects of the open-air museum on Luxor's community.

The structure of this chapter involves four main sections, excluding the introduction and summary. The first section deals with the overall design of the research to that were developed to meet the aims and objectives of the study.

Section 3.4 describes the methods used to collect the primary and secondary data used in the study to trace the development of the open-air museum in Luxor and understand people's experiences of it. The analytical techniques employed on the data collected in section 4 are then outlined in section 3.5. Section 3.6 describes the geographic information systems techniques that were used to evaluate the museum. In section 3.7, practical and ethical issues are reviewed as well as the researcher's reflections on issues of positionality.

3.2 Research design and process

The research design provided guidance for the process of collection, analysis and interpretation of data relating to the development of Luxor's open-air museum. Yin (2003: 21) defined research design as "the logical sequence that connects the empirical data to a study's initial research questions and ultimately to its conclusion".

This research was designed to achieve the aims and objectives of a specific study (see Table 3.1). The research had three aims in order to assess the effect of open air museum on the city and it's social. For example, in order to achieve the first aim regarding the tracing of the original idea to create the open air museum in Luxor. This is done by analysis of documents i.e. the urban development plans beyond the governmental reports, newspapers and other literatures. The secondary data helped explore whose the idea it was to reimage Luxor city to be an open air museum. The secondary data were not enough to achieve the first aim; the interviews are used particularity with the people who were involved in creating the open air museum in order to access how this idea was generated and other aspects (For more details see section 3.3.3) . Also, GIS analyses are used in this stage for mapping the city i.e. the urban growth of the city and the open air museum its areas and boundaries (See section 3.5). The documents and reports which were collected are used to achieve the other objectives beyond the interviews as well (See figure 3.1).

The methods employed in this research drew on a combination of qualitative and quantitative methods. This was to produce a comprehensive picture of the development and effects of Luxor's open-air museum both quantitatively and qualitatively. Patton (1980: 22) defined qualitative data as "detailed and descriptions of situations, events, people, interactions, observed behaviours, direct quotations from people about their experiences, attitudes, beliefs and thoughts and excerpts or entire passages from documents, correspondence, records and case histories". Furthermore, qualitative data can also be the type of information that relies upon other forms of portrayal and description (Spence and Owens, 2007). Consequently, qualitative methods include interviews, observations, and analysis of archival documents. These analyses helped to assess the effect of the open air musem on Luxor city and its impact on residents. The next section illustrates in detail how these qualitave methods are used in this research.

Table 3-1: Research aims, objectives and methods used

Aims	Objectives	Methods
To trace the idea behind the origin of Luxor open-air museum and its translation into urban development plans.	To explore the origins of the idea of the open-air museum in Luxor. To analyse the relationship of plans for establishing an open-air museum with urban development planning with Luxor.	Documentary analysis: an academic literature survey in books and journals as well as government reports and newspaper extracts
To critically evaluate the spatiality and functions of the open-air museum in plan and practice	To examine the changing of spatial forms and functions of the planned open-air museum. To assess the spatial forms, functions and experiences of the implemented Luxor open-air museum.	Documentary analysis. GIS analysis (spatial analysis, 3D analysis, 3D model) Interviews and survey
To examine the consequences of implementation of the open-air museum on the surrounding areas	To outline the strategies (upgrade, redevelopment and relocation) employed in relation to the areas surrounding the site of the open-air museum To evaluate the social effects of the strategies to upgrade and redevelop the areas surrounding the construction of the open-air museum To assess the effects of relocation of people away from the site of the open-air museum	Documentary analysis. GIS analysis(spatial analysis, 3D analysis, 3D model) Interviews and survey

As outlined in Table 3.1. this project will make use of a range of research methods. The design of the research has sought to ensure that each research aim and objective is addressed using one or a combination of the methods discussed in the sections that follow. These methods were employed in a research process that consisted of five dynamic and over-lapping stages, from the initial literature review to writing up the thesis. A review of the existing literature that pertained to Luxor's open-air museum enabled the researcher to understand what is already known. During the review, certain gaps were identified that served as the research questions, which led to the formulation of the aims and objectives and an appropriate theoretical framework for the inquiry. Based on the outcome of the first stage, the research methodology was designed and developed during the second. Here interviews were conducted, and some secondary data, such as survey records, were collected. In addition, institutions such as Luxor city council, and Ministry of Housing, Utilities and Urban communities, Egypt were visited to support the research with documents and information related to the research.

The third stage involved data preparation, analysis and discussion of the findings. This stage was divided into two phases. Phase one comprised data preparation, analysis and the presentation of results from the GIS to reveal the spatial changes in the study area. The second phase then classified the empirical data that had been collected, and the appropriate techniques to analyse it were then selected. The results of the first and second phases were integrated and categorised into key thematic issues and aspects. The final part of this stage involved the presentation and discussion of the findings of the inquiry. Chapters 4 to 7 are dedicated to a description and discussion of the research findings. The fourth stage is found in Chapter 8, which summarises and draws conclusions from the results and the findings. A discussion of the limitations of the research and directions for further research are also included in this chapter.

3.3   Methods of data collection

The methods employed in this research drew on a combination of qualitative and quantitative methods. In order to address the aims of this study, a mixed-method approach was used to collect both secondary and primary data. Figure 3-1 illustrates the research methods; the interviews, documentary analysis, survey and GIS analysis were used as research instruments with considerable overlap in the data-gathering process. Each instrument presented different opportunities for obtaining as much information as possible on the potential effects of the open-air museum on Luxor's community. The next sections explain how these methods complement each other and have provided a complete picture of the Luxor open-air museum's effects on the city and its inhabitants. The appropriate choice of method depended on careful consideration of the particular area of the research under study and its work plan.

3.3.1   Data collection

Generally, two kinds of data were collected for this study, in order to seek clarification and resolve certain ambiguities set out in my research: primary and secondary data. Primary data are defined as new information collected by the researcher for a specific purpose (Hox and Boeije, 2005; Veal, 2005). Another definition by Spence and Owens (2007) considers primary data to be those which are observed or collected directly via first-hand experience. There are several ways to collect data: for example, through interviews, questionnaires, fieldwork and observation (Spence and Owens, 2007). Furthermore, primary data in qualitative research are also known as qualitative data obtained by observation, asking questions and using surveys (Blaxter et al., 2001). In line with these authors, data was collected from local residents of Luxor, planners, decision makers, researchers, academics and other participants associated with the open-air museum. For this study, primary data were collected through interviews and observation in order to discover the dynamics and strategies of Luxor's open-air

museum and to understand the attitudes and beliefs of the local residents towards the project.

Quantitative analysis for this study was predominantly based on secondary data and geographic information systems analysis. Secondary data sources were collected through public materials, such as books and journals, the Internet, an official company website and government investigative reports. In this regard, the data that were collected were qualitative, quantitative, raw and compiled in nature (Saunders et al., 2007), but made it possible to analyse the research issues, for example, Luxor's development plans. Much of this information was incorporated into the Geo-database of this study. The way the information is used and analysed is discussed in detail in the following sections.

3.3.2 Documentary analysis

Documentary analysis was employed to understand the context within which the development of the open-air museum was taking place. Yin (1994) explained that documents and records are good sources of data which can provide ideas about significant questions and give basic information about field activities or subjects, such as the one under investigation in this research. In this study, the researcher sought documents from numerous sources that provided the desired information on Luxor City and its open-air museum.

As well as scholarly publications and materials on current views about museum studies and urban geography in general, the researcher obtained studies that pertained to Luxor and its urban planning in particular, while consulting the documents and records of numerous public and private organisations to back up the primary data collection. In addition, other departments and private consultants supplied a large amount of information for many aspects of this research. The most important data sources are summarised in Table 3.2, which lists documents acquired in Egypt during the researcher's three visits.

These documents and reports used to assess the research objectives. For example, provided data, maps, and information to use in the Geo-database and for GIS analysis; for instance, the development plans for Luxor included maps, statistics and data that was incorporated into a Geo-database to create layers and data attributes for later analysed (see the GIS analysis section). Additionally, these sources helped the researcher to assess the research objectives. For example, the documents and reports i.e. urban development plans were one of the sources that used to assess the emergence of the idea of the open air museum (Chapter 4). Also, these urban development plans were helped to assess the open air museum spatiality and implementation plan (Chapters 5 & 6).

Table 3-2: Key document sources from Egypt

Sources	Document
Ministry of Housing, Utilities and Urban Communities (MHUUC), Cairo, Egypt	Luxor Master Plans 1984, 1993, 2000, and 2004. Reports, documents
Ministry of Tourism (MOT), Cairo, Egypt	Luxor Master Plan 1984, statistical information, reports
Supreme Council of Antiquities (SCA) Cairo, Egypt	Luxor Antiquities reports and information
General of Physical Planning (GOPP), Cairo, Egypt	Human settlements and housing development data for Luxor
Luxor Governorate, Luxor, Egypt	Reports, documents, statistical data
Luxor City Council, Luxor, Egypt	Statistical information, reports, documents
Central Agency for Public Mobilization And Statistics (CAPMAS), Cairo, Egypt	Census data
Supreme Council of Antiquities (SCA), Authority Inspectorate Antiquities of upper Egypt , Luxor, Egypt	Human settlements and housing development
Survey Authority, Cairo, Egypt	Maps of Luxor, 1996

3.3.3 Direct observation

Observation in research implies some purposeful gathering of primary information on nature, events or behaviour. The field visit is one of the techniques that

provided the researcher with the opportunity to undertake direct observation of the development of an open-air museum in Luxor and its effects on the city and its residents. Observation has a long tradition in social science research as a method of collecting data (Yin, 2003: 92), often associated with either a positivistic or a phenomenological methodology (Hussey and Hussey, 1997:159). Various factors, however, including the nature of the research, time, available resources and ethical issues, affect the extent to which researchers are able to observe the areas of interest. The objective of the visit was divided into three goals. The first goal was to interview people involved with Luxor's open-air museum, such as the archaeologists and families who had vacated their houses (Section 3.3.3).

The second fieldwork phase was to visit key places within the open-air museum's heritage site and its surroundings to gather information about the changes to these areas. The visits to these sites were made during three periods: April to May 2010, December 2010 to January 2011 and April to May 2012. These visits are in accordance with Yin's (1994) notion that site visits are often useful in providing first-hand information about the research. The observations of these valuable interactions and site conditions were recorded on an ongoing basis in the form of field notes, supplemented occasionally by still and motion photographs. Field notes were taken of the subject under observation, transcribed, and integrated with the findings from interviews and documentation.

Furthermore, to attain the heights of different parts of the Karnak and Luxor Temples, GPS located photographs of these and the Sphinxes were required. These were taken with an iPhone as the device is supported by special software called Spectra Rule. This software helped the researcher to estimate the heights of the buildings, especially for the Temples and The Avenue of the Sphinxes. The heights of these monuments within the open-air museum were used to create a 3D Sketchup model of the antiquity areas at the open-air museum (See 3D Sketchup model, section 3.5.2.3) and assess the museum's spatiality to address the second research aim (see Table 3.1). GPS software is included in the iPhone, which allows the location of the photography to be identified. A digital camera with high

resolution was also used to obtain photographs of the building textures of the temples and sphinxes, as well as the gaps between the latter. All of this aided the creation of the 3D Sketchup model of the open-air museum heritage area. Furthermore, GPS was used to identify the observation points within the heritage area and those of the alerted areas of the museum's surroundings. These points were used for spatial analysis (line of sight and Viewshed).

The rich qualitative data from the field notes, the images and the other methods provided site-specific knowledge about the changes that occurred in the city because of the museum, such as houses being demolished, as well as the urban pattern of the museum's neighbourhood. The third goal of the fieldwork visits was to collect reports and maps of Luxor City and its open-air museum.

3.3.4   The interviews

Various works on qualitative research methods shaped the researcher's understanding of the important issues to be considered when using interviews as a research technique; considered the participants in these interviews to be the key players in this research.

Interviews were considered an essential method for this research. As Flick (2007) has shown, interviews can produce rich data and insights into social feelings, opinions and attitudes. In this light, the residents' opinions and attitudes that gathered from the interviews helped to explore how the urban policies that were used to construct the open air museum effect on Luxor city affected its social situation. There are different forms of interview, involving structured, unstructured and semi-structured questions (Woodhouse, 1998). Research may contain a mix of these types of interviews, and each one can gather different information, according to the experiences, opinions and interests of the interviewees (Valentine, 2005). For example, structured interviews are of a standardised design to produce answers to factual forms of questions, such as what, where, when and to what extent. Obtaining a high percentage and a reliable

set of responses is heavily influenced by question design and the mode of administration (Metron et al., 1990). Semi-structured interviews are designed to include a number of standard but often open-ended questions, and present a more flexible way for the interviewer to explore different issues with the interviewee, particularly given that supplementary questions can be asked to clarify unambiguous or complex responses and to develop new lines of enquiry (Metron et al., 1990; Woodhouse, 1998). For example, when the residents were asked if they were satisfied or dissatisfied with government policy towards them and why, it helped them describe their feelings, thoughts and experiences, which consequently helped the researcher to obtain information that contributed to the assessment of the research objectives. (See the appendix on the semi-structured interview.)

Given these features, it was decided that semi-structured interviews could provide an important way of generating primary information to complement the secondary data discussed above and field observations and GIS analysis. There were a number of different aspects to consider when conducting interviews, including how to select the participants, the appropriate ways to contact them, how to compose the interview questions, and how to record information, e.g. on tapes or by taking notes. Other limitation issues were also relevant.

In this inquiry, some interviews were conducted after the participants had given their signed consent forms, while others were carried out using the good offices of friends and family relationships to encourage individuals to participate in the study. Participants were also informed that their participation was voluntary and that they could terminate it at any time. Before the participant gave their consent the researcher explained why the information was being collected, how it might be used, who would see it and what would happen to it. Interviewees were made aware that they could refuse to answer any or all of the questions if they wished to do so and that they could withdraw from the study at any time. Information given to me was treated confidentially and a coding system constructed so such that the names of some interviewees their names were not given in this study.

Consequently, the interviewees were also welcome to share their views on the subject of the research (see the appendix on the semi-structured interview).

The interviews were carefully planned, particularly those involving government officials. The participants who were selected were experts, local residents or decision makers. Further, interviewees were given a clear description of the purpose of the study and the reasons for the questions, and were made aware of the ethical considerations involved. All the interviews were conducted in the local dialect, i.e. Arabic, because the participants spoke Arabic. The use of interviews allowed the participants to discuss their perceptions and interpretations of the subject of the research entirely from their own points of view. Cohen et al. (2000: 267) said, the interview is not simply concerned with collecting data about life: it is part of life itself, its human embeddedness is inescapable.

Therefore, this part of the study will examine responses from interviews conducted in the study area with local residents, primarily aiming to gain an insight into what the residents think of the open-air museum project in Luxor. To achieve this purpose, the interviews were carried out during three fieldwork visits (April and December 2010, and April 2012). The interviewees were divided into two main groups. The first group of interviewees was composed of those involved in planning and creating the open-air museum project and the restoration of The Avenue of the Sphinxes. These people were project planners, consultants from the Ministry of Housing and Utilities in Cairo, from the Supreme Council of Antiquities in Cairo and Luxor, and members of the Luxor city council. In addition, interviews were conducted with academics whose studies were concerned with Luxor's development or its heritage sector as well as with archaeologists. The participants were selected so that information about the open-air museum project could be obtained by asking questions such as:

"What was the original idea behind creating this kind of museum in Luxor?"

"Why this idea and who proposed it?"

Opinions about the value of the open-air museum were also sought.

The second group of interviews examined responses from local residents, primarily aiming to gain an insight into what the residents think of the open-air museum project in Luxor. The choice of the local residents was based on those who were lived in the area of the open-air museum and its neighbourhood and who were moved their houses or their workplaces, such as bazaars, or their farms. The sample was chosen a pragmatic sample from about 10% of the families who claimed to leave their houses because they were included within the museum boundaries, as illustrated in the Luxor ordinary survey report in 2009. They were selected to gain more understanding about their experiences regarding the museum, including their feelings, opinions and attitudes towards the policy that used with them to establish the museum. This also helped me to assess the museum's impact on the local people in Luxor: as discussed in Chapter 6, the results of these interviews helped me to explore whether the museum is causing social inclusion or exclusion and whether it implements social justice.

The local resident interviews were conducted with 23 householders who were selected for interview through discussion with the head of household (the house owner or renter) and bazaar owner. They were selected on the basis of the areas that were demolished for excavating the Avenue of the Sphinxes, Karnak temples, and the Luxor temple entrance, as well as the proposed areas within the museum boundaries that were planned to be demolished but where because of the Egyptian revolution of 25 January 2011 the people still live in their houses.

The time for the interviews was designed to retrieve a maximum response, and recording the interview was undesirable in some cases, owing to personal and cultural circumstances. In this instance, field notebooks and summary sheets were prepared prior to the interviews. The interviews that conducted with the planner and governmental official were carried out in subjects' offices in order to gain a feel for the individual's environment and to gain access to additional information such as reports and documents. Also, the interviews that conducted with the local residents were carried out in their houses or in a public place i.e. Café. It is

important to note at this juncture that responses given by government officials in particular are contingent not only on the specifics of their positions and their organisation, but more importantly on their trust in the researcher not to reveal their identity (more details see the limitation section).

The case study relied on around 45 interviews; the duration of each interview was generally 45–60 minutes, and the potential participants were informed of the research aims and assured of the anonymity, confidentiality and storage of the information they provided. The recorded interviews were then transcribed and translated into English, after which the interviews were categorised (for further details see the ethics section).

The interview questions in this study were designed to be straightforward, conversational and clearly related to the stated aims of the research. The list of questions acted as a guide, which provided opportunities for the interviewer to explore a particular subject (Patton, 1980). Kvale (1996) identified nine different types of question: introducing questions, follow-up questions, probing questions following up what has been said through direct questioning, specifying questions, direct questions, indirect questions, structuring questions, silence allowing reflection (pauses that signal that the interviewee has the opportunity to build on an answer) and interpreting questions (Kvale, 1996). The questions used to interview the planners were different to those used for archaeologists or local residents (see the appendix on the semi-structured interviews). The questions in the interviews were presented in a logical way; the first questions requested general information from each respondent, such as their relationship to the open-air museum project (if the interview was being conducted with a consultant).

The Egyptian revolution had a considerable impact on the conduct of interviewing, impacting on both sets of interviews. In relation to the first group of interviews, that is with the people involved in some way with the establishment of decisions to construct an open-air museum in Luxor, 23 household of participants agreed to

participate in interviews, but some questions were not answered satisfactorily, or certain information was refused. On the other hand, the interviews that were conducted with the local people in Luxor were successful from my point of view (see limitation section 3.7). They expressed their feelings and their opinions without any fear of the government; this is a return to the freedom reflected at that time in the Egyptian revolution of 25 January 2011, as they noted in interviews. Besides this, because of the trust that was built between me and them, after the interviews they asked me to write down their names and gave me their legal documents showing their claim to the court of the governor of the city. Despite these limitations, the answers received from the respondents have greatly assisted me in achieving my research aims.

3.4 **Data analyses (NVIVO)**

Data gathered through interviews, observations, documents, reports, studies and urban development plans for 1984, 1993, 2000 and 2004 were processed and analysed using NVivo 9, which is a software package designed for qualitative data analysis. Many different kinds of document can be kept in one place and linked together for ease of access. The progression of an idea can be quickly traced from its earliest stages using NVivo (Walsh, 2003). This software helps the researcher to analyse qualitative data, not only interview transcripts but also filed notes, audio recordings and other documents (Bazeley, 2007). My project in NVivo involved many processes in the exploration of particular ideas, as in the following figure(3.2).

Accordingly, the interview material was imported into NVivo (Version 9) and, after an initial phase of exploration, was coded up using queries, reflection and memos. prior to full analysis and export of the results for write-up. A coding tree, outlining a series of themes and potential relationships was created and used for coding (Figure 3.3.) The process of coding involved collating different textual sources (interview transcripts, policy documents) collected for the research, identifying

emerging themes contained in the dataset. As Seidel and Kelle,1995: 55-56) note, coding is a process that involves:

1. noticing relevant phenomena

2. collecting instances of relevant phenomena

3. analysing the relevant phenomena in order to find commonalities, differences, patterns and structures.

NVivo allows the researcher to draw tree nodes and sub-nodes with different themes derived from the interviews and the other documents, reports and some studies i.e. urban development plans for Luxor (1984 to 2005). It enables the researcher to make direct comparisons between the ideas, opinions and experiences expressed by the interviewees. This uncovered the relationships between the ideas that were articulated, and identified the way in which the data were linked, by employing specific sets for grouping the data, as well as organising the ideas, opinions and experiences obtained from interviews. Colour codes were also used to help distinguish between similar and different opinions expressed in the interviews.

NVivo recognises three categories of nodes used to code data: free nodes (where general categories are identified and labelled but not related to any other code), tree nodes (similar to selective coding that identifies a specific category and systematically relates it to other categories of nodes). For example, a tree node was created to explore the open air museum development this node was divided into sub-nodes were involved different themes i.e. museum areas (Karnak temples, Luxor temples and Avenue of Sphinxes). Furthermore, case nodes (codes that gather material about the interviews) (Figure 3.3). In addition to coding, selected quotations served to elucidate common positions or divergences or for the most part to articulate individual or idiosyncratic takes on the object of interest to the researcher. The process of identifying the themes or nodes includes some of what Ryan and Bernard (2003) suggested as the different ways in which data are coded:

word repetition, comparing and contrasting statements, key word selection, metaphor and analogy. This theoretical concept was applied to NVivo to develop themes that are most relevant to the research aims.

NVivo also allows quarrying, which is another type of analysis that helps the researcher to understand particular idea frequencies that arise during the interviews, such as the residents' levels of satisfaction with the project (Figure 3-4).

Visualisation in Nvivo is used to get a different perspective on what is happening in the qualitative data that are imported and processed, such as the graph model that was generated to visualise, explore and present the connections. Figure (3.5) illustrates this in relation to plans to establish the open-air museum plan and the discussions that led to the development of this type of museum. Another type of visualisation in NVivo is a tree map which is created in order to compare nodes by the number of references they contain (Figure 3-6)

3.5   The role of geographic information systems in the study

Geographic Information Systems (GIS) have proven to be one of the most sophisticated procedures, making it a powerful analytical tool in fields like urban planning, environmental studies, architecture, archaeology and tourism. Consequently, GIS plays an essential role in this research through its analytical tool which distinguishes between locations by defining the spatial relationships among all the map components. GIS handles spatial and descriptive data from a wide variety of sources, such as GPS, digitised and scanned images, settlement data and population censuses. These abilities, to capture a variety of data and establish links between descriptive and spatial data, make GIS valuable for explaining events, predicting outcomes and planning strategies (Longley et al., 2005).

For these reasons, GIS played an essential role in achieving the study's objectives 1.2, 2.2 and 3.1 (Table 3.1). The GIS approach for this study involved the following main steps:

1. Create a geographical database of the Luxor Open Air Museum

2. Perform GIS analyses of:

a) Line of sight : determine the visibility from the observer's position to a target point considering the topography between the two points(Gardiner et al., 1998:139)

b) Viewshed (adapt the same approach as Line of sight analysis. However, instated of examining the single path from the viewpoint to the target point, a beam of rays generated vertically along to each ray path is taken into consideration within topographical area (Gardiner et al., 1998:140)

c) 3D analysis (in order of complexity): this analysis provide a set of tools for analyse and visualise 3D GIS data (more details see section 3.5.2.3)

3.5.1   Creation of Geo-database

Database design and implementation generally involves bringing together a range data sources (Kitchin and Tate, 2000:184; Longley et al., 2005:128). This was indeed the case in the present study, where GIS was used to integrate field observations and photographs, maps, and planning data i.e. Luxor elevation points (CAD*), Luxor city database (dbase*), building and Temples heights data, 3D Sketchup model (skp*) and censes data. (. The design of the database for this research was based on a common set of fundamental GIS design steps; therefore, it is important to have a basic understanding of GIS design goals and methods.

This study uses a personal database created with the ArcGIS software package, which includes ArcCatalogue and ArcMap. The processes involved in creating this database included input data, data analysis and output data. The collected data, i.e. census data, statistical data and scanned maps (see section 3.3) were imported into ArcMap's geo-database, where the input data included features such as buildings, roads, land usage and museum zones with relevant attributes. The input data of these features were in AutoCAD and shapefile formats, i.e. in vector data

storage formats that contained information on the location, shape and attributes of geographic features. Moreover, many scanned maps for the 1984, 1993, 2000, and 2004 Luxor master plans were geo-referenced, with coordinates from a known reference system like UTM assigned to the coordinates of the vector data set. These features were digitised to create many layers: for example, Luxor's master plan monument buffers in 1984, 1993, 2000, and 2004.

Processing the data was the next step, and involved analysing input data by creating layer overlays: for example, layering museum boundaries with buildings to measure how the latter affected the museum's strategy to upgrade or relocate. Linking this step with population statistics allowed the researcher to calculate the number of people likely to be affected by the development of the open-air museum, which provided an early step in considering the development's social effects.

3.5.2   Methods of analysis

Before starting in data analyses, a transformation process was used for many data features to ready them for data analysis in the format required by Arcmap..   Many features were converted into shapefiles: for example, elevation points in CAD format were converted into shapefiles that were then used to create TIN (Triangulated Irregular Network) surfaces which were used after that in spatial analyses and 3D analysis. In addition, other features were converted to raster, such as the heights of buildings and objects of antiquity as well as TIN surface-to-raster was also used for spatial analysis, i.e. for line-of-sight and Viewshed analysis. In analysing the data, many types of analysis were utilised, such as spatial analysis, 3D analysis, and a model of Luxor City, which are discussed in detail in the next sections.

The output data are the Geo-database's final results. The results of the Viewshed analysis, line-of-sight analysis, 3D analysis and the city's 3D model were used in arguments to support this research in achieving research objective 2.2 (see Table 3.1), which relates to the spatiality of Luxor's open-air museum and the altered areas within and outside the museum. Figure 3.1 clarifies the workflow in creating the Geo-database and its analysis.

3.5.2.1   Spatial analysis

Spatial analysis is one of the GIS analysis methods that allow the researcher to test the open-air museum site by quantifying the extent of museum sites is visible from other landscape settings. This is based on GIS analyses that allow the visualisation of whether sites are visible from each other and help to identify and interpret sites in their locations with different visual characteristics (Wheatley, 1995; Lock and Harris, 1996).

Consequently, GIS analysis was used to identify and interpret the museum's sites and analyse its different sections via spatial analytic methods, such as overlay, line of sight and Viewshed. Overlay is one of the key spatial analytical methods, and is used in many fields, including urban studies (Wang, 2001). This study's overlay analyses involved intersection, merge and union layers, which enabled the

researcher to create new layers, showing those areas of the museum affected by the plan. For example, overlays of museum boundaries and buildings layers were able to measure the buildings affected by the museum's strategy to upgrade or relocate. Linking this with population statistics allowed the number of people likely to be affected by the open-air museum's development to be calculated, which provided an early step in considering the development's social effects. Three layers were among those merged: residential, public, and mixed-use buildings. This helped the researcher create a new layer for Luxor City's buildings to use in further analysis, such as converting the buildings' layers to raster for line-of-sight and Viewshed analyses.

3.5.2.1.1 Line of sight

Line-of-sight analysis uses the ability of most GIS to calculate the inter-visibility of two given points on a given digital elevation model (Figure 3.2). The process of line-of-sight analysis enabled the researcher to assess Luxor City's changes during the open-air museum project, which consequently helped to determine the reasons for removing many houses and developments. It also assisted in modelling sight lines planned but not implemented, something not achievable by photographic analysis of the current landscape. Many sites bordering the open-air museum were chosen as starting reference points to create a line-of-sight analysis because these sites were changed completely after the open-air museum's construction; for example, a line of sight from the Luxor Temple in the south of the city to Karnak Temple in the north is different owing to the restoration of the Avenue of the Sphinxes. The second site was from the Karnak Temple entrance to the west bank of the River Nile, and included many places that were very different before and after the development compared to the ideal plan for Luxor. This shows how areas can be visualised through this line of sight and how the areas might have looked before and after the museum's creation. In addition, line-of-sight profiles were created to show how the particular areas can be seen through the sight.

3.5.2.1.2 Viewshed

Viewshed analysis reflects the perspective from the observer's position to a target point. This form of analysis has been used to understand the ways in which the physical environment may have influenced the location of monuments and settlements (Wheatley, 1995; Llobera, 1996). Viewshed analysis has also played a part in landscape architecture (Tandy, 1967; Amidon & Elsner, 1968; Lynch, 1976). Fisher (1996) noted that this analysis has practical uses, such as determining the visual effect of new buildings or developments and helping plan visible areas for amenities and routes. It is rarely sufficient to determine the ViewShed aspect from one or more locations.

This analysis was used to achieve research objectives 2.1, 2.2, 3.1 and 3.2 focuses in those areas where views of the museum are likely. The researcher, therefore, chose ten locations that had changed through Luxor open air museum development and compared the Viewshed before and after development, to understand from what points the chosen locations are visible and to confirm the areas where visibility is not possible (Figure 3-9). The results help to examine how these areas were intended to be according to the 2004 development plan for Luxor, something not achievable by photographic analysis of the current landscape. Additionally, the Viewshed analysis was used to assess the visitors' observation routes with respect to the open-air museum site.

Viewsheds were developed from raster-based images of the location of the city's buildings and antiquities and from elecation model in the form of TINs.. Consequently, all observation points located in a certain area where many observation points exist should be identified; representative locations may be were selected that illustrate the areas of highest scenic quality and greatest visibility as stated in the open-air museum plan. There are several viewpoints to evaluate visibility; authors such as Ruggles et al. (1993) have noted that visibility could be evaluated from more than one point at the same time. However, I found a better method in my research was to evaluate visibility for more than one point but at different times; for example, visibility was assessed by choosing an observation point at the entrance to Karnak Temple and carrying out the

Viewshed process three times for raster layers: before development of the museum, after it was constructed, and as planned in 2004. This helps in examining why particular areas were removed, for their cultural importance or for any other reason.

In summary, the study used these analyses to assess the development's visual dimensions, as outlined in the discussion of open-air museums in the literature review. For instance, 3D visualisation enabled a modelling of the perceptual spaces created through the development of the open-air museum, and provided a comparison with the spatiality before the development, which helped in assessing the research's objectives.

3.5.2.2   3D Visualisation

With regard to literature on urban studies, the visualisation of geographical data is receiving increasing attention. Through the GIS analysis, the residential buildings are visualised in 2D and 3D maps based on the two possible spatial patterns, namely compact development and outward development, in urban areas. 2D density maps display the attribute data on the location of residential buildings. In contrast, 3D models provide a certain degree of realism that can help viewers link data to a particular physical setting, illuminating how areas can be viewed from a range of locations in both space and time. In the context of this study, such models enable locations within and around the site of the open air museum to be viewed both in the present and how it might look if particular redevelopment plans were enacted.

In this response, a 3D visualisation was performed for a spatial interpretation of Luxor's open-air museum that encompassed its space and sense of location, especially in relation to the antiquities and heritage areas. This analysis allowed the researcher to generate a visual understanding of the open-air museum from both aerial and ground perspectives. According to Hetherington (1996: 157), museums involve processes of spatial ordering, which occur both inside and around certain sites or buildings. These spatial relations are expressions of social processes. Hence, to evaluate the museum spatiality with respect to research

objectives 2.1, 2.2, 3.1 and 3.2 (see Table 3.1), the researcher used 3D visualisation because 3D layers are not just for display but help to assess the changes in the museum's landscape. This means layers play different roles within the 3D view. In addition, 3D analysis represents the environment and reflects a virtual image of what people observe (Lee & Zlatanova, 2008: 415). Further, 3D visualisation helps to visualise the city through times when there are no real photographs; as Bishop and Lange (2005:24) noted, visualisation presents a method for seeing the unseen or discovering the unexpected insight. 3D visualisation was also useful to look for different places where there was no current access for photography.

In considering realism in landscape portrayal, a useful distinction can also be made between surface texture based on actual photographs (aerial or ground level) of the location being modelled (geospecific textures) and textures which are typical of the ground cover, building facades or tree types of the region (geotypical textures). These terms were introduced by Graf et al. (1994). Geospecific textures can be expected to create a more realistic model, but geotypical textures give greater flexibility in that changes in land cover over time can be easily modelled. A similar distinction can also be made in terms of geometry of objects. Tree models, for example, are almost always geotypical. Building geometry can, however, be specific or typical (Bishop and Lange, 2005:31). Geotypical textures were largely used in this instance, since it was the 3D view that was of greater interest than detailed visual realism.

In this research, the reconstruction of Luxor City's 3D model consisted of 3D buildings, an antiquities 3D model, and the TIN surface. The SketchUp antiquities area and buildings could be largely constructed from the heights and building ground plans provided by existing 2D GISs or maps. Information about a building's height can be obtained from photogrammetric stereo measurements (Schilling & Zipf, 2003; Wolf, 1999), automatically from aerial images (Baillard & Zisserman, 2000) or manually from fieldwork as in this case, In this study, the building heights for the wider city were contained in a building databases obtained from CAMPAS (2011) and MOH (2004). 3D buildings were created by extruding buildings' heights into 3D buildings using ArcScene. An initial step involved editing the buildings' layers in three phases. The first phase was the buildings of

Luxor City prior to the 2004 development plan. The second phase was the buildings of the city after the 2004 development plan commenced. The third was the buildings of the city according to an ideal plan. These three layers of buildings were used to create three city 3D models, which were used in combination with the 3D antiquities model to evaluate the open-air museum's spatiality and goals.

3.5.2.3 3D analysis

3D analysis is one of the types of analysis used in this study to examine the spatial relationship between the open-air museum and the city. First, the TIN was made by using 3D analysis. A TIN is a network of points and lines that model a landscape. It is created by taking the existing elevation data and converting it into TIN format. A TIN starts as elevation points; these points are tessellated into a TIN by using ArcMap's 3D analysis tools, which add final changes by shading the TIN on the basis of elevation values.

On the basis of 3D analysis, much editing was performed on the TIN's surface to create three alternative layers. The first was for the city before the 2004 development plan. The second was for the city after the 2004 development plan, especially after the restoration of the Avenue of the Sphinxes and the development of the entrance to the Karnak and Luxor Temples. The third was for the city's TIN surface in Luxor's 2004 plan. The three layers of 3D buildings were added to the three layers of the TIN surfaces to help create a 3D model for the city. The three types of TIN surface and buildings were converted to raster for spatial analysis (Figure 3-3) for example, line of sight and Viewshed. Both are discussed in detail in the next sections.

3.5.2.4 3D Sketch-Up model

This section describes the 3D modelling of Luxor's monuments area, which includes Luxor Temple, the Avenue of the Sphinxes and the Karnak Temple area. The main purpose for creating these models was to analyse the site view and obtain a real vision for this area, which would help in examining the spatiality of the open-air museum and assessing the spatiality of the visitors' observation routes in the temples and along the Avenue of the Sphinxes. Using the modelled

approach, versus a photographic one, a viewpoint from any location could be obtained 'on the fly' versus the need to trawl through a large database of geolocated photographs of uncertain angle. An equally viable alternative methodology from a purely visual perspective would have been to employ 3D photographic compilation software such as Photosynth™ but this approach would have been incompatible with the line of sight/viewshed modelling and was hence discarded. In creating the models, the researcher was able to understand the museum's goals in relation to improving the antiquities areas and the urban environment, which reflects on Luxor's social facilities.

To generate this 3D model, the researcher used ArcGIS and Google SketchUp Pro. Google SketchUp was chosen because it features scalability and flexibility with ease of modelling and can be used for editing polygon shapes and sizes (Tong, 2007). These helped create a 3D model of Luxor's temples, which have a variety of shapes and sizes, including obelisks, columns and pylons.

Creating a 3D model requires many processes and much data preparation, especially to capture the highest temples missing from the Geo-database. Accordingly, the researcher used a field survey and visited Luxor Temple, the Avenue of the Sphinxes and Karnak Temple to obtain each structure's highest point. There are many ways to obtain the heights of structures, such as aerial imagery (Suveg and Vosselman, 2004) and satellite images in high resolution (i.e. quick bird or Geoeye); another useful supplementary data resource for building heights is LiDAR data (Straub et al., 2009). In addition, the heights could be integrated with the Egyptian surveying authority's maps for elevation points and other building outline datasets. Building Heights provides comprehensive height information for individual building blocks. The information is supplied as three values for each building block: the base of the building above sea level, the top of the building above sea level, and the height of the building above local ground level (Straub et al., 2009). However, flown LiDAR data for this area were not available and no access was permitted to a known terrestrial LiDAR dataset. Regarding the aerial imagery, the study area is wide making the cost of high resolution satellite images beyond the scope of this study.

In this regard, the structures' heights were obtained by using SpectaRuler, which was provided by iPhone. This utility enabled the measurement of distance, height and elevation of objects in the temples and along the Avenue of the Sphinxes without actually walking to the object and using a bulky tape measure. Instead, measurements were made by the iPhone's camera, accelerometer and touch-screen display and a little triangulation.

The second process was to take photographs of every object in the temples and along the Avenue of the Sphinxes from different directions with a Fujifilm digital camera. The researcher took each photograph while paying attention to the distance between humans and buildings to produce the best picture. The photographs were subsequently edited in Photoshop Elements 7 because the SketchUp 3D model requires high-quality photographs with a focus on the model's textures (Jianjun Li, 2011).

The third process was to export the antiquities feature layer data from ArcGIS 9.2 to Google SketchUp Pro 6 for modelling (Figure 3-5). This process required the ArcGIS plug-in to share files between the software programmes, which is available by free download on Google SketchUp's official website. A shapefile plug-in makes it easy for the user to transfer 2D GIS data to SketchUp and 3D texture models to an ArcGIS Geo-database for further SketchUp analysis.

In addition, exporting 2D features of the antiquities layer from ArcGIS Geo-database to SketchUp transfers the necessary data and references and allows the completed model to be imported back to ArcGIS 9.2 together with its true references without any changes to its coordinates. After importing data from ArcGIS, this researcher began the phase of generating the 3D model. The researcher started by drawing temple objects using the measurements collected from the field survey and adding the textures of real photographs to the objects. In addition, many objects were used from the Google SketchUp 3D models for those from the official website which are used as references to those architectural features of the temples that remain relatively unscathed by time; permission was obtained for using these models from Google. In particular, Krzysio (2007) models for Luxor Temple and Karnak Temple allowed the addition of columns, statues,

trees and persons to my model. These models, particularly those of for columns and statues, are edited by adding the true heights, changing textures and change many parts to be looks like at the present whereKrzysio's (2007) model presents the temple as it was originally anticipated to look, not in its current partial state.

When the 3D model was complete, the researcher exported it as a multipath object back to ArcGIS for later analysis. Finally, using the ArcScene application in ArcGIS 3D Analyst, the researcher managed and visualised the 3D SketchUp model data (Figures 3-13 & 3- 14).

In summary, the researcher represented a complex three-dimensional model of Luxor's antiquities in GIS by incorporating Google SketchUp to render a more realistic representation of the area in order to achieve the research goals noted above. The processes started with a field survey to obtain measurements and photograph textures, added modelling, and continued by exporting the data from ArcGIS to Google SketchUp to create realistic models. After that, the complete model was imported back to ArcGIS to add the personal Geo-database for opening in ArcScene. This helped achieve visual areas for the most important aspect of Luxor's open-air museum, which focused on residents.

3.6   Ethical considerations

Research ethics specifically considers the analysis of ethical issues that arise when people are involved as participants in research (Walton, 2010). Christian (2005: 144) defined the basic principles of ethical research as follows:

- Informed consent means that no one should be involved as a participant in research without being fully informed and having the opportunity to refuse to take part.
- Deception of research participants (through covert observation or through providing false information concerning the purpose of the research) should be avoided.
- Participant privacy should be respected and confidentiality should be guaranteed and maintained.

- Accuracy of the data and their interpretation should be the leading principle, which means that no omission or fraudulent collection or analysis should occur in the research practice.
- Respect for the participants is essential.
- Beneficence means considering the well-being of the participants.
- Justice addresses the relationship between the benefits and drawbacks for the research participants. (Christian, 2005)

In line with Christian (2005), this study fully informed participants of the aims and objectives of the research and clarified the reasons for requesting their participation. Respecting people's right to come to an informed and freely made decision to take part in interviews without any pressure is a key consideration.

In addition to the points outlined above, the researcher is responsible for storing the records and transcriptions of the interviews in a safe and secure way and for preserving the right to anonymity of the participants when quoting the responses as a source of primary data in the study. Furthermore, ensuring an ethics document was signed by the participants as a record for any future referencing or concerns was also important. The researcher sought the consent of the individuals to record the interviews and transcribe them in order to use them as a source of primary data for this study.

3.7   Limitations of the study

The research suffers from a number of limitations. Most limitations relate to the fieldwork and interviews in Egypt. The first limitation relates to the fieldwork in Egypt where the political problems of the revolution of 25 January 2011 affected the visiting time and Luxor's accessibility. I visited the area three times but there was a need for a fourth one to interview more people that were affected by the museum's construction. This visit had to be cancelled because the Egyptian political problems posed personal risks. In addition, the open-air museum project was stopped by the Egyptian revolution in 2011 before all the stages noted in the 2004 plan were complete. This generated further dissatisfaction for residents because they could not receive their compensation and at the same time their houses were removed and others lost their jobs. Consequently, there was difficult

to find these people to interview them. Additionally, many people who involved in the open air museum project could be interviewed because they were arrested in 25 January 2011 for political reasons

The second limitation relates to conducting interviews. The interviews with local residents were held after the local people had left their houses which were demolished and it was difficult to contact them. However, this was overcome by utilising friends and family relationships to contact them through their relatives, friends, or neighbours or through Luxor city council. What was originally envisaged as a totally random sample was in fact compromised. Also, friends and family members encouraged individuals to participate in the study. The interviews conducted with the residents demonstrated that many had relatively low levels of educational attainment, which could account for the relatively vague answers some gave or the practice of simply ignoring some questions. To help overcome this issue, the researcher altered the language they used to ask questions, trying to simplify the terms being used. Despite the political problems (as noted above), this strategy encouraged the people in Luxor to express their opinions towards the project without fear. In addition many people, but not all, were happy to have their interview responses recorded. Some interviewees provided documents, such as claims to the court to persuade the government to relocate their neighbours. I was not expecting this, as it is known that the people are fearful of the government when talking about this issue. On the other hand, during interviews with people who were involved in the development partners' meetings for the Luxor open-air museum, many of them were fearful to narrate what happened at these meetings. They felt that there was a personal risk involved if they spoke about anything related to this project because of problems that some residents experienced when they spoke out. Utilising friends and family relationships, therefore, encouraged participants to talk freely without any fear during these interviews and produce documents that assisted the study.

Another limitation of the research related to data collection, particularly the temples' heights, which were needed for creating the 3D Sketchup model. Heights would ideally have been detected by using LiDAR data or aerial imagery or satellite images in high resolution. However, these features could not be detected

by LiDAR data because the study area was not covered by above-ground LiDAR data. Besides this, the study area is wide as a result; the aerial imagery and satellite images in high resolution would cost more than the funds available for research. In addition, the surveying authority provided me with the elevation points for Luxor City but not the temple structures. Consequently, I found another way to detect the temples' heights by using SpectralRule to estimate them, as well as confirming these heights by reviewing archaeological studies of temples (i.e. books, papers, and reports). Despite the limitation of the study in collecting data and the effect of the Egyptian revolution, the integration of direct observation, interviews, GIS analysis and all the secondary data helped me to achieve my research aims and assess the impacts of the development of the Luxor open-air museum on its residents.

3.8 Conclusion

This chapter has presented the research methodology that was used to study the issues and concerns of the open-air museum developed in Luxor, Egypt. The chapter started by describing the overall design for the research methodology, which included qualitative, quantitative and geographical information science.. The qualitative methodology was represented by semi-structured interviews and fieldwork to cover the many aspects of the open-air museum's plan. The quantitative methodology was based on the secondary data and geographic information systems analyses. These methods were used to answer the research questions and achieve the research aims.

Semi-structured interviews were important to the research strategy, which reflected the key debates regarding the social effects of Luxor's open-air museum strategy. In addition, these interviews provided the opportunity to investigate the purpose and original concept of this type of museum. GIS analysed the representation of the Luxor open-air museum and helped create the city's 3D model. These analyses explored the spatial relationship between the museum and the city and helped present the city's changes and an understanding why particular areas of the development plan were removed. All these research methods, both quantitative and qualitative, are presented in the following

chapters. Chapter 4 presents Luxor City's previous development plans. Chapter 5 depicts the spatiality of the museum. Chapter 6 describes the museum's social effects and the last chapter includes a discussion of the research findings and conclusions.

Chapter 4. Emergence of the idea for the Luxor Open-air Museum

4.1 Introduction

This chapter brings together key findings related to the emergence of the idea of establishing an open-air museum in Luxor. It considers some of the reasons informing the plans for of this particular type of museum. The research to uncover this information applied a qualitative methodology (APCO, 1993), specifically interviews with academics and archaeologists, which sought to uncover the origin of the idea that turned the heart of Luxor into an open-air museum in addition to seeking various opinions of the project. The chapter will analyse the connection between the idea of an open air museum and the urban development plans for Luxor between 1984 and 2004. It will focus attention on a sense of 'master plans' for Luxor although these plans particularly from 1984 to 1993 were not implemented for some reasons (see section 4.3) and were focused on the urban development of Luxor. A brief background to the urban context is provided to clarify how the city and its temple areas have changed since the last century. This is followed by a demonstration of how the open-air museum functions within the city.

The chapter is divided into four main sections. The first two sections examine the urban context of Luxor and analyse the urban development plans from 1984 to 2004 relative to the context of urban geography of Luxor city with following two exploring the idea of the open-air museum in Luxor and its implementation in relation to urban geography and the museum context. The chapter concludes the emergence idea of Luxor open air museum through analyse the urban development plans. These plans were used the open air museum as an instrument to regenerate the city.

4.2   Urban context of Luxor city

Although there has been considerable awareness and great interest from the Egyptian government of Luxor city as a historical city of importance to tourism, the city suffers many of the problems common to Egyptian cities, included urban expansion, poor urban stock, land use conflicts and poor living conditions.

4.2.1   The urban growth of the city

For centuries, Luxor was a relatively small settlement of Pharaohs, clustering around two major temples, Luxor and Karnak. It had a strong north-south axis, established by the juxtaposition of Luxor and the Karnak temples, and reinforced over time by the Cornish and the railway.

At present, Luxor City occupies an urbanised zone between Al Awamiya in the south and the area north of the Karnak temple in the north (MOH, 2000). Its population has grown dramatically over recent decades because of natural factors and inbound migration. A densely populated city of nearly 200,000 residents have got stretching approximately 5 kilometres north-south and 1.5 kilometres east-west with an approximate average density of 35-persons per feddan citywide and considerably higher densities in its older parts of the city.

In the 19th century, according to data for the year 1838 (MOH, 2004), urban growth expanded into the southern part of the city around the Luxor Temple, where rural houses were previously located. The Karnak area comprised agricultural land and a few rural houses (Figures 4-3 and 4-4), and the Luxor Temple was the focal point of social activities. At this time, the Luxor Temple was mostly buried in Nile mud, the houses of Luxor and pots. It was a principally agricultural area (see Figure 4-1). The monument areas were located at two points on the east bank of Luxor; Karnak Temple and Luxor Temple, which were considered as important social sides in Luxor and where people lived and worked. The populated areas at that time did not exceed 0.32 km², representing 26% of area covered by today's city.

Over time, social activities changed and the population rose, causing the urban residential areas to expand towards the monument area, increasing the risk to the antiquities (Figure 4-2). Since the beginning of the 20th century, based on figures for the year 1914, urban growth was directed toward the east where the railway station lay. The layout of the Karnak Temple area differed from its current layout, as many structures lay undiscovered in excavated. The area surrounding the temple was a small rural area, with villages and agricultural land located at a distance from the temple. At that time many of the houses in the Karnak villages were arranged in a rural pattern and built with mud bricks, such as the houses in Naj Sheikh Mosa (Figure 4-5). In 1922, the main urban area lay around the Luxor temple, with urban growth taking a South-Eastern direction toward the railway-line, which defined the edge of the city's development. The west bank was largely vacant, housing only a few camps for labourers engaged in excavation works. Developed between 1922 and 1954, the city saw a great increase in urban growth in two directions, to the north-east parallel to the Nile River, and to the east on the other side of the railway-line. In the period leading up to 1982, intensive urban development took place in different regions of the city, extending in three directions: to the North-East and the Karnak temple, to the South-West towards a new extended area covering agricultural land, and East of the city boundaries following the introduction of a number of railway crossings. The west bank expanded although without any new centres for development. However, in the period of urban growth from 1982 to 2004, the city became a major tourist attraction in Egypt. Tourist centres developed in different sections of the city e.g. Cornish street, at the entrance of Karnak temples. In addition, growth and development occurred in all directions, particularly to the north, north-east, and the south-west.

The above shows that urban growth in Luxor city developed over six periods, from 1838 to 2004. The average annual rate of increase in the area of the city was about 14.7% in the period from 1891 to 1986; in 1891 the city covered 75.3 feddan excluding archaeological areas, by 1986 it covered 995.8 feddan.

4.2.2 Condition of the buildings

The buildings condition considers one of the key tools of physical aspects in urban regeneration policy that planned for improve the city buildings condition (poor, moderate, and good condition). The majority of the city's buildings are in very poor condition; this applies to about 77.5% of the city buildings, which are located in the ancient part of the city between the Luxor temple and in the village areas at the Karnak temple. The buildings are either one or two floors and the majority are constructed from mud stone. However, the other city buildings are in good condition, as are the tourist structures and residential buildings in the newly extended areas to the south and east of the city, which are typically taller (four or five floors). As well as the city buildings concentrated in tourist areas, there are others located mainly on El-Cornish street, in front of the River Nile (MOH, 2004; CAPMAS, 2006).

4.2.3 Land use in the city

Luxor city is experience mixed land uses, particularly in the centre of the city. Its oldest part covers approximately 10.43% of the total area. Meanwhile, agricultural land covers nearly 45% of the total area of the city and is surrounded by informal settlements. The residential areas cover about 21% of the city area, and the archaeological sites cover about 9.15%. The supporting infrastructure, i.e. the roads, pathways, car parking, railway lines and the Nile Cornish, covers about 12.3% of the city area. The remaining areas are for services or open space, with facilities and uses overlapping (MOH, 2004; CAPMAS, 2006).

The urban landscape of Luxor city reflects the poor urban planning and development process, which has largely evolved rather than been guided. This has led to informal settlements along the peripheral areas of the city; these often have restricted access to basic infrastructure and suffer poor living conditions. An urban development strategy that seeks to direct growth in a coordinated manner with distinct policy targets is not fully in place, although it would be an ideal innovation to direct sustainable urban growth.

Socially, the residents of Luxor suffer from a lack of job opportunities, unemployment, and poor living conditions. These problems cannot be separated from other problems that arise when the city suffers from urban encroachment, not only on antiquities sites but also on agricultural land. As Luxor City grows, agricultural lands and villages are being swallowed up by the new urban developments. The resulting pattern of urban growth is reflected in two distinct street patterns. Older areas of the city and once autonomous villages have narrow, irregular streets while newer development areas are typically located along linear corridors that reflect the orientation and parcel size of the former agricultural lands. Consequently, the old and new areas of the city are not well connected by roads and many developing areas are inadequately served by utilities (MOH, 2004).

At the time when the open-air museum was being planned, the urban environment in Luxor was deteriorating, due to the uncontrolled urban growth, the number of informal areas, slums, unsuitable land uses, consumed routes, and visual pollution. This threatened the city's heritage resources, many of which were located in areas populated with a high number of poor families (Rashed, 1994). Additionally, the city was suffering from the need to offer a single economic product; i.e. tourism (MOH, 2004). Tourism is the main sector in Luxor and functions alongside other industries. However, tourism is based on the preservation of the antiquities sites, which were suffering from urban encroachment, and the irrigation of agricultural lands close to archaeology sites, which were causing the groundwater table to rise. Water seeping into the stone crystallises and destroys the monuments (EAIS, 2004).

4.3 The urban development plans for Luxor city from 1984 to 2004:

The goal of this section is to analyse the development plans of Luxor city, considering variations in the plans and their implementation. These plans indicate assessments to the extent of Luxor's problems, showing how and when they emerged. In addition to the suggestions made, and key actions taken to address them. This information makes it possible to trace how the idea to create an open-air museum in Luxor emerged.

4.3.1 The first development plan (1984)

The first master plan for Luxor was approved in 1984, and was prepared by the Ministry of Tourism, as the Egyptian government was beginning to prioritise tourism as a means to development. An analysis of the strategy set out in the plan reveals that its primary aim was to improve the tourism sector beyond monument preservation. It was stated, for example, that :

> *'Luxor city should transform into an international centre, deriving increased benefits from the city's resources at the same time as preserving its antiquities.* (Cited in Arabic; MOT, 1984)

The plan's strategy pivoted on five main axes:

1. Removing all encroachments into the antiquities areas and creating a suitable buffer zone for these antiquities;
2. Establishing new urban centres of attraction to decrease urban pressure on historical areas;
3. Upgrading and developing Luxor by moving rural villages to areas no less than 5 km from their present locations;
4. Transforming country blocks adjacent to the city into urban areas (MOT, 1984); and
5. Creating an urban frame to define the borders of the city to the north, in the shape of the Badran Canal and the El Ashy coast (the railway and the Sayalla Alhabeil Elgharbia areas were already considered its eastern border, El Awamiya its southern border, and the river Nile the eastern border (Figure 4-6)).

Figure 4-6 illustrates the master plan for Luxor city in 1984, including its urban frame, which was issued by ministerial decree no. 274, and published in official newspapers in April 1985, indicating land usages and areas of proposed services (MOH, 2004).

The strategy was proposed as a solution to the perceived problems in Luxor and to address the lack of supervision by the authorities at antiquities sites. This had led to encroachment over some monuments and the burial of others, as well as

overlapping land uses in some areas. Further, the entrance to Luxor was seen as failing to match its status as a route into one of the most important tourist cities in Egypt. In addition, it was identified that there were shortfalls in the provision of infrastructure, utilities and services (MOT, 1984).

The implementation of this plan was postponed from the mid-seventies until 1984 for a number of reasons, including the plan's reliance on using agricultural land within the city's urban frame to create urban community centres. This contradicted the Egyptian government's stated policy of maintaining agricultural lands and preventing any form of urban growth. In addition, the plan failed to provide resources to relocate local residents away from the antiquities areas (Deif-Allah, 2006). Also, the plan focused only on urban development and antiquities preservation, both of which reflected the needs of the tourism sector, and not the local residents of Luxor.

The delay in implementing the plans meant that the problems of Luxor increased, as the city experienced and uncontrolled urban growth, especially on agricultural lands close to the historical areas (MOH, 2004). In recognition of the problems affecting the implementation of the 1984 plan and the changing circumstances in Luxor, another plan was produced in 1993, which included a review and update of the 1984 plan and offered alternatives to the on-going urban growth in Luxor.

4.3.2   The Second Development Plan (1993)

Over the period that the second plan was negotiated, Luxor's struggle with overpopulation, urban creep onto historical sites and agricultural lands, lack of utilities and services, and the increase in overlapping of land usages, traffic problems were seen as critical issues. The 1993 plan adopted three main strategies. First it sought to develop the city's urban setting, emphasising particular features of the city that were seen as desirable, such as low building density and heights, and good quality infrastructure, utilities and tourist services and linking with this, the 1984 proposals, the new plan also aimed to protect heritage sites by removing encroachments and preventing informal creep.

A second strategy was to improve social welfare by raising the standard of living of local residents by encouraging the development of new income and employment opportunities, on including through towards development. A third strategy was to create new urban communities away from Luxor, catering for the increasing population which preventing urban creep onto designated agricultural lands by amending the approved urban frame, with the urban population been direct to beyond agricultural zones in places such as New Thebes (Figures4-7 &4-8) (APCO, 1993).

Overall, the 1993 plan did not differ significantly from the 1984 one except that it placed greater emphasis on social development, and the preservation of agricultural land from informal creep. However, the plan did include a clear recommendation for an open-air museum, a matter that was then followed up in the next plan for Luxor in 2000.

Despite the aims stated in this plan, it failed to achieve its objectives; urban creep onto agricultural land increased, especially to the east and south of the city, and heritage sites on the east and west banks of Luxor continued to experience many problems resulting from the rising water table and encroachment onto sites (SCA, 2003; MOH, 2004; Deif-Allah, 2006). In addition, the city of New Thebes, which was intended to accommodate Luxor's excess population was allocated housing for only 35,000 residents, far fewer than was needed. Furthermore, the development process planned on the eastern bank of the city failed to create any job opportunities or housing for city residents, particularly those on the west bank (Figure 4-8) (MOH, 2004; Deif-Allah, 2006).

4.3.3 The Third Development Plan (2000)

The structural plan for the comprehensive development of the city of Luxor (CDCL) in 2000, was moulded with guidance from foreign consultant firms. The AbT Association USA had expertise in the field of planning and development of historical cities, and was particularly involved in Luxor.

AbT consultants planned to solve major problems, which included the preservation of antiquities sites, the development of tourism in the city and

tackling urban problems such as informal settlements in antiquities areas. They also focused on preserving those agricultural lands surrounded by the city, and examined ways to address overpopulation by providing new urban communities to absorb it and create job opportunities.

The planned strategy concentrated on three development sectors: archaeology, urban and financial. The archaeology sector was given the aim of turning the heritage areas into an open-air museum to improve the urban sector via the development process in Luxor. The economic sector was to be improved by developing tourism through the provision of new tourist zones and improvements to tourism activities, and the agricultural sector was to be handled through the reclamation of agricultural lands on both the east and west banks. New agricultural communities were also to be developed to promote relocation and to centralise the processing of agricultural products (Figure 4-9).

Six investments projects were selected from the 40 development projects presented by the consultants (these 40 projects were not documented so cannot be assessed here). The six projects were: (1) the restoration of the Avenue of the Sphinxes, (2) the development of the destination resort of El-Toad, (3) the development of a new community in New Luxor, (4) the provision of infrastructure services for New Luxor and El-Toad, (5) the establishment of high-value agriculture, and (6) development of an open-air museum and heritage district in Luxor.

The first project, the restoration of the Avenue of the Sphinxes, focused on Kebash Road and was seen as contributing to the open-air museum. It was claimed that the restoration would help to improve visitors' experience and increase the vitality of Luxor city centre. The project would substantial outlays and actions implement. The actions were justified as being able to protect the setting by removing intrusions onto the Avenue of the Sphinxes, preventing future intrusions, and ensuring that adjacent uses were compatible with the historic nature of the Avenue. It was proposed that hundred housing units way on top of the Avenue to a width of 76 m should be relocated and there should be excavation to a depth of 2 m to the restoration of the sphinx statues and landscaping. In

addition, there was argued that there should be provision for visitor amenities in the area as well as modification of the adjacent street layout and street crossings over the Avenue of the Sphinxes (MOH, 2000).

Development of The Destination Resort of El-Toad was the second project. It aimed to create a sustainable tourism development reflecting various benefits on the local population. The creation of a tourism zone outside Luxor City was promoted as facilities the future needs of the rapidly growing regional tourism industry, bringing jobs and income to the area. The aim of this project was to increase the number of visitors to Luxor from 1 to 4 million over 20 years, requiring an estimated 6,600 new hotel rooms at El-Toad, and 2,280 rooms across Luxor City (MOH, 2000).

The third project was the development of the New Community of New Luxor. However, with the completion of a new Luxor Bridge and the anticipated nearby expansion of the port to accommodate cruise ships south of Luxor City, informal, unplanned development was directed to the south of the area, where agricultural land was coming under threat. If a new town were not planned to the south of Luxor City, unplanned sprawl in that region would be likely to result in negative consequences for the future prosperity of the region. Timely action to stem this undesirable growth was essential; the option was to offer an attractive new town to manage development in the Luxor region (MOH, 2000). As a result, the Egyptian Government advocated the development of new settlements outside the existing urbanised area, to absorb the majority of the new development over the following twenty years (MOH, 2000).

The fourth project proposed was to offer new infrastructure services (transport links, water, sanitation, energy and telecommunications) to connect Luxor, New Luxor and El-Toad. This project, therefore, would only be viable once New Luxor, the El Toad tourist area and the new cruise ship port had been built. The plan modelled acted as a foundation from which to assess the needs of investment in infrastructure, also emphasising the opportunities in this sector for private sector participation (MOH, 2000).

Establishment of High-Value Agriculture was the fifth project. Production of high value crops and support of the agricultural and manufacturing industries were seen as elements to meet the needs of the contemporary population of Luxor. There is great poverty in Luxor, in spite of the appearance of wealth because of the tourism industry. The majority of the population relies on small farming (the average size of a plot is a modest 1.84 feddan) to maintain their families. These farming families have a significant need to expand their agricultural lands if they are to support future generations and increase their income to improve their standard of living. In this plan, a large land reclamation exercise was seen as essential to meet the needs of Luxor's growing population. In addition, the introduction of high-value agriculture and agro-processing was seen providing as a means for farmers to improve their future yields (MOH, 2000).

The sixth project was the development of the open-air museum and heritage district in Luxor. Western experience was considered when planning this project, which would transform the Avenue of the Sphinxes and turn the heart of Luxor into an open-air museum. The AbT consultant (2000) interviewed, stressed that this is not the first such project; arguing that there are many cities where a special district has been delineated for government initiatives to improve urban conditions and maximise the advantages from expanding cultural activities and tourism. There were three models presented as examples when suggesting how to alter the heritage district in Luxor into an open-air museum; these models were as follows (MOH, 2000: 25-26):

> [*...In the Medinah of Tunis ...which is one of the most significant of the 15 such traditional districts on the UNESCO World Heritage list, the housing in the Hafnia Quarter has been rehabilitated. This project successfully used public/private partnerships, including the World Bank support, to arrest residential deterioration and to achieve rehabilitation of over 9,200 square meters of residential space and the addition of over 400 new housing units. This project emphasised residential elements somewhat comparable to those found in Luxor...*]

[*... Bilbao, Spain... the construction of the new Guggenheim Museum has created a major tourism magnet. This facility has been so successful that it has been accompanied by significant revitalisation of the central city, including private reinvestment, changes in traffic to reserve portions of the district for pedestrian use, and overall environmental improvements...*]

[*...The project most comparable to the type of district proposed in Luxor is found in the U.S., with the improvement of Washington, D.C.'s Pennsylvania Avenue. Pennsylvania Avenue is the ceremonial boulevard that connects the U.S. Capitol and the White House, location of the presidential inaugural parade, and a significant venue for important public and private institutions within the United States capital city. This project is similar to the Luxor project in that its spine is on a ceremonial scale and unites a major historical facility, or anchor, at each end ... Comparable in length to the Avenue of the Sphinxes, Pennsylvania Avenue and its surrounding district had become deteriorated and required significant public intervention in order to take advantage of its private investment opportunities and to protect its ceremonial and cultural value to the nation. In these respects, the definition of the Pennsylvania Avenue district and the assignment of special powers ... are somewhat comparable to what is proposed for the Open Museum and Heritage District...*]

The three models referred to by the AbT team, explain their vision in terms of urban regeneration; they sought to regenerate the city environmentally, economically, culturally, and socially. They aimed to first copy the success of the Guggenheim Museum in Bilbao, with its experiences of urban regeneration. The Guggenheim Museum project helped to overcome the city's problems, increasing its competitiveness as a tourist destination and maximising the competition between cities and regions for people, jobs, firms and investments (Plaza and Haarich, 2009:12-15). Plaza (1999, 2000) noted that the museum is having a significantly positive impact on Bilbao, particularly on the city's ability to attract

tourists. His analysis of the museum's impact on tourism made it clear that the level of hotel occupation has improved from an average 37.8% to 46.6%. The new Guggenheim Museum is so successful because it has been accompanied by significant revitalisation of the central city, including private reinvestment, changes in traffic to reserve portions of the district for pedestrian use and overall environmental improvements, all of which have resulted in the AbT team being encouraged to apply the results of this experiment to Luxor.

The strategies used to implement the Guggenheim Museum can also be applied in Luxor. One such strategy was gentrification, which involved transforming the industrial area in Bilbao into a tourism area, to create many job opportunities and attract private investment. Drawing in the experience of the Hafnia Quarter in Tunisia, the AbT consultants designed a relocation strategy for residential buildings, as they observed the situation in Luxor was similar to that in the Hafnia Quarter. The third model drawn on, specifically in reference to the creation of the Avenue of the Sphinxes was D.C.'s Pennsylvania Avenue. In Washington, the project centred on the Avenue had generated private investment opportunities as well as adding to its ceremonial and cultural value. All three prior projects had parallels with the open-air museum project in Luxor, and all had seen significant positive urban regeneration and improved tourism figures (Burcaw, 1997; Orloff, 2008).

Regarding the open museum and heritage district in the Luxor project, the AbT consultant (2000) identified the open-air museum as one of the main attraction, intended to enhance the urban environment and preserve the heritage district in Luxor, establish five objectives for the museum:

1. To conserve and enhance the antiquities and their settings;
2. To guide sustainable public and private investment in the Luxor open-air museum and the heritage district;
3. To coordinate visitor and tourism services;
4. To improve the urban environment to create a city core that reflects the aspirations and needs of current and future residents; and

5. To increase the municipal and institutional capacity to manage the protection and future development of the open-air museum and the Heritage District.

The plan incorporated such perspectives, suggesting that urban regeneration should be carried out in the older sections of Luxor and in additional areas of the city. Seven areas comprising the boundaries of the open-air museum were identified as subject to redevelopment or improvement (See Figure 4-10).

Monument Protection Area: This area encompasses the El-Karnak Temple and Luxor Temple sites. It was proposed that the Avenue of the Sphinxes, and El-Kebash Road, which connects the two temples, should to be excavated and restored.

Neighbourhood Preservation Area: This refers to the El-Karnak village in the northern part of the city, located between the Avenue of the Sphinxes and the Corniche from the Karnak Temple to the Luxor Temple.

This structural plan (CDCL) received a better response from the Egyptian government than its predecessors and it was decided that the plan would be implemented on the ground, with and the Ministry of Housing (MOH) commencing redevelopment of the city of Luxor using an Egyptian consultant to prepare a comprehensive development plan. This was completed after additional modifications, in 2004, as detailed in the following section.

4.3.4   The Fourth Development Plan (2004)

. The open-air museum was the first priority of the comprehensive and updated Luxor plan of 2004 (Figure 4-13). The City of Luxor Master Plan addressed the development of sustainable tourism and offered a green infrastructure in collaboration with ArchPlan and Cube Architecture, which are based in Cairo, Egypt. This plan's strategy aimed to preserve the historical sites in Luxor by turning it into an open-air museum, applying a comprehensive plan in 2000 for developing the city in terms of its tourism sector, urban sector, services and infrastructure, and to improve and increase its income.

Dr Ashour (2010), the planner involved in the 2004 Luxor master plan, noted that Luxor's income was based on tourism and on the urgent need for improvement in all sectors. This was seen to be especially true of New Luxor city, it being claimed that it required the creation of an industrial area to support the tourism sector, in addition to craft industries, such as the construction industry. The open-air museum was seen as a means to help develop not only the tourist sector but also a range of related sectors across the city.

The plans for the Luxor open-air museum cover improvements to the archaeological environment in Luxor, protecting the physical bodies of the monuments and removing modern transgression onto the monuments, particularly from the Avenue of the Sphinxes, which is considered the backbone of the antiquities zone. The surroundings in the archaeological environment were viewed as being in need of improvement; and the monuments as being best situated within a wider urban setting. Ashour (2004) argued that the open-air museum offer visitors a solid and in-depth impression of the site, in particular its historical and cultural values. Additionally, the historical concept was set to demonstrate to visitors the cultural value of archaeological areas, with regard to the beliefs of the ancient Egyptians. This included reviving the pharaohs' caravans and festivals through symbolic illustration, as well as some examples from the pharaohs' lives in the form of architectural elements, traditional crafts, etc. and the provision by museum staff of demonstrations and explanations of the story and progress at the temples.

There was also a perceived need to develop tourist services, such as hotels, bazaars, entertainment places, parking areas, different means of transportation and other services needed to turn Luxor into tourist city that integrates international historical value while also providing suitable modern services. Additionally, an urban, economic and human development plan was proposed to improve the city (MOH, 2004).

Although the 2004 plan was intended as an updated version of the open-air museum plan for 2000, the function and spatiality of the museum had changed in the new plan. A number of spaces were changed and others added (explained in

details chapter five and chapter seven). As can be seen in Figure (4-8) the museum involved three main zones;

The first zone comprised the designated antiquities protection areas in Luxor, including the Karnak Temple, the Luxor Temple, and the Avenue of the Sphinxes, as well as a number of residential areas; these areas included Naj Al-Sheikh Mosa, Naj Al-Malqata and Naj Badran. The second was, the Golden Triangle, which is close to the Avenue of the Sphinxes (east and west) and extends from the Luxor Temple to the Karnak Temple, along with the Nile Corniche, which was intended to include tourism services, such as hotels, gardens, entertainment venues and so on. However, the third zone is the neighbourhood areas, of which there are three; the city centre, Naj Abo Al-Goud and Naj Al- Tawel.

4.3.4.1 Antiquities protection areas

The plan prioritising this area focuses on the open-air museum, protecting the monuments and the boundaries, affecting residential areas nearby (Naj Al-Sheikh Mosa, Naj Al-Malqata and Naj Badran). It requires residents located in the buffering zones to relocate away from the antiquities (MOH, 2004).

4.3.4.1.1 The Karnak Temple

The Karnak Temple is the second area within the open-air museum. In this area, the urban setting, the environment and the antiquities were suffering from a some of problems (MOH, 2004; Ashour, 2009) include:

1. Urban encroachment on the areas of antiquities;
2. Visual distortion of the monuments caused by the presence of urban obstacles in front of the monuments;
3. Absence of buffer zones to protect existing and possible antiquities areas;
4. Deterioration of monuments because of informal creep and pollution;
5. Deterioration of urban areas spreading into communities and rural Negoa (rural pattern);
6. Deteriorating conditions of services; and an
7. Absence of a hierarchy in the road network.

In addition, the project aimed to develop and upgrade the informal residential areas surrounding the Karnak Temple area, totalling an area of 550 fadden and approximately 50,000 inhabitants. The Master plan also aimed to upgrade the Karnak Temple area, remove urban encroachment on the antiquities areas and resettle the population into agricultural pockets, thereby reducing population density, creating a tourist path around the Karnak Temple and a ring road around the location, and the Corniche Road on the banks of the river Nile.

4.3.4.1.2 Restoration of the Avenue of the Sphinxes

The restoration of the Avenue of the Sphinxes area was considered the backbone of the open-air museum project in the new plan and indeed in the earlier 2000 plan this road and its function were one of the factors leading to the decision to create an open-air museum in Luxor, as mentioned above (MOH, 2000).

The Avenue once ran the full 2.7 kilometres between the Luxor and Karnak Temples. One of the last native Egyptian pharaohs, Nectanebo I, lined the avenue with sandstone sphinxes on pedestals at five meter intervals, interspersed with trees (Asem, 2011). Lehner (2008) illustrated that Greater Luxor's development plans in recent years all called for the excavation of much of the remainder of the avenue through and under modern Luxor, which sits upon the many layers of ancient Thebes, one of the preeminent cities of the ancient world. Although Egyptologists have been excavating and recording the antiquities at the Karnak and Luxor Temples for nearly two centuries, very little excavation has taken place in the parts of the city where people lived. Many opportunities for excavating and recording these settlements have been lost. For instance, two thousand years of housing from the medieval Islamic to the late Ptolemaic periods were discovered within and in front of the Luxor Temple during extensive clearing during the early 19th century and the late 1950s. This clearing stopped just in front of the Khaled Ibn el-Waleed Garden. Extensive digging began again in late 2005, when two huge trenches were cut through the garden to expose the sphinxes. A world of systematic, scientific archaeology, especially that interested in ancient settlements, has evolved since the 1950s (Lehner, 2008).

Due to the historical value of the Avenue of the Sphinxes and the consultants' experiences of open-air museums, Dr Ashour and the other consultants emphasised the benefit of designing open spaces to give visitors a clear sense of the Avenue. The Avenue of the Sphinxes' archaeological site and the open-air museum contain two parallel linear parks, gateway bridges with paired land uses and avenue entry portals, three land use zones with corresponding landscape zones along the linear parks, paired public open spaces and a pedestrian street system that connects the avenue with its surroundings (Abdel Mohsen, 2007). Further, the building heights were controlled in order to maintain a clear view of the road and its surroundings (Figure 4-16).

4.3.4.1.3 Luxor Temple

In the plan for 2004 Luxor Temple was highlighted as a landmark of Luxor, it serving viewed as the entrance to the area designated for the open-air museum (Ashour, 2009). The area covers a total of 17,600 m², and within this, a designated park area was determined to have a negative effect on the surrounding monuments as it obstructed the view of the temple, and required irrigation (MOH, 2004). Therefore, the new plan proposed that the entrance to the Luxor Temple would extend from Abu El-Hagag Square, passing Karnak Temple Street and crossing Corniche Street, which has entertainment and tourist activities, and several hotels, bazaars and a children's park, in addition to some important religious buildings.

4.3.4.1.4 Golden Triangle Area

The Golden Triangle area was designed to preserve the historical heritage of the city. The 2004 plan involved both upgrading and arranging tourist and hotel activities and transferring services to residential areas, while retaining some of the more important activities that have a great influence on tourism (MOH, 2004). This plan proposed that the Avenue of the Sphinxes should not separate the old city from the Corniche, but rather provide a link between them, complementing the daily movements of the inhabitants without affecting the paths of vehicles.

The philosophy behind the creation of the Golden Triangle was the aspiration to achieve the rehabilitation of one of the most important historical areas in Egypt. As it embraces the temples of Luxor and Karnak, it also demands special treatment, as the area was seen strict separation from the historical areas (CUBE, 2011). Consequently, Ashour (2004; 2011) noted that the two primary visitor attractions (the temple complex of Karnak and Luxor Temples) would be connected by the Avenue of the Sphinxes, while the Corniche and Souk Street were linked with allocated pedestrian pathways and vehicle lanes. The area was effectively divided into many sections, according to the activities commensurate with its hotels, inhabitants and tourism services. The plan was to offer open spaces to support cultural activities and pedestrian walkways, and support other necessary services. (Figure 4-18 and 4-19)

The design of the Golden Triangle aimed to achieve balance between preservation and protection, urban heritage, economic development and the functionality and inhabitability of Luxor. Maintaining awareness of the significant role of the tourism sector in the development of communities, whether human, economic or social, the Golden Triangle development project has become the backbone of the development in Luxor, improving tourism activities within the city's historical areas (CUBE, 2011).

Many portions of the Golden Triangle plan differed from those in the 2000 plan. In 2000 (Zone 2) was located as shown in figure (4-13), where the proposed Golden Triangle area integrated a second zone for preservation and a third zone for tourist activities with residents being relocated (MOH, 2000). The proposed plan for the development of the Karnak plaza was changed, and in the 2000 plan, the AbT consultant aimed to restore the plaza to its appearance in the era of the ancient Pharaohs. Dr Ashour (2011) encountered difficulty applying the plan, because the lake at the entrance to the temple caused deterioration in some of the structures, requiring that it would later be removed from the design. In addition, Ashour (2011) added that in the 2004 plan, an area to accommodate the residents was relocated for the restoration of the Avenue of Sphinxes and the museum to the east of the railway station zone.

4.3.4.2 Neighbourhood Area

In the 2004 plan the open-air museum encompasses many areas surrounding the antiquities protection zone, which was designated to preserve the open-air museum from urban encroachment on the monument area, as shown in Figure 4-10 (MOH, 2004). As proposed in the 2004 plan, the areas involved in the development process were those located east and west of the Avenue of the Sphinxes, in the city centre (Market Street and Railway Street), in old Karnak village and near the new Karnak village and in Naj Abo-Asbah to the east of the Karnak Temple (MOH, 2004; Ashour, 2009). A number of urban strategies were proposed for urban regeneration in Luxor, relocation, upgrade and redevelopment; thus, the area east of the railway station will be prepared to accommodate relocated residents. The intention was that all of these areas will be improved so that their unban conditions, with supporting infrastructure and utilities can be adapted in the future; the proposed plan term extended to 2022 (MOH, 2004). The museum's components comprise the collections and display areas (the Karnak Temple, the Luxor Temple and the Avenue of the Sphinxes), events, ceremonies (the Opet Festival), visitors, activities, and staff.

The development of the Luxor Open Museum and Heritage District was composed of multiple elements. These projects were to be carried out with the support of the Egyptian government and international donor and lending agencies. It was deemed important that the government should lead this effort, and provide coordination and direction for the antiquities restoration. However, additional aims will be implemented in co-operation with the SCA, the Luxor city council and the Luxor government under the supervision of the Ministry of Housing, Utilities and Urban Communities and the Ministry of Tourism.

4.4 Conclusion

The story of the emergence of the open-air museum in Luxor is a central concern of this study. The comprehensive development plans for Luxor made in 2000 and 2004, with a focus on the function of the Avenue of the Sphinxes between the two temples, Karnak and Luxor emphasised the reproduction of the Pharaohs' festivals

that had been celebrated in the era of the Pharaohs. The data relied upon interviews with many people who participated in the project in 2004, such as city planners and archaeologists in Luxor, as well as reviewing the previous master plans for Luxor, in combination with many studies and documents. Based on these sources, multiple factors contributed to the idea of creating the open-air museum.

By reviewing the previous master plans for Luxor, we have discovered that the 2000 Luxor master plan was the first detailed plan stating the intention to create an open-air museum in Luxor as part of a comprehensive development plan for the city. The subsequent 2004 plan made the open-air museum its first priority. The concept of the open-air museum in this plan included not only historical buildings or antiquities that need to be preserved but also the surrounding areas of gardens or buildings that comprise the Golden Triangle; these complete the historical impression of the city. The open-air museum was intended to bring the past into contact with its physical buildings or monuments and share historical enactments of the Pharaohs' festivals with visitors.

Chapter 5. Spatial forms, experience, and functions in Luxor open-air museum: A story of buildings and buffers

5.1 Introduction

An extensive overview of the emergence of the concept of the regeneration of Luxor city by re-imagining its heart as an open-air museum was presented in Chapter Four. This chapter considers the spatiality of the open-air museum in reference to three main elements; the museum's spatial form, the experience it offers, and its functions. The museum's spatial forms are manifest in the layout of the open-air museum. In addition, this portion of the research focuses on how the city has been reimagined since the 2004 master plan.

The second section of this chapter focuses on the museum experience. This is done by examining the visitors, observing their movements as they move through the open-air museum, focusing on how spatiality is reflected in circulation. The second part of the chapter describes how the spatiality of the museum has produced its many functions. The methodology follows that outlined in chapter three making use of 3D visualisation and visibility analysis. Visualising a 3D model of Luxor city offers an approximation of how buildings may have looked under the different plans, and provides an opportunity to tour and interact with the re-created space. In addition, the chapter illustrates many aspects of the open-air museum layout utilising a Sketch-Up 3D model to clarify its structures and to allow an exploration of the museum structures from various directions, as well as performing a visualisation to allow the reader to visualise all areas, whether accessible or not open to visitors, such as the Mut Temple.

As explained in Chapter Three, the Sketch-Up 3D model was created to depict the heritage district in Luxor, and was combined with a 3D city model in ArcGIS to assess the observed visitors' routes and their experiences within the museum space, and real photographs. The Sketch-Up 3D model photographs were collected during the authors' fieldwork in Luxor, which was conducted on three occasions (April 2011, December 2011 and April 2012). The basic information for assessing observation routes and points of interest was based on the researcher's visits to the heritage district in Luxor, where the visitors were observed walking through the Karnak Temples, along the

Avenue of the Sphinxes (Kebash Road) and to the Luxor Temple, to examine whether visitors experiences would be affected by the museum's spatiality. Subsequently, visual interpretations at visitors' eye-levels were made of the observation points, to provide more detailed information about the Karnak Temple group, the Luxor Temple and the Avenue of the Sphinxes.

As illustrated in literature review that, Viewshed and line of sight analyses one of main visibility tools in GIS that used to explore the effectiveness of urban planning. For example, these methods help to identify of planning action areas and its scenarios. Further, and helps to examine the vistors routs that planned within the museum and to identifying (predict) if there are an alternative visitors routs within museum areas could be used for visiting or not as well.

 As a result, , Viewshed and line of sight analysis were conducted to explore how many parts of the city had been reimaged as planned for Luxor master plan in 2004 where many areas were planned for redevelopment and upgrade (See Chapter Four), to ascertain whether there was a need to transform these areas or otherwise. This led the researcher to question why many areas and target objects (monuments) were visible and others were hidden from a given observation point (Paliou, 2012). The observation points were identified on the basis of typical visitors' routes and through exploring visitors' interactions with the spatial characteristics of the open-air museum's key components such as the Karnak Temples, the Luxor Temple. As well as Viewshed analysis helps to explore the alternative routes for visiting Karnak and Luxor temples. However, Line of sight analysis is used to explore the planning action scenarios for Kebash Road. The line of sight helps to explore the Avenue of sphinxes along the line from the observer point to the target point which choice at the end of the road to examine the proposed visitor's routs at the avenue (see section 5.5.1.3)

As a result, these analyses have provided a deeper understanding of the museums and their roles in the cities regeneration. Furthermore, these different types of geographical information systems (GIS) analyses are not commonly used in museum studies and are used here to comprehend more fully the museum's spatiality and the redesigning of its urban spaces. Also, GIS analyses have been used to help the researcher examine why and how specific areas of the city have been reimagined as museum constructs. Further,

this work presents an opportunity to illustrate how the city was prior to construction of the museum in reference to the museum plan of 2004; there is limited photography depicting the city before the museum's implementation.

5.2   The Spatial form of the Luxor open-air Museum

The spatial structure of the open-air museum can be approached as a layout, i.e. describing how the museum's buildings and exhibits are arranged internally and in relation to one another, either as a consequence or as areas to communicate the museum's story (Noussia, 1998). The Luxor open-air museum has a structure; its groups of buildings and route way represent an assessment of the area's layout during a particular slice of history. Open-air museums, unlike other museums, include in their displays collections of whole buildings and the landscape of this museum is determined by the positioning of these buildings and their internal layout, each of which has a sequence of interconnected halls. Visitors cannot choose to visit one hall and ignore the others, but must walk through all the halls before returning to the beginning (see section 5.4.1 for more details). In combination with the previous chapter, we can see how the Luxor open-air museum reflects the personality of the area (its historical and geographical character) (Hemdan, 1984), in particular, how it imposes itself on nearby spaces, in relation to each other and to the rest of the site. In addition, it provides a structure for the exploration of the museum's spaces and the heritage area. The spatial structures of the Luxor open-air museum site currently consists of: first, the heritage district, which is the main area covering about 304.66 Feddan (about 1.3km²), at a distance of more than 3km from Karnak Temple group. Second, the Karnak Temple group, which is to the southwest of the city, where the Luxor Temple is located on the east side of the river Nile; the group is connected via the processional way (the Avenue of the Sphinxes). In addition to the main attractions, the areas surrounding the heritage district in Luxor are integrated into the open-air museum, to ensure its preservation (MOH, 2004). This layout is described in detail in the next section, to illustrate the spatial structures of the open-air museum and the surrounding areas by presenting the changing areas within the museum's layout.

5.2.1 The group of Karnak Temples

with constructions at the open-air museum have defining its current layout. The 2004 Master Plan which sought to create an open air museum by protecting the temples area from any kind of human activity such as cultivation or informal settlements. The Karnak Temples can be divided into three main temples: south Karnak, with the Mut Temple; north Karnak, the site of the temple of Montu, and central Karnak, with its temple to Amun-Rais, composed of a series of separate structures and features that combine to form a single huge building complex (Figure 5-1).

5.2.2 Avenue of the Sphinxes (the Processional Way)

This avenue is one of the major structures that forms the spatiality of the planned open-air museum with the spatial structure of the monument area of Luxor changing significantly since the restoration of this road. The Avenue stretches between the Karnak and Luxor Temples and is lined with sphinxes, although most of its fall extent is now the site of modern housing. The Avenue is one of the most important archaeological and religious passages in Luxor, as it was the location of important religious ceremonies in ancient times, most notably the Opet Festival (Boraik, 2010). From the original 1,350 sphinxes, excavators have unearthed 650, as many were reused during the Roman period and the Middle Ages (Boraik, 2010). Based on fieldwork for Luxor in 2011 and 2012, and CEFFTK activities reports, it is evident that the Avenue has been divided into five excavation sections (Figure 5-2).

5.2.3 The Luxor Temple

The spatial structures of Luxor temple changed completely in the 19th century. The temple layout includes the main entrance, which begins with the first pylon. The pylon gateway also leads to a peristyle courtyard, containing a number of colossal statues. On the eastern side the Abu Haggag Mosque was built (Hawass, 2011). To the south of the peristyle courtyard is a processional colonnade, and beyond this, another courtyard featuring double rows of papyrus columns. On the south side of the courtyard, a hypostyle court leads to an inner temple sanctum (Kyoto, 2005; Archaeology, 2012).

5.2.4 The open spaces

Noussia, (1998:12) argued that in open-air museums, "constructions of space become the primary interpretative tool and affect the ways in which people walk, look around and make sense of their surroundings". Noussia (1998), in her study and visual interpretation of space in open-air museums, noted that spaces become the main interpretive tool affecting how visitors experience the place. The open spaces of the Luxor open-air museum extend from Abu El-Hagag Square, passing by Karnak Temple Street and crossing Corniche Street, which contains entertainment and tourist activities, including several hotels, bazaars and a children's park, in addition to some important religious buildings.

The Luxor Temple Plaza is one of the most important public squares in the city, due to its historical and religious value: it overlooks the Luxor Temple and the Abu El-Hagag Mosque. It is said that The people of Luxor are spiritually related to Abu El-Hagag. The high trees in the children's park are currently being trained, to allow a clear view to the Abu El-Hagag Mosque and the Luxor Temple, and the plaza is being opened up to people to create a clear line of sight; thereby ensuring the site's touristic and historical value (Ashour, 2010).

The second area is Market Street, which penetrates the residential area in the centre of Luxor; this street has been transformed into a pedestrian with way in accordance with the 2004 Master Plan. There are several bazaars and hotels on one side linking the Luxor Temple, the Abu El-Hagag Mosque and the children's park on the other, and the riverside, through a group of transversal circulation axes (MOH, 2004).

The Karnak Temple Plaza was developed to connect a line of sight between it and the Nile (Figure 5-3); bazars, shops and bus stations were transferred to backyards, providing services such as a visitors' centre, bazaars, bank branches, cafeterias and restaurants. Meanwhile it was claimed that, the historical site was reorganised to exploit it optimally without causing damage to it (MOH, 2004). The plaza creates a new vision between the eastern bank of the Nile and the Karnak Temples and the west bank of the Nile and the Al Dar Al Bahry Temple. It visibly connects the two banks of the Nile, as it used to in ancient times (Ashour, 2010); arguably visually communicating the

heritage of the district to visitors. For example, "the spectral Karnak Temples", present the story of the temples to visitors and provides a holistic vision of everything the temples imply, using their potential as a tool of knowledge and culture for visitors. Moreover, the design of the open spaces links the temples bringing the visitors the sense of the place (Teres, 2007). In summary, the spatial layout of the plaza blends the heritage areas in Luxor with open spaces and public areas for visitors; each area within the museum, from the temples and along the Avenue of the Sphinxes, is historically intertwined.

5.3   The Functions of the Luxor open-air Museum

The role of the Luxor open-air museum is expanding. The open-air museum has often been referenced as a source of national unity, which is said to arise from its heritage, monuments and achievements. Increasingly, the heritage district is seen as part of a much broader phenomenon, which contributes to political ideals, economic prosperity and social cohesion. It also takes on a role in insuring cultural diversity (ARCCHIP, 2001).

As noted in the literature review, museums have multiple functions in relation to their mandated discipline and geographical and chronological fields, additionally in identifying the communities that these functions are intended to serve. Their functions usually include preservation, documentation, research, collection, display and interpretation (Dexter, Lord and Lord, 2001). Traditionally, core activities have included the conservation and restoration of collections and the pursuit of scholarly research. Meanwhile, there are other possible functions of museums, such as urban and economic regeneration, entertainment and generation of income. These functions are interrelated; each is a process that supports the others. For example, entertainment affects economic function by attracting visitors. This was highlighted by Hannigan (1998:98), who described the process by which a museum functions as 'functional intermeshing'.

In 2004 Luxor development plan, it is understood that the Luxor open-air museum has multiple functions. The first is the preservation and conservation of the temples and the Avenue of the Sphinxes. The preservation of antiquities, in the context of museums and

their functions, involves rescuing old buildings from demolition or decay and maintaining them in good condition. As outlined in the literature review (Chapter Two), this may be seen as one of the main functions associated with museums. As outlined in Chapter Four, the 2004 plan claimed that one of essential aims to create the open air museum was the preservation and protection of antiquities and their settings is given a high priority in the Luxor open-air museum (Ashour, 2011); it has been claimed that this museum would protect the antiquities from damage, deterioration and encroachment. In the Master plan for 2004, it was argued that monuments such as the Karnak Temple and Luxor Temple require improvements in their settings, including the creation of a buffer zone, because urban growth in their vicinity represents a threat to their structural integrity, obscuring their historical features. Unplanned settlements were also seen to have developed at historic sites, and urban drainage had caused foundation settlement under the ancient temple columns. It was further claimed that preservation must be undertaken not only of antiquities but also of the physical character of the streets and buildings that surround the antiquities areas.

Consequently, Egyptian and European archaeologists are conducting excavations and restoration work at the Karnak and Luxor Temples and along the Avenue of the Sphinxes. Additionally, the museum carries out its research functions at research centres that function in the heritage district excavations, such as the Karnak and Mut Temples. For example, the Centre Franco- Egyptien d' Etude des Temples de Karnak (CFEETK) were involved in research and conservation works inside the precinct of Amun-Ra. These fall under the authority of the Supreme Council of Antiquities-Egypt (SCA) and the National Centre for Scientific Research (CNRS). The majority of the CFEETK programmes developed at Karnak, and deal with epigraphic and architectural surveys, archaeology, conservation-restoration, documentation and analysis of monuments and the arrangement of the sites (CFEETK, 2009). In addition, Chicago House in Luxor has a programme that includes conservation, restoration and site management of major temples and tombs at Luxor for publication (Chicago House, 2013).

In addition to these functions, the interpretive function serves to bring visitors into closer contact with heritage. It employs a code that is understandable to visitors and that enables them to connect with their heritage and with the setting itself, to

experience and understand what they are seeing. Interpretation is more than the mere transmission of knowledge and facts; one of its main objectives is to provoke perceptions leading to new sensations (Hicira Team, 2005). Interpretations of the site are communicated to tourists via tour guides, written maps and detailed guides. Another mode, which visitors enjoy, is spectral interpretation, such as the sound and light show at the Karnak Temple. The show narrates the story of the Karnak Temples and the history of Thebes, including the lives and celebrated achievements of the great pharaohs who built the necropolis. As the visitors wander around the illuminated monuments and towering obelisks, they can marvel at the sheer size of the great hypostyle hall and view the eerie reflection of the temple in the Sacred Lake, the setting for the dramatic finale of the show (Light & Sound, 2010). This method helps visitors to acquire more knowledge about the story of the Karnak Temples; the light in the Luxor Temple is especially attractive to visitors, especially in the evening (Figures 5-4 & 5-5).

Another function of the museum is so-called 'edutainment', a functional intermeshing that is one of the more important functions of Luxor open-air museum. This function is described as 'the joining together of educational and cultural activities with the commerce and technology of the entertainment world'. The notion of edutainment is based on the notion that learning is fun and is inspired by amusement parks (Hannigan, 1998:98). To clarify, this function will be met through the festivals (Chapter Four) that the museum will organise around particular events; i.e. the Opet Festival and the El-Wady festival. These celebrations are not only for entertainment purposes but serve as educational and cultural activities; aspects of the celebrations revive the ancient pharaohs' traditions. Furthermore, the festivals will encourage visitors to participate, resulting in an increased number of tourist nights in Luxor, which will have economic benefits. The economic function also relates to visitor's access to museums and to the fees and the accommodations made available in the city's hotels. These functions are considered some of the most important for improving the city's tourism sector.

Urban regeneration is one of the essential functions of the Luxor open-air museum, and this was a chief motivating factor when creating the museum. The museum viewed as agents of urban regeneration when carefully planned; not only through the provision of facilities that attract visitors to stay in the city and spend money there, but also because museums play a role in promoting investment in cities and can perform social and

cultural roles. The 2004 plan proposal operated from such a perspective, suggesting that regeneration should be carried out in areas within and surrounding the museum, as many have been identified as subject to preserve the antiquities district (MOH, 2004).

Another function of Luxor open air museum contributing toward economic regeneration and social inclusion. This function could be understood in different ways for example in terms of its environs benefit from businesses and visitors. In 2004 Master plan, it is claimed that attracting visitors is a source of income; amounts of money are spent when visiting museum in terms of both entry fees and expenditure in their restaurants and shops which provides part funding for the open air museum in Luxor.

Additionally, new areas have been proposed in order to attract businesses and tourism investments. For example, the Golden triangle area (more details in Chapter Four) it is proposed to construct hotels with the overall capacity of 14836 rooms by the target year 2022 as well as shops, restaurants and other tourists investments (MOH, 2004). This is aimed at creating job opportunities in Luxor.. Further, such investments could also be used to improve other sectors, in health, education, infrastructures & utilities and housing which consequently help in social inclusion as well.

In sum, all the functions of the Luxor open-air museum; i.e. preservation, documentation, research, collection, urban regeneration, display and interpretation and edutainment, are organised to improve the economic regeneration and tourism sector, not only for Luxor but also for Egypt as a whole. At the same time the success of these functions asses to promote social inclusion. However, some of these functions are already in place, although the other functions that were intended to commence after completion of the restoration of the Avenue of the Sphinxes and the Golden Triangle have been delayed due to political issues in Egypt (namely the 25th January 2011 revolution).

5.4 The changing borders of the Luxor open-air Museum

The spatiality of the open-air museum and local social life are often in conflict with each other (Paturel, 2009). This is apparent in the fact that many planned areas of the Luxor open-air museum site have been changed to meet people's social needs, or owing to the

personality of the space (Hemdan, 1984). These changes have occurred, not only in specified places, within or surrounding the open-air museum, but also in buffer zones around the Luxor monument areas. The changes to the buffers are apparent when mapping the boundaries of the monument areas in the Luxor development plans from 1984 to 2004 (MOH, 2004).

The change in areas within, or surrounding, the open-air museum can be detected by visualising three models of Luxor city; a model, based on the Master Plan of 2004 for the open-air museum's structure; an implementation model, which modulates exploration of the implementations for open-air museum and a model of the city before the creation of the open-air museum. All three models make visible the areas that have been subject to change and altered as the open-air museum strategy has developed, and the areas that were changed to create new spaces surrounding the museum to accommodate visitors, i.e. hotels, restaurants, and cafes. This assists understanding of how the proposed areas were developed in the comprehensive development plan and how the plan created an open-air museum in Luxor, not referencing the political issues in Egypt (Asem, 2011).

5.4.1 Changes to the buffer zones

This section will focus on changes to the buffer zones around the monument areas in the Luxor open-air museum, identifying the principal issues surrounding the inclusion of buffer zones within the city's various development plans. The intention here is to determine the reasons for creating a buffering area around the monuments. This will help with assessing the purpose of buffer zone changes at the development plans and allow consideration of the problems and advantages of various buffer zones, particularly in terms of their impact on the spatiality of the museum and their effect on the local residents of Luxor.

Buffer zones have been whereby added around protected areas, such as forestry sites, fumigated areas (Marrs et al, 1992), heritage sites (Piatti, 2009), agricultural sites, areas with monuments (Berry, 1997) and other sites requiring protection. In such cases, a buffer zone is designed to protect the inside from the outside (Martino, 2001). The

inside is typically represented by the sites mentioned above. The outside, generally refers to human activities that can cause harmful effects in protected areas.

Turner (2009:17) defined buffer zones in three ways through their relationship to surrounding monuments and heritage areas. First, a buffer zone is necessary to keep two or more areas distinct yet shared; it can integrate them through the inclusion of greenbelt in a design. Second, a buffer zone is a dynamic and flexible element that may cushion a neutral area from conflicting forces, that is, as an area of separation or mediation. Third, buffer zones can be overlapping spaces, where the characteristics of each area have a common denominator or provide an opportunity for manoeuvring and exchanging pressure, such as a protective barrier (Turner, 2009).

The open-air museum has different types of buffers operating on different scales. The first buffer is for new buildings in the mediation space (as type 2 in Turner (2009) classification), the second type of buffer is the built walls surrounding the monument areas (as type 3) and the third type is the immediate zone buffers (as in type 1). This information will be presented in detail in the next section, with illustrations of the changes to buffering over time.

Although Turner (2009) defined the buffer zone function in reference to monuments, they did not mention a particular distance for heritage buffers. Alternatively, ICOMS (2009:4) stated that the buffer zones of cultural heritage sites in some countries are similar to those of archaeological sites, where a buffer zone of 200 to 400 metres is automatically established around a site to separate it from conflicts in use. However, this buffer distance (200 to 400 m) is not in common use at archaeological sites, such as that in Luxor. The archaeologist in Luxor and at SCA noted that buffer distance is variable according to the kind of monument (i.e. statues or temples), and is also influenced by whether monuments have been discovered in residential area or on vacant land.

5.4.1.1 *The buffers around an open-air museum: multiple perspectives*

As noted in Chapter Two, the manner in which a buffer zone for a museum is conceived can vary to fulfil the perspectives of different actors and the predominant definitions offered for a museum over time.

For Archaeologists, key buffers are those situated immediately around objects (Figure 5-6: A), such as statues or columns and temples; their primary intended function is preservation. Such buffers may be scattered, without consideration of flows or views between museum objects or the city as a whole. The second type of is a conceptual buffer (Figure 5-6: B) *around* the heritage site. It protects the area in which the monuments are situated, and extends to preserve areas of prospective excavation. These tend to be designated by planners, based on the expectations of archaeologists and various Government rules and regulations. Importantly in the context of this thesis, sites can be seen as a whole, paving the way for the formation of a single zone, such as an open-air museum. Referring back to Table (2-1) it was suggested that museums may have been transformed from classical to cultural. In this case, we might expect the buffer to be widened around the entrance to the site to make room for coaches or to present an attractive opening vista, or localised house clearance to provide visitors with a more attractive perception of local socio-economic status (see Figure 5-6: C). Conceptualising an open-air museum, as a dynamic and fluid space to optimise the visitor experience, while achieving the other key museum functions, is an option presented in Figure 5-6: D, where the buffer directs the flows of people inwards and outwards as they interact with surrounding spaces.

Generic buffer types can be observed from the perspective of changing plans and documents relating to monuments in the protected areas of Luxor city from 1965 to 2004 (figure 5-7). In 1965 the buffer was firmly demarcated around the areas of antiquity, anchored in the impressions of Archaeologists, with conservation as a key goal it was hence an objective buffer. However, in 1984 this buffer transformed to a second form, powered by both the planner's and archaeologist's point of view, based on the probability that the Avenue of Sphinxes would be excavated. As described in chapter four, the Open-air Museum was mentioned in the 1984 plan, but not in concrete terms. However, the change in the type of buffer as being proposed can be seen as a key moment in the development of the ideas of the open air museum. The protected areas surrounding the monuments as seen in the plans of 1993 and 2000, were closer to the third type of buffer. These plans connected to a previous aim of attracting visitors through the proposed development of a new entrance to the museum area; the rhetoric of the plans, highlighting economic regeneration, echoes this objective.

The plan for 2000, which was developed by overseas consultants, it laid out vistas along the Avenue of Sphinxes. Their plan included many components of the 'experiential' buffer, focused on visitors' experiences, extensive house clearance. The plans of 2004 although heacly influenced by 2000 plan, less effectively exploited, in this latter version of the plans, the visual values of the open-air site, as will be discussed in more depth later in the thesis.

The 1984, 1993, 2000 and 2004 Luxor development plans described two zones. The first involved monuments and protected areas and precluded human activity, such as living on or cultivating land within protected areas (under Egyptian Law 117, 1984, for antiquities conservation). The second were buffer zones that are considered as suitable for controlled human activity and protecting the target area. As a result, it is necessary to understand the intention of the buffer zone within the context of the Luxor development plans and the criteria needed to establish it around the monuments. A search was also conducted to assess changes to the monument area and the buffer zone within the Luxor development plans from 1984 to 2004, as dictated by the SCA (1965), and to detect changes to the buffer zone within the geographic information systems used. The results of this search were helpful when evaluating the buffer zones proposed in the Luxor city plans, and when determining how residential areas might affect open-air museum policy, as well as when identifying which areas need to be removed and which are recognised as requiring further development.

Any changes to the buffer zones around Luxor monuments need to reflect an understanding of the basic issues regarding the incorporation of buffers from the 1984, 1993, 2000 and 2004 development plans for Luxor, as well as the buffer zone created in 1965 by the Supreme Council of Antiquities. This makes it possible to formulate an understanding of why a specific buffer area was used around the monuments and why the buffer zone itself differs between plans.

5.4.1.2 *Variations in the buffer zones in the Luxor development plans, 1984 to 2004*

The concept of a buffer zone was agreed upon in the majority of the Luxor master plans, particularly those dating from 1965 to 2000, including the Supreme Council of Antiquities' buffer map of 1965. The Luxor development plans of 1984, 1993 and 2000

and the Supreme Council of Antiquities' buffer of 1965 used a buffer zone that was divided into two parts. The first comprised protected areas for monuments that would prevent any encroachment by local residents and the second constituted a buffer zone established around the monument protection area, separating it from conflicting uses. However, the Luxor Master Plan of 2004 used the monument protected area itself as a buffer zone.

Based on Egyptian law (Ministry of Culture, 2010), the buffer zone is known as an 'antiquity sacrum', referring to places or land adjacent to antiquities that is determined by a competent permanent committee to ensure protection of the antiquities. Moreover, Egyptian law No.117 (1983) defines places or land adjacent to antiquities, as lying outside the range of archaeological sites and extending to any distance determined by a competent permanent committee, as authorised by the Supreme Council of Antiquities for planning and urban development, whether in the inhabited area or in any other areas, to ensure the protection of antiquities. In addition, the same Egyptian Law No. 117, as amended in Law No.3 of Article 20 (2010), defined the land adjacent to archaeological sites as extending three kilometres from an uninhabited area, or over a distance determined by a competent permanent committee, to ensure the protection of the environment at antiquities sites. However, this does not define the distance of a buffer in an inhabited area.

In this legislator, there is agreement about the use of the buffer zone concept, although there is no legally agreed distance for a buffer zone. This appears to be because many criteria affect the distance across which the buffer zone extends; such as the spread of archaeological material around a specific monument, including the type and condition of the monument (NMS, 2006). Shaban (2010) referred to a specific buffer zone as determined by a competent permanent committee. In addition, whether an antiquities site is within a residential or a non-residential area changes the distance from the buffer; for example, in a non-residential area, the buffer extends three kilometres, as stated by Egyptian law No. 117(1983), and it decreases within residential areas.

Another factor here is that the excavation and discovery of antiquities can affect the spread of the buffer zone. For example, Naj Abu-al Goud was added to the buffer area within the Luxor master plan in 1984 and 1993, and the Avenue of the Sphinxes

excavation in 2004 changed the buffer zone for antiquities in the Luxor development plan for that year.

Social situations also have an instrumental role in the creation of a buffer zone, as residents' homes can be removed if they are found to be within a buffer zone area. However, it may be possible to decrease buffer parameters if families cannot find alternative housing (Eng. Mona Al Basuoni, 2012). However, the buffer zone distance or area is also deliberately specified to deter local residents from encroaching on monument areas, such as Naj Al-Tawel in the east area of the Karnak Temple in the Luxor master plan (MOH, 2000).

The urban type and conditions in the areas surrounding an archaeological site have an impact on the setting of antiquities, an example being the lack of utilities to prevent sewage and the increase in ground water seeping into the stonework, and effectively destroying the monuments and temple columns (EAIS, 2006). Informal urban living creeping into historical areas has also been found to damage the monuments, as occurred during the restoration of the Avenue of the Sphinxes; the archaeologists found a number of sphinxes had been completely destroyed by informal settlements (Boraik, 2009). Hence, buffer zones are selected for particular areas to protect antiquity sites from any encroachment, and the buffer zone also prevents any future extension of antiquities sites.

5.4.1.3 The buffer zone and city development plans

The strategies informing Luxor's development plans, which were approved in 1984, 1993, 2000 and 2004, had as their principal aim, the desire to protect the area in which the antiquities were located, and to provide appropriate buffer zone protection. However, despite plans for the creation of a monument protection area and a buffer zone, many of the plans were not implemented for reasons that will be discussed individually in the following section. When comprehensive development plans were approved in 2004, a number of the objectives were implemented to create a heritage site buffer zone (Figure 5-8).

In 1965, the Supreme Council of Antiquities' GIS team created a map of the antiquities buffer zone area in Luxor (Figure 5-9). This buffer was divided into two zones; the first

core zone (the monument area) was around 813 m² (74.61 hectares), while the other was the buffer zone (encompassing all of the city of Luxor), which is about 5000 m² (443.55 hectares). This buffer is, however, different from later buffers, as it covered most of the city of Luxor in 1965. This confirms the opinion of archaeologists, who stated that all 'Luxor city [is a] buffer, this city is layers of history' (Asem, 2012).

This map clarifies what the shape of the city was in 1965, particularly detailing the Luxor Temple, although the sphinxes where not discovered until 1965. Meanwhile, in the Karnak Temple area, many houses in Naj Al Sheikh Mosa were built within the temple grounds and within the monument boundaries (Figures 5-10 & 5-11). This fact was clarified by archaeologists, who noted that, if they had discovered new antiquities in existing housing, that housing would be removed, as Luxor falls under the supervision of the Supreme Council of Antiquities.

The 1984 Luxor Master Plan, identified the monument area as extending from the Karnak Temple in the north to the Luxor Temple in the south of the city; an covering area of about 901000 m² (roughly 90.13 hectares) as measured by ArcGIS. However, there is also a buffer zone (482000 m²) located in the two areas; the first is north of the Karnak Temple in Naj Al-Malqata, and the second is south of the Karnak Temple at Naj Abul-Goud. The two buffer zones were also divided because it was anticipated that additional archaeological finds would be made there (Figure 5-12) (Luxor Master Plan, 1984; Marouf, 2000:168; Ashour, 2005:52). This Master Plan, as a strategy, aimed to remove all squatter settlements from within the monument areas (the Karnak Temple, the Luxor Temple and the Avenue of the Sphinxes), such as Nag Al-Malqata and Nag Al-Sheikh Mosa; however, this has not yet been approved. Agricultural land located within a proposed urban framework was considered to be an extension of the city making it inconsistent with state policies to preserve agricultural land and to prevent any extension of urban communities. This led to delays in the adoption and implementation of schemes, which in turn allowed encroachment onto agricultural land to continue, affecting key historical sites in the north and also increasing overlap between urban and rural domains.

Nine years later (1993), the problems facing Luxor had become aggravated by a population increase in the area, leading to urban sprawl, additional pollution and a

rising water table around the sites where the antiquities are located. For this reason, the principal aim of the 1993 master plan was to remove and prevent encroachment on archaeological sites to conserve the monument areas (Figure 5-13). The area covered approximately 1,449,675m² and also included 700 houses (132,000 residents) within the Sheikhdoms monument sanctuary, and old and new Karnak and Naj Abul-Goud. Whereas the buffer zone, including Naj Al-Malqata, Naj Al-Tahtany, Naj Al-Tawil, Naj Abul-Goud and Naj Al-Karnak occupied nearly 3,057,642m² (Ashour, 2005:58).

Unfortunately, as discussed in Chapter four none of the goals set out in this plan were implemented, and the encroachment on historical sites was not halted. In addition, the urban framework, which had been amended to preserve agricultural land, did not prevent creep in any direction, and certainly not in the northern part of the city, where the Karnak Temple is situated. The southern part of the city continued to suffer from the same problems.

In the 2000 Luxor structural plan, the growth in the archaeological sector meant that the first priority was to turn the area into a heritage site, allowing it to function as an open-air museum. The concept of a buffer zone was introduced to protect the visual quality of the archaeological site and to demonstrate respect for its resources. The Luxor Temple is surrounded by busy streets on three sides, leaving no scope to create a buffer zone. On the other hand, the Karnak Temple and the surrounding areas are residential neighbourhoods that have no utilities, particularly in the direction east of Karnak. Hence, the proposed buffer zone would reflect the significance of the setting; prior to establishing it, test excavations were planned, to determine the location of any artefacts and to identify which structures should be removed. The residents in the area were to be offered new housing with utility services in the northern part of Karnak, in the hope that this would provide an incentive to relocate. To discourage future development, the road running along the north and east sides of Karnak Temple was also to be removed. The road corridor was to be replaced with a landscape treatment, in the form of an earthen wall, which would then define the immediate edges of the Karnak and Mut Temples. The Avenue of the Sphinxes buffer zone was to be at a distance of 10m, which offered an exceptional opportunity to create a connecting open space that could be linked through appropriate landscaping and lighting within the popular park area to the east of the Luxor Temple (Figure 5-14).

The 2000Master Plan encouraged planners within the Egyptian government to focus their interests on Luxor, in particular to resolve ongoing concerns over the informal areas located to the north and east of the Karnak Temple (MOH, 2004; Figures 5-15 & 5-16). There was also a need to improve the archaeology sector. As a result of the issues raised in the 2000 plan, the 2004 comprehensive development plan proposed a monument buffer area (Figure 5-17) focused on preserving antiquities from the dangers of urban encroachment and enhancing the antiquities setting for tourism. This buffer zone area, or the Monument Sanctuary as it was referred to in this Master Plan of 204, covered a total area of 2,032,598 m². In contrast to the previous two buffer zones (the monument area and the buffer areas), the 2004 buffer was a single all-encompassing monument protection area (see Chapter 4). The heart of the city was to be regarded as an open-air museum, and the rules and guidelines for the development of the city areas to meet this requirement were discussed in Chapter 4.

Luxor's development plans have established four buffers, each differing in terms of distance from the monuments, but sharing a similar function; i.e. the avoidance of informal urban creep. As mentioned previously, this was causing deterioration of the antiquities, and also leading to a rising water table, which was damaging the temple columns and the Karnak Temple on the eastern side at Naj Al-Tawel (CEFR, 2005). Despite discussion and setting out of a buffer zone on previous plans, weaknesses in the law had meant that they were not enforced and people could seize the land. This led, Dr Zahi Hawass, the Head of the Supreme Council of Antiquities (SCA) in Egypt, to observe in 2005, that Egyptian Law No. 117 (1983) for antiquities conservation included no recourse to punish anyone who seizes land, although it is considered a crime. Therefore, he called for changes to the law to prevent people from taking more land close to the antiquities for agricultural use (CBC, 2005). Dr Hawass' demands for a new law to protect antiquities were finally met in Egyptian Law No. 3 of 2010.

At this time funding was an additional crucial requirement to support implementation of the Master Plan of 2004 and to create a buffer zone (the Monument Sanctuary). The Monument Sanctuary and the Luxor Temple corridor were the first steps in realising the open-air museum and required millions of Egyptian pounds in funding. Following the 25th January 2011 revolution, the financing of the Luxor open-air museum was put on hold, and as a result, the majority of the project aims were not implemented.

The next section uses GIS tools as a basis from which to estimate the number of houses and families that would be affected by plans to develop the open air museum.

5.4.2   3D visualisation of the altered areas

This section focuses on a 3D visualisation of the areas that the plans affect. A 3D visualisation clarifies the spatial properties of the particular areas, and the Luxor open-air museum landscape. In addition, its application is beneficial for visualising the differences between three different 3D models at different times in the history of the planned development of the open-air museum. The models of the landscape of the open-air museum include depiction of the landscape prior to the development plan of 2003, after the development plan in 2012 and during the idealistic development plan in 2004.

As Bleisch et al. (2009) noted, historical 3D models in GIS not only allow researchers to exploit rich datasets but also serve as instruments for the better communication of historical knowledge to museum visitors. The visualisation of changes over time is necessary to view the status of the city models at different times, and to identify changes (Ban et al., 2011).

The comparison between the three different models clarifies why the plans for particular areas required alteration; in many cases the museum site was altered in a way that becomes clear when conducting a visibility analysis of particular points (line-of-sight and Viewshed analyses). The 3D model for the 2004 Luxor open-air museum plan shows a number of areas were prepared for the creation of the open-air museum. These areas have three axes: the restoration of the Avenue of the Sphinxes; the creation of open spaces, especially at the entrance to the Karnak Temple and the surroundings of the Luxor Temple (Figure 5-18); and the development of neighbourhood areas within the open-air museum framework. However, the neighbourhood areas should also be developed, although for political reasons, this has not been done. Consequently, 3D visualisation is used to define many parts of the open-air museum site that have changed, and which could be visualised from a specific point within the site.

5.4.2.1 Restoration of the Avenue of the Sphinxes

The Avenue of the Sphinxes, as mentioned previously, is the backbone of the open-air museum project; without this area, the open-air museum would not be complete, according to the planners. Hence, since the beginning of the project the restoration of the Avenue of the Sphinxes has been prioritised. 3D models have been created to address three scenarios affecting the Avenue of the Sphinxes: the avenue prior to restoration in 2003, idealistic plans for the restoration of the avenue in 2004, and the avenue after restoration in 2012. The first 3D model of the Avenue of Sphinxes, prior to restoration, illustrated the visibility of the avenue only applied in a small zone, particularly close to the Luxor Temple. The avenue was then covered with residential housing, commercial, government and religious buildings, and approximately 4200 m^2 of agricultural land (Figure 5-19).

The second 3D model issued is Master Plan 2004 for the Avenue of the Sphinxes (Figure 5-20). It shows the processional avenue excavated in segments along 2.7 km of its length, at a width of 76 m and a depth of 2 m; in addition, 10 metres have been set aside on each side of the avenue to provide a buffer zone and to reflect the fact that the avenue was originally part of the garden district between the two temples (MOH, 2004). Meanwhile, crossroads along the avenue need to be replaced with mini-bridges to allow a passageway between the two sides of the avenue. This plan also allows for the provision of better visibility along the avenue, as clarified by the Viewshed and line-of-sight analyses.

The third 3D model shows the avenue after its restoration in 2012. It differs from the idealistic plans for the avenue, in that almost all the buildings had been identified for demolition; in practice the religious buildings had not been demolished. In addition, the linear parks situated to the east and west of the avenue were not completed, and the cross-bridges had not been constructed (Figure 5-21). In addition, the visibility of the avenue has changed; the line of sight has appeared in different sectors, and the objective of being able to see along the avenue has not been met.

Consequently, the 3D models for the Avenue of the Sphinxes are helpful in visualising the previous, 2004 plan and the present plan, allowing a comparison between the two

models. The third 3D model details the reality of the avenue and the places that have been altered to restore it, showing it has not met the aims of the planners, in that it remains divided into sectors with blocks of sphinxes.

5.4.2.2 The entrance to the Karnak Temple

The entrance to the Karnak Temple was completely changed after the development plan of 2004. The 3D model of the area prior to development shows the landscape of the area had many buildings for residents, as well as the Cefftk centre and the Karnak Temple bazaars. In addition, bus parking spaces and a park full of trees covered the area, restricting the visibility to the West Bank of the Nile. However, the second and third 3D models for the same area show changes (Figure 5-22). A number of residential buildings have been marked for extraction, where a Greek-Roman settlement has been found close to the first pylon of Karnak Temple. A new corridor has also been created surrounding the temple, to prevent residents from encroaching on the temples and to act as a buffer to conserve the antiquities area. A new visitor centre has been constructed containing many buildings, including restaurants and a women's centre.

Furthermore, the visibility between the entrance to the temple and the West Bank of the Nile has been greatly improved. The 3D visualisation clarifies the changes to the area, clarifying visitors' observation routes. The visibility analysis of the 3D models compares these three models (Figure 5-23), showing the visibility in the first one is very poor compared with that of the other two.

5.4.2.3 Luxor Temple environs

During the excavation of the Avenue of the Sphinxes, many buildings were removed, particularly in the area to the north of the Luxor Temple and the Nile Corniche. These buildings were removed to support tourism activities. The comparison between the three models for the area reveals that the Master Plan 2004 necessitated the removal of many buildings, creating clear visibility to the river Nile. However, according to the 3D model of the area, after the buildings were removed (Figure 5-24), in January 2010, residents returned to their land and rebuilt until the government relented (according to interviews with the residents of this area in 2011 and 2012 as well as fieldwork)

(Figures 5-25 & 5-26). This reflects social attitudes toward the development of the open-air museum, which are illustrated in detail in the next chapter.

3D visualisations of the altered areas reveal the dynamic changes that took place between the 2004 master plan for Luxor and the reality of these changes, as affected by the social needs and behaviours of local residents. They illustrate what was influenced by the plans and the current reality.

5.5 Spatial perspectives at the Luxor open-air Museum

The main focus of this section is to explore how the visitors who circulate within the open-air museum are affected by its spatiality and structures. Furthermore, the section analyses the open-air museum's layout and the visitors' observation of movements, to assess the impact of its spatiality on visitors' circulation patterns. Visitors' movements within the museum are presented here to explore the extent to which the museum's spatiality influences their experiences of the museum spatial structures. Additionally, the second part of the section assesses the museum's functions and how its spatiality influences those functions.

A number of methods and theories are employed to study the spatial characteristics of museums and relate them to the patterns of visitors' movement. For example, a computer analysis of space syntax theory was a tool proposed by Hillier et al. at UCL; this helped architects to simulate the likely social effects of their designs and presented the impact of space on social behaviour and relationships (Hillier and Hanson, 1984; Psarra, 2005). Others have integrated time-lapse photographs with interviews and questionnaires, such as Costa (1993) in his study of Rio De Janeiro Park (Noussia, 1998). This has helped Noussia (1998) to analyse photographs, as well as a selection of views that visitors consider memorable, to detect visitors' routes to the museum and their photographs, in contrast with museum guidebooks.

As outlined in chapter three, the methods employed included a visibility analysis and a 3D visualisation. In particular, a Sketch-Up 3D model was created for the Luxor heritage district (Chapter Three), to assess visitors' observation routes and their experiences in the museum space, in combination with real photographs taken during fieldwork in Luxor (April 2011, December 2011 and April 2012). The basic information used to

assess the observation routes and points are based on the author's visits to the heritage district in Luxor, which focused on observing visitors walking through the Karnak Temples, the Avenue of the Sphinxes (Kebash Road) and the Luxor Temple. The aim of this is to examine whether visitors are affected by the spatial structure of the museum. This helped with understanding the visitors' experience in these areas. Subsequently, visual interpretation was combined with an eye-level view of visitors' observation points to achieve an understanding of the interactions between the Karnak Temple group, the Luxor Temple and the Avenue of the Sphinxes. In addition, visibility analyses were included (i.e. a Viewshed and a line of sight analysis as discussed Chapter Three) to detect the visible and hidden areas of the monument) from a given observation point (Paliou, 2012). The observation points were identified based on the typical visitors' routes through the open-air museum's components (the Karnak Temples, the Luxor Temple and Kebash Road) and views of the temple spaces from particular points within it. The use of the 3D model in conjunction with visibility analysis allowed the exploration of what might have been achieved via the plans, not possible using current photography alone.

Throughout the visitors' observation of the museum space, its layout plays a critical role in facilitating encounters with its displays, because the museum experience cannot be separated from its physicality (Sirefman, 1999; Bollo & Pozzolo, 2005). Psarra (2005:78) argued that 'the spatial characteristics affect the patterns of movement and transmission of the educational message'. Moreover, first-time visitors tend to first explore the museum space to acquire an overall understanding of the space before enjoying specific elements of the exhibits. The visual continuity in an open-air museum provides access to environmental information at a glance. Thus, it is proposed that any exploratory movement is influenced by the visual accessibility of environmental information (Kaynar, 2005).

5.5.1 Visitors' routes around the observation points

In this study, the visitors' routes around the Luxor open-air museum were divided into routes determined by tourist shuttles between the Karnak Temple and the Luxor Temple, routes travelled within the temple sites and along the Avenue of the Sphinxes, and more detailed routes to visit observation points. From these routes some vantage

points were selected within the museum site, based on guided tours for visitors and the author's visits to the temple.

However, the visitors' shuttles between the Karnak Temple and the Luxor Temple change according to the heritage spatiality, because the spatial layout has been adapted in many places as part of the open-air museum. Prior to the creation of the open-air museum in Luxor, the tourist traffic came in from the airport or the rail station east of Luxor, encircling the area between the Luxor Temple and continuing along the Corniche to the north until it reached the entrance to the Karnak Temple. After this, the visitors travelled south to the west bank, as illustrated in Figure 5-27 (MOH, 2000).

In the Luxor development plan of 2004, visitors' routes to the open-air museum spatial layout included traversing the three bridges across the Avenue of the Sphinxes. The north-south circulation on either side of the avenue was improved, with a new road connecting the Corniche, just north of the Luxor Temple, and the street along the eastern edge of the avenue, which has since been upgraded (MOH, 2004). The distance between the Karnak and Luxor Temples is significant, requiring either a tour vehicle or a long walk in hot weather. A tourist shuttle loop was provided to serve tourists and to allow visitors choosing to walk portions or the entirety of the Avenue of the Sphinxes to return to their points of origin. The shuttle will provide an important service to visitors, stopping at Luxor Temple, the Karnak Temple, the East Bank Visitor Centre and at other sites along the avenue and the Corniche, during the day and in the evening. Figure 5-28 illustrates a proposed route of the shuttle between Luxor Temple and the north to the entrance to the Karnak Temple. This new route would create greater access to the Karnak Temples and the Luxor Temple and also avoid overcrowding within the open-air museum.

5.5.1.1 Karnak Temple visitors' observation routes

As illustrated in the previous section, it is planned that the visitors' routes begin at the Karnak Temple visitors' centre, at the entrance to the temple in order to avoid overcrowding at Nile Cornish and to get better access for the visitors as well. Further, Karnak plaza at the western side of the temple has been developed and provided a better visibility to the temple and for the west bask of the Nile as shown in section

(5.3.2.2). The spatiality of Karnak temples was explored in order to understand why the western side of Karnak temples was chosen to be the main area to access and exit from Karnak temples. However, at the other three sides of Karnak temples, there are impediments prevent to get better accese for the visitors. The informal settlements are the main impediment, surrounding the temple at its eastern and southern side within the Karnak temples buffer zone such as Naj Al-Tawel and Naj Al- Sheikh Mosa. In the 2004 master plan, it was claimed that these areas should be removed and the residents relocated to elsewhere. Additionally, at the northern and southern sides of Karnak temples, many areas do not allow visiting where they are under excavation and maintenance, such as Mont temple and Mut temple. In future, opening up these two temples might change the visitors' routes through the Karnak temples.

Based on the visibility analyses for current visitor routes at the Karnak Temple site (Figure 5-29), it can be ascertained that the observation points and people's movements are affected by the temple's spatial layout. The vantage points were along main routes, and in accordance with visitors' movements within the site at the Karnak Temple. As noted in the previous section, the majority of the Karnak Temple buildings consist of interconnected courts; this means that observation points could be chosen to explain how the spatiality of the open-air museum affects the direction of the observation routes. Throughout the visitors routes within Karnak temple the viewshed analysis explores not only the visible areas and invisible areas for the visitors but also helps to visualise alternative visiting routs within temples site.

The visitors' routes start at the first point of observation (Figure 5-30), where they continue inside the temple through the Avenue of the Sphinxes (the processional way) to the first pylon of the temple. The Viewshed analysis shows that many sections in Karnak temples have a clear visibility to the visitors and others have limited view because the layout structures at these sections affects visibility. For example, the forecourts include a number of structures such as Shrine of Seti II and the Temple of Ramses III (Sullivan, 2008). The visibility analysis shows that many parts of the forecourt area are hidden behind the forecourt columns (Figures 5-31). Additionally, the first observation point proves the designers' aim of creating an open view from the Karnak Temple to the west bank of the river Nile. Meanwhile, if we choose another observation point, for the Temple of Ramses III, the visible area and hidden areas would

differ from those of the first observation point. A better view of the area would be provided by a central observation point on the forecourt, where the people the place and the story can be presented to them. After this point, visitors move randomly taking photographs (Figure 5-32). However, the visitors could have another choice to change their way to directed to Mont Temple before directed to second pylon at the observation point (3) while this temple is under excavation and not open for visiting. It could be argued that after finishing excavation at Mont temple the visiting layout could change not only for the access to the Karnak temples group but also within this temples group (Figure5-33).

Another example of limited visibility in the current layout of the open-air museum is shown when the visitors' route moves through the heart of the temple amongst the second, third, fourth, fifth and sixth pylons. The viewshed analysis shows limited visibility where a series of tall stone obelisks and various other structures reaches to the sanctuary. These structures do not give another choice for changing visitors direction to another area because the temple section from second to sixth pylon until the sanctuary are connected to each other's. As a result, (Figures 5-34 & 5-35) the visitors' route is directed to the obelisks and the sanctuary and down a corridor to the sanctuary. However, Viewshed analysis shows that other areas are invisible from the observation point, particularly the rear access to the sanctuary.

Additionally, the viewshed illustrates a clear visibility to the Sacred Lake (Figures 5-36) on the southern side of the temple. The area is an open space, without any structures to obscure the view from the different vantage points. The visitors are then directed to the west of the temple through 7th, 8th, and 9th pylons, where they find the temples of Khonsu and Opet and a visible area between the Opet Temple and the Karnak Temple's wall, which is higher than the observation point (Figures 5-37). It was not possible to photograph this area as it was closed for maintenance during the field trip. However, the Sketch-Up 3D model illustrates how visitors arrive there (Figures 5-38: point A & B). It could be argued that from this observation point other visiting routs might be created to in or out from Karnak temples to Avenue of Sphinxes at point (A) and to Mut temple at point (B) (Figure 5-38). The final route takes visitors back to the east side of the Temple of Ramses III, where they return to the forecourt and exit by the 1st pylon.

Visitors can continue to the exit from the first point of their walk through the Karnak plaza. (Figure 5-39).

There are two temples in the Karnak Temple group that will not be available to visitors until after archaeologists have finished their excavations; this prevented the researcher from visiting the observation points while the viewshed analysis helps to conduct a visibility to the area. Notably, the routes visitors take around the Karnak Temples typically run one way, from the first observation point to the southern part of the temple with a limited change in direction to view the sides of the main path. In addition, the visitors' routes on the western side of the Karnak Temples are directed from the Sacred Lake to the seventh, eighth and ninth pylons until the forecourt is exited again before entering the open-air museum north of the temple. Thus, the Karnak Temple structures with the connected courts and pylons guide visitors to start their visit in the newest part of the temple (Chicago House, 2013). In addition, visitors to the Opet Festival (Chapter Four) follow almost the same route as the king who began the festival; i.e. exiting from the first pylon, moving to the Luxor Temple, and returning to Karnak temple at the ninth pylon(Figure5-37 : point A) .

5.5.1.2 Luxor Temple visitors' observation routes

The Luxor Temple covers a smaller area than the Karnak Temples. Consequently, there are ten visitors' routes as presented in Figure 5-40, and more in excess of eight primary vantage points. Before describing the visitors' routes, it is important to clarify how the spatiality of the temple affects the space. Noussia (1998:37) described space as an 'interpretation tool that affects the way that visitors experience the site'. Furthermore, the space affects the interaction between the visitors and the temple itself, in which the visitors walk and look around and develop a sense of the site. Therefore, as mentioned in section 5.1, photographs (taken within the Luxor temple area from observation points) are used to explore visitors' movement through the temple space, in combination with a Sketch-Up 3D model.

Luxor temple had not alternative visiting routs comparative with Karnak temples. Before development the temple area, the temple its entrance was at the western side at Nile Cornish and changed to the opposite side. The reason is at western side Nile

Cornish road is suffering from traffic while at the eastern side the availably space access to planning the temple entrance and bus parking. Additionally, this side is close to shopping area and Railway station too.

The visitors' access is at the entrance to the temple, on the east side, and continues through to the first pylon at the obelisk (Hawass, 2011), where the first observation route is located. The visibility is very high, and visitors can see an open vista toward the Nile Corniche to the east, the town west of the temple and the Avenue of the Sphinxes at Luxor Temple (Figures 5-41 and 5-42).

The second observation route takes visitors through a gateway, which leads into a peristyle courtyard and the Abu Haggag Mosque on its eastern side (Firestone, 2010; Su, 2009). The Viewshed clarified that the hall is visible for the visitors, who move randomly to take photos of the courtyard's sides (Figures 5-43). Additionally, the visitors directed along the third route where there is no choice to change direction to another hall. This is the same with the temple halls.

Visitors then continue along the third route, moving through the processional colonnade where the visibility is limited by double rows of papyrus columns (Figures 5-44, 5-45 and 5-46). Visitors then take a direct path to the fourth visiting route, as they have no other means to access the fourth courtyard. Finally, visitors exit through the open-air museum on the east side of the Luxor Temple and through the first courtyard beside the Abu-Al Haggag Mosque (Figures 5-47 and 5-48); they then proceed to the first observation point before moving towards the Avenue of the Sphinxes, where there are a number of further observation points (Figure 5-49) .

It can be concluded that visitors' observation routes within the Luxor Temple setting are affected by the spatial layout, which directs visitors along particular observation pathways rather than others. In other words, the temple layout plays a role in determining visitors' choice of observation routes, as the structures and connected courts and open spaces guide the visitors' movement through the temple site.

5.5.1.3 Avenue of the Sphinxes (the Processional Way)

Prior to the restoration of the Avenue of the Sphinxes, only two zones had observation routes: the Avenue of the Sphinxes within the Luxor Temple and the processional way connecting the Karnak and Mut Temples. The 2004 Luxor Master Plan proposed there should be visitor observation routes throughout the Avenue of the Sphinxes, with two parallel parks on both sides of the road (Figures 5-50 & 5-51). These figures illustrate how visitors process along the Avenue of the Sphinxes. Many groups of visitors wish to walk along the Avenue of the Sphinxes, while others aim to see only certain parts of the road. Visitors have various options when determining where to view the Avenue of the Sphinxes from. They typically aim to pass a number of access points along the road. In addition, the Golden Triangle area to the west of the Avenue of the Sphinxes and the parks to the east not only support flexible vantage points along the Avenue of the Sphinxes through allowing open spaces on both sides, but also allow visitors to see and participate in the ceremonies performed along the processional way, such as the Opet Festival (MOH, 2004).

After the restoration of the Avenue of the Sphinxes in 2005 (CFEETK, 2009), the plan for the avenue changed for reasons discussed elsewhere in chapter seven.the changes include the width of the avenue clearness , the buffer zone being reduced from 100 metres to 76 m (Asem, 2011). This change implicated the open spaces proposed in 2004 surrounding the Avenue of the Sphinxes and visitors' access points.

Additionally, the SCA in Luxor refused to allow visitors to walk the length of the Avenue of the Sphinxes, because the foundations are archaeologically important and it is important to preserve them (SCA, 2012). As a result, the previous plans for visitors' observation routes were adapted from those shown in figures 5-50 and 5-51 (see figure 5-52), and access points to the Avenue of the Sphinxes were limited to the visitors' centre behind the Mubarak Library and observations from tourist buses.

Decisions regarding visitors' observation routes and vantage points are impact visibility and accessibility. A visibility analysis was performed for two particular points along the Avenue of Sphinxes: from the Luxor Temple south of the city to Naj Sheikh Mosa in the north. The intention was to visualise the road before excavation, according to the

preferred plans and later following the restoration of the Avenue of Sphinxes and decisions about which sections would be most suitable as visitors' observation areas.

Line-of-sight (LOS) analysis was used for four sections of the Avenue of Sphinxes (see figure 5-53). This clarified that in the current implementation, only one section of the Avenue of the Sphinxes can be seen. This differs from what was foreseen in the original plans because the roads still cut across the Avenue of the Sphinxes and had not been replaced by bridges. In addition, section four of the Avenue was completed and prepared for visitors, while the remaining sections had not yet been developed or prepared. Avenue sections 1 and 2 were on hold due to the number of houses remaining and the religious buildings still present. As a result, excavation of these sections has not yet been completed and funding for this project has been halted, as mentioned in chapter four.

It can be concluded that visitors' behaviours in the Luxor open-air museum layout differ; they meet in groups as they move through the linear sequences of temple courtyards, while other visitors take independent routes. The visitors' observations are affected by three factors: the spatial structures of the open-air museum, the spatial classifications and the visibility within the areas accessible to visitors. Meanwhile, funding of the open-air museum has influenced visitors' perceptions of observation routes, especially along the Avenue of the Sphinxes.

5.6   Conclusion

This chapter has clarified how the spatiality of the Luxor open-air museum reflects not only on the museum spatiality but also on visitors' experiences. The museum has multiple functions, each influencing the spatiality of the open-air museum. These functions comprise preservation, documentation, research, collection, display and interpretation, edutainment, urban and economic regeneration. In tandem with the creation of the open-air museum, a number of functions were added, such as urban and economic regeneration, which are considered to be the main priorities of the open-air museum. Other functions were also augmented to become more effective, such as preservation, research and edutainment. Subsequently, after the 25th January 2011 revolution, economic and edutainment functions decreased due to political problems,

resulting in a decrease in the number of visitors to Luxor. As Waltl (2006) indicated, a museum without visitors would be a lifeless space, filled with empty halls devoid of purpose.

It further explored the changing areas and the spaces within the open-air museum, where spatiality comes into conflict with residents' social lives. This was evident from both the changes to spaces and from the buffer zones. As Paturel (2009) and Boraik (2010) noted, open-air museum spaces and residents' social lives are in conflict with each other. As a consequence of this conflict, the Luxor Development Master Plans from 1984 to 2004 show wide variations in allocated buffer zones. Changes have also related to the probability of the existence of additional archaeological sites, requiring the protection of the monument from encroachment. However, the buffer zone in the open-air museum plan for 2004 was adapted not only to protect the monument sites but to meet the residents' social needs; for example, the Avenue of the Sphinxes' buffer zone was decreased to avoid removing more houses. The degree to which these compromises achieved there aims are discussed in the following chapters.

The 3D visualisation and visibility analysis illustrated how many areas have shifted from those of an ideal museum plan towards compromises aimed of fitting residents' social needs, sometimes for political reasons. Transformations in particular areas have affected the visitor experience of the open-air museum; after the museum implementation, these areas were enhanced to create more visiting routes, including the development of Karnak Temple Plaza and restoration of the Avenue of the Sphinxes. The visibility analysis clarified the difference between the visibilities in this area and those intended within the 2004 Master Plan after the avenue's restoration. The visibility aspect was very clear in the museum plan (2004); however, after the restoration of the road, visibility became very limited in each sector of the processional avenue.

It can be concluded that the spatiality has an effective role to form the social space beyond the visitors' experience. The open air museum spatiality comes into conflict with residents' social lives, this was evident from the changes to museum spaces. The next chapters will explore the effect of museum implementations and how it is impacted on the local residents of the city.

Chapter 6. The planning and design of the open-air museum in Luxor

6.1 Introduction

The literature reviewed explained how museums and other cultural and sports amenities are used as instruments to regenerate cities. Museums and sports events have been the focus of successful projects to catalyse urban regeneration processes, such as the Guggenheim Museum Bilbao, and Olympic city London. Conversely, many museums that have been used in urban regeneration projects have been less successful than expected; for example in Sheffield (UK), Newcastle upon Tyne (UK) and Milwaukee (USA). These museums lacked impact, and inefficient operations led to failed outcomes. This chapter seeks to extend understandings of the processes involved in planning the open-air museum in Luxor city and its role in the implementation of an overall policy intended to regenerate the city. In reference to these debates, this chapter is concerned with the planning and design of the Luxor open-air museum, from the perspective of its introduction to support the urban regeneration process.

As outlined in the literature review, the urban regeneration often involves processes of redevelopment of extensive areas of cities beyond simply upgrading them, as well as displacement processes. These processes such displacement can affect local residents, forcing them to move and causing stress, leaving them dissatisfied with what they see as a lack of choice in their rehousing by the local authority in addition to the break-up of local business networks and in connection with other businesses. These themes have been covered in earlier chapters (see chapters 4& 5) and are being examined in this chapter also will be in the next chapter as well. This chapter is structured as follows. First, there will be an examination of urban regeneration policies for the re-development, relocation and upgrading of the areas surrounding the open-air museum. Secondly, there will be an exploration of the manner in which these are applied. A qualitative methodology is employed throughout this chapter to assess the strategies applied by the designers of the open-air museum, and how they approached the residents of surrounding areas.

The data collection involved analysing the Luxor Comprehensive Development plan in 2004 and investigating its implementation, by mapping the strategies employed and assessing residents' attitudes and perceptions towards it. The qualitative framework is based on primary sources, in order to present a descriptive story of the plan. These comprise: 1) information gathered from site visits; 2) fieldwork; 3) direct observation; 4) interviews with participants (Krige et al., 1998); and 5) interviews with officials, such as the planner and officials from the Ministry of Housing and SCA. In addition, this chapter draws on secondary sources; principally news articles, reports, government documents and other evaluations to assist in analysing the outcomes and impact of the project's development (Lu, 1997). The chapter addresses the construction of the open-air museum and examines the attendant urban regeneration strategies of upgrading, redevelopment and residential relocation and their implications for the users of the surrounding areas.

6.2 Preparing for the plan and its design

Regarding the urban regeneration aspects of Luxor's open-air museum, the comprehensive development plan includes the social, cultural and economic development of the inhabitants in parallel with urban development, indicating an overall development package that benefits the city and its inhabitants (Robert, 2006). As illustrated in chapters 4 and 5, The Luxor Comprehensive Development Plan 2004 claimed that the projects it initiated were designed to have a series of positive impacts on the city's residents, such as that the plan's design aim job opportunities, ,and improved quality of life through the development of a better urban environment. Additionally, with regard to regeneration project finances, Jones and Evans (2008:55) observed that finance is one of the main tools in regeneration projects and needs to be planned and executed carefully in order to ensure any planned facilities are appropriate to the project, in the right place and employing the right mix of land uses.

As highlighted in chapters 4, the 2004 Master Plan it has been claimed that, it is expected to generate new tourism opportunities and an infrastructure to highlight landmarks and monuments in a manner that is appropriate to their historical and archaeological importance (Chapter 4). Additionally, the restoration and revival of the Avenue of Sphinxes (Kebash Road or the processional way) will be accompanied by the

removal of unofficial dwellings within the Karnak zone (Chapter 5). Residents in urban areas that are in close proximity to the monuments will be relocated to the suburbs of the city, into planned areas that are provided with services and basic infrastructure (Maarouf, 2006).

Based on interviews held with the planners and officials involved in the comprehensive plan from the Ministry of Housing, Utilities and Urban communities and SAC, it appears that public participation was the first step identified to define the city problems and establish execution priorities. The broader goal to create a more general model of urbanisation that could be applied to define the open-air museum in the city. There is therefore a need to assess the public participation process with local residents from areas surrounding the open-air museum.

The Luxor Comprehensive Plan (MOH, 2004:70) states that the social participation approach was to be implemented at three main points in the development of the open-air museums; namely: 1) when preparing the general development plan; 2) after this has been improved; and 3) throughout the implementation phases of the plan. In relation to stage 1, social participation took the form of periodic meetings in the main conference hall in the city of Luxor, with participants being drawn from residents who volunteered to be involved and representatives from non-governmentalUNDP, local administrators and central government ministries and authorities, such as SAC, Ministry of Tourism (MOT) and Ministry of Agriculture. During these meetings, the future vision for Luxor was discussed, with residents apparently expressing general approval for the overall plan for the city. A decision to accept the development plan was made by the Egyptian government. Al-Basyone (2012) has claimed that the participation of residents in the project was ensured from the outset, especially during the early data-collection stages, with residents actively assisting in the identification of problems, the classification and clarification of solutions and implementation of the priorities:

> *"... the vision of principle for the overall development of the city was the*
> *participation of all parties from community residents to the province,*
> *the city council, the local council, the expeditions of the effects and the*
> *Supreme Council of Antiquities in discussions on how to develop the*
> *city of Luxor and convert it into an open museum seen from Kebash*

Road. There were numerous discussions about this project over several meetings; for example, in meetings on the path of Kebash Road, a width of 102 meters was proposed for Avenue of the Sphinxes, but there were objections, as much of the population will be removed from many buildings and damage will be caused to the population, and the Right of Way has been modified to become a vulnerable 76 meters, taking into account the population. Also during these meetings there were objections from a wide range of special missions about the effects on the Chicago House in terms of the construction of a road and a wall around the Temple of Karnak, because from their point of view this creates a separation between the effects and the city, and life around the area they consider to be part of the city, not separated from it" (Al-Basyone, 2012).

From the first stages of public participation, it became evident, however, that there were two main areas of concern and objection from the public and other organisations. The first was with respect to concerns related to the width of the Avenue of the Sphinxes, because it was proposed to demolish more houses which consequently more people affected.   As a result, the planner found that if the width of the Avenue of the Sphinxes   decreased by 26 metres it would not affect the plan. The other objection related to the construction of a wall around the Karnak temples, as a boundary protecting monuments and temples from any encroachments, such as from informal buildings. In their meetings, Archaeologists put forward the objection that a wall would alter the spatial relationship between the heritage area and the remainder of Luxor city (Al-Basyone, 2012). However, the construction of a corridor buffer around the Karnak temples complex was deemed important in preserving the antiquities in this area from the encroachment of informal buildings or human activities that may impact the viewing of the temples. This buffer exemplifies the buffers' function as a preservation tool as discussed in chapter 5. This validity of such concerns is revealed in Figure 6-1, which depicts goats at the entrance to the Karnak temples.

Ashour (2011) argued that public participation was significant when seeking to define a positive relationship between the open-air museum and the local people of Luxor, many of whom are unemployed. During the meetings with community participants, Luxor City

Council, the local council and the Supreme Council of Antiquities posed the following questions:

"…do these areas surrounding the open-air museum have to be completely cleared or simply developed regardless of their archaeological value? What are the queries posed by the residents? Is there consideration of the importance of the project for their need for utilities, infrastructure, social services and the creation of various job opportunities and activities?" (Ashour, 2011).

The responses generated by these questions suggest that many residents considered that government policy prioritised the antiquities over the residents themselves (Rashed, 1998). In interviews with the researcher, people expressed similar views, asking the rhetorical question, "What is important, the people or the monument?" It was evident from their responses that many felt that there was an emphasis on the stones and antiquities over their lives and homes.

The planned consultation at the preparation stage when planning the open air museum included the participation of the community in relation to the scope of the project in dilapidated and unplanned areas, with the aim of establishing basic needs. Working groups were formed by volunteers in order to define the existing problems and needs of residents, while also establishing development priorities for those areas in co-ordination with groups representing tourism, urban services and infrastructure development. As noted by the planner, Dr Ashour, the development concept for the open-air museum combined an adaptation of two approaches; the first was "development with preservation" while the second was "people before stones"; i.e. considering the local residents of the city and their needs, as follows:

"… Naj Abu Asbah, for example, is an area south of the Karnak temple with about 200 houses. This area is not supplied with utilities because the High Supreme of Antiquities refused to support the infrastructure of the area; this was one of the areas with which there was a problem with respect to my plan, because we should know the attitudes of residents. These

problems mainly have to do with the population and with antiquities…"
(Ashour, 2011).

This was clarified through interviews that were held with the local residents at Naj Abu Asbah (at Karnak village), in which they were asked whether the local governorate (Luxor governorate and Luxor City Council) shared with them when preparing the plan or knew of their opinions regarding the displacement process. One respondent, for example, stated:

> *"They [Luxor City Council] invited me and others for several meetings… before they started the Luxor development projects… They said they needed to demolish our houses to make developments for the Karnak temples… They asked what the appropriate way to compensate us was…. We told them that we are here; families and relatives, and we have lived tightly together for many years…. It's our habits here in Upper Egypt… Then we prefer to live together… The area is too close to the old one… Or in the case of compensation they should give us something suitable close to the actual market price for our houses…"*

Another respondent, who had a bazar at the entrance of Karnak temples, remarked that:

> *"The city council has met with us [bazar and shop owners] regarding the demolition of our bazars and coffee shops for the development of Karnak plaza…. At first, we were afraid; how can we get another place for our shops? Where can we go? However, these meetings allowed us to discuss with them and they told us that there is another area for new bazars and shops at the visitors' entrance which is located now…."*

In the projects' implementation phases, elements of social participation included residents' participation with the consultants and working groups to assist in the selection of architectural and urban styles, building materials, construction methods, finishing materials and colours. An example of this is Station Street, where residents participated in the selection of flooring material and patterns, wooden shades for the street and shops, along with the type and colouring of the signs (Ashour, 2011).

On the other hand, public participation was held only with residents in Naj Abu Asbah, at Karnak village, and in Station Street and Souq Street, neglecting other residents residing at the museum's boundaries, in areas there were impacted by the plan's implementation (see Chapter 7 for more details). Of the 23 local people interviewed in others areas within the museum boundaries (i.e. Naj al-sheikh Mosa and Naj Abo Al Goud), 86% confirmed that no one had invited them for these meetings or asked them for their opinion regarding their relocation from the open-air museum boundaries. Strong emotions were very evident in people's description of their exclusion from the consultation process, as evident in the two quotes below

> *"...No one sent me any notification about these meetings!!! I was shocked when the city council informed me about demolishing my house about three or five days before only!!! If they are interested in us [local residents]... They would have respected our needs..."*

> *"...They [Luxor City Council] sent for me just to inform me that they were going to destroy my restaurant... Do you imagine they are interested in our opinion?!!! They did not give me fair compensation..."*

As claimed in the 2004 Luxor comprehensive development plan, its approach was taken to achieve development within the remit of preservation; the plan therefore included relocation, upgrading and redevelopment in order to regenerate the city. These are all approaches were seen to be potentially integrated although being distinctly different solutions (MOH, 2004). Relocation was introduced as an option for areas overlapping with the antiquities or falling within a surrounding buffer zone, as discussed in Chapter 4.. Where a clear buffer zone was defined for the heritage sites (e.g. around the Karnak temples and Kebash Avenue), the development of residential areas outside this zone took place through the introduction of development projects and land uses that were seen as enabling the renewal of these areas and the creation of job opportunities for the residents. It was claimed that this would create urban zones that were integrated with the nearby monuments without negatively affecting them (Ashour, 2009; GOPP, 2010).

The second approach, 'people before stones', was implemented by the inhabitants themselves as a reflection of their fears that the development project would lead to the removal of all those living on the heritage sites and in the surrounding areas (Ashour, 2009). This fear in part stemmed from the approval given for the 1993 development plan, which included the recommendation that all houses within the antiquities and neighbourhood areas (Maarouf, 2006) would removed, although as highlighted in Chapter 4, the implementation of a plan to create an open-air museum remained unrealised until the creation of the 2002 Comprehensive Development Plan. This delay led to the continued deterioration of the monuments and the random growth of the urban settings. Generally, the most important and respected strategies focused on preventing harm to any citizen or family in while achieving the development outcomes. This is despite, the previous chapters mentioning that, displacement pressure to remove some inhabitants from large areas in the city, however, in terms of social justice, there was no displacement of residents without appropriate compensation (Pacione, 2000).

6.3 The upgrading, relocation and redevelopment strategies for the areas surrounding the site of the open-air museum

As discussed in Chapter 4, the 2004 plan envisaged an extensive redevelopment of Luxor city in order to create the open-air museum site (Figure 6-3). Two particular areas of the city were to be restructured in the implementation this plan: the first of which were the areas surrounding the open-air museum site, which comprise the neighbourhood preservation buffers area for the museum. However, a second site was the antiquities area, which constitutes the open-air museum itself. According to Ashour (2009) the planner of Luxor open air museum, the development of the Luxor open air museum involves a philosophy of 'development within preservation'. He argues that this has four key aspects: a cultural focus on preserving the identity and nature of the historical areas in order to enhance the architectural heritage (historic core) and urban tourism; an economic focus attracting investors, creating employment and renewing the local urban economy.; a social element relating to increasing the supply of urban housing and developing local infrastructure for residential communities, as well as raising the standards of social services and infrastructure; and an environmental aspect

focused on improving living conditions and combating pollution while taking into account the values and preferences of society

Subsequent to the 2004 plan's development, strategies have been implemented so as to enhance the urban layout of the city and assist in its regeneration (Ashour, 2009; MOH, 2004; GOPP 2010; Maarouf, 2006); these strategies consisted of relocation, upgrading and improved redevelopment, heightening the emphasis on these three aspects of the development of the Open Air Museum. Dr Ashour (2011), for example, stated that:

> "...my planning, particularly in Karnak village, has three strategies for the area. The first strategy is to remove many houses, especially the buildings at the entrances to Karnak temple. The second is to upgrade the area, and the third strategy is to use agricultural areas in the creation of a neighbourhood and to provide plots for building."

> "....the Golden Triangle at the east bank of the Nile in the city needs redevelopment, and its antiquities area should be preserved. However, concerning my plan to redevelop this area..."

These strategies reflect the view that many of the areas encompassing and surrounding the open-air museum posed problems for the future functionality of the open-air museum, both in terms of the preservation of the antiquities (Figure 6.4) and for other functionalities of the open air museum as discussed in Chapters 4 and 5. The rules and guidelines outlining the implementation of these strategies for the areas surrounding the open-air museum were said to be based on an understanding of the relationship between the local residents of these areas in Luxor city and its landscape (MOH, 2004), along with assessments of the influence of these strategies on social conditions. These are urban and environmental issues, which particularly affect the areas within and around the museum (Figure 6-4), although these strategies could involve solve urban problems in target areas where the replacement of old structures with new ones or total clearance is involved. This reflected on local residents when they were forced to move, and caused stress as they were often dissatisfied with what they saw as a lack of choice in their rehousing by the local authority. Regarding this issue, the governor of Luxor, Dr

Farag, summarised these problems and clarified his thoughts on how to deal with the local residents in the target areas, as follows:

> *"…Several random houses will be removed and create wider streets and spaces, especially Railway Street and Television street… Also, many houses need to be removed that have obscured the Temple of Karnak, and which hinder the view of the Avenue of Sphinxes, which helped to develop the city, solve traffic problems and the development of its services … and we will remove the government offices and other buildings because they were found between the two temples… Compensation will be paid, as for the people with the former method, whether financial compensation or giving them an apartment instead of the dwelling which was removed…"*

As illustrated in 2004 plan, the strategies have been implemented in order to enhance the urban layout of the city and to tackle Luxor city problems in urban areas, these problems can be illustrated as follows:

The first is the issue of physical and environmental decline (MOH, 2004:7-8), which involved the changes outlined below and shown in Figure 6-4:

- The lowering of the ground level of the Luxor temple to approximately two metres under city level, resulting in damage to the inscriptions and the presence of salts in the temple caused by ground water.
- Creeping informal urban growth on Karnak from all directions: north and west of Munto Temple (Naj-Al Malqata and Naj-Al Tawel), between Khonsu Temple and the road stretching from the tenth pylon to Mut Temple (Naj-Al Sheikh Mosa), and the area south of Mut Temple (Abu-ElGoud), as well as the same informal creeping on the eastern and northern edges of Luxor temple.
- Buildings located on, and besides, the Avenue of Sphinxes, which obstruct any excavation of the remaining sections of the Avenue.

The second issue relates to the visual issues affecting the heritage district (MOH, 2004:8):

- Commercial operations, adjacent to the entrance to the Karnak temples, which seen to be appropriate to the image of this huge temple and its location.
- Visual barriers that obstruct the view of the Nile and the west bank from the entrance of the Karnak temples. These barriers include transport, car terminals, trees and development on the banks of the river.
- The lack of a visual connection between the two temples of Karnak and Luxor, and between them and the River Nile; because of the presence of hotels and urban developments along the River Nile extending between the two temples.
- The lack of parking areas for buses, which forces them to park in unsuitable places. This distorts the view for visitors and has a negative impact on the impressive appearance and historical importance of the site.
- Inappropriate development on the west bank, which spoils the panoramic view.
- Floating hotels, which obstruct the view across the river.

For Robert (2000:17), urban regeneration comprises a considerably comprehensive and integrated vision and action which leads to the resolution of urban problems and seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has been subject to change.

Along these lines, strategic rules and guidelines have been applied in selected areas, with each area having a distinct strategy reflecting its perceived problems, social needs and urban conditions. The two strategies identified for use in the areas surrounding the open-air museum are 'upgrade' and 'redevelopment'. These two strategies involve the complete or partial relocation of 'informal settlements' in and around the antiquities, such as the Avenue of Sphinxes. This involves the demolition of informal settlements identified as slums within the redevelopment, along with upgrade policies. There is also a plan for a new settlement to accommodate local residents relocated from the area east of the railway (MOH, 2004:163-165).

These two strategies involve ten areas, three of which are for relocation, with the others involving upgrading and redevelopment. All of these areas have been chosen to preserve the open-air museum from encroachment as well as for conservation

purposes. Furthermore, these strategies will assist in solving the city's problems when it comes to urban development, antiquities, tourism and economics. These will all impact on all the residents of the city (Ashour, 2009; MOH, 2004).

6.3.1 The upgrade strategy

Urban upgrading is broadly defined as physical, social, economic, organisational and environmental improvements undertaken cooperatively among citizens, community groups, businesses and local authorities in order to ensure sustained improvements in residents' quality of life. Generally, this policy seeks to strike a balance between investing in areas that will attract investment to the city on a global level, and programmes that invest in the citizens of the city so that they, too, can reap the benefits. The interconnectivity of the two is crucial to the successful development strategy of any city (Cities Alliance, 2013). Egyptian law No. 119(2), passed in 2008, requires that an upgrading strategy is used in areas which are designated as slums due to deteriorating buildings and a lack of infrastructure and services. The slum area does not need to be completely removed, but its infrastructures and services should be developed in order to enhance its urban, social and economic environment (GOPP, 2008).

Thus, upgrading is a process by which informal areas can be improved, formalised and incorporated into the city. This involves extending land, services and citizenship to people within these areas, such that they have the economic, social, institutional and community services available to other citizens. Upgrading is not simply a question affecting the physical infrastructure such as water, drainage or housing, but is also seen to involve the provision of legal, economic and social services that have the potential to put into motion the economic, social, institutional and community activities that could reverse any downward trends within an area. It is further argued that these activities should be undertaken cooperatively by all parties involved, including residents, community groups and businesses, as well as (if applicable) local and national authorities (Cities Alliance, 2013).

The upgrading strategy has been applied to the areas surrounding the Karnak temples. Its methodology (as stated in the Comprehensive Development Plan 2004) is dynamic,

sequential and connected. It follows the 'development within preservation' approach, with the main policies as follows (Ashour, 2009:305):

1. Preservation of heritage areas, which include the antiquities zones and their buffer zones (e.g. the Karnak temple complex) as a base for tourism development and heritage protection.
2. Upgrading and development of the urban context, including developing houses according to their state and type of property and proposing a housing improvement programme. Furthermore, sites are supplied with services for development and resettlement by parcelling the agricultural pockets and land between the urban areas in order to control urban extension and to resettle those members of the population whose homes are to be removed from areas where there are antiquities. This will also accommodate a population increase until the target year.
3. Raising the standard of social services and infrastructure networks by creating the networks required to accommodate the anticipated population in the target year.

Regarding the Luxor Master Plan 2004, the upgrade policy and proposed solutions are:

1. Ensure that the original character of existing buildings is highlighted and use more than one colour when painting.
2. Improve existing buildings by adding the colours used in the pharaohs' temples.
3. Remove existing labels and advertisements on the walls of the buildings, which present a negative image, replacing them with others conforming to appropriate measurement standards.
4. Carry out architectural treatment to ground floors (currently in mixed use, resulting in their existing deteriorated appearance) in order to improve the visual impact.
5. Create a unique character to the paths through the use of harmonic seating, lighting, columns etc. (Ashour, 2009:306).

The development principles in the Karnak area emphasise the decentralisation of the decision-making process and include management of the project through an independent administrative and development council. They also involve public participation at different phases of the projects' development, including involvement in decision making, determining priorities for development and the implementation of the development and upgrading of services, infrastructure and roads.

As shown in Figure 4, this policy is intended to apply to the Karnak villages of Naj-Al Tawel, Naj-Malqata, Naj-Al Tahtany, Naj Abo Osbah and Naj-Al Sheikh Mosa with Abu-Al Goud. These areas comprise slums and informal settlements, most of which fall within the antiquities buffer areas (MOH, 2004). Within Dr Ashour's 2004 plan, many buildings within these areas are viewed as being in need of removal as part of the upgrading strategy, alongside improvement of the area's social and economic infrastructure. This includes the downtown area to Station Street and Market Street.

Regarding these streets, the governor of Luxor, Frag (2010), stated that:

> " ...they [the city council] finished the development of Railway Station Street at a cost of 18 million EGP to the benefit of Luxor city, which is to receive more than two million tourists every year... Also many streets in the city have been developed, particularly in the city centre, due to a lack of system elements coordinating the track, the lack of a standardised format for lighting, the lack of garbage bins and inconsistency with the rest of the elements of the track coordination, resulting in the work in Station Road costing 20 million EGP. The street must be expanded in width and all the slums in it removed along with the buildings outside the line of the organisation, and a suitable alternative for all citizens provided... on both sides of the railway station, also we saw the Television Street process of developing Market Street which is one of the oldest and most important streets for tourism in the city of Luxor, where it is located in the heart of the city..." (Al-Masry Al-Youm, 2010).

The importance of Station Street comes from its role as Luxor's main tourism and commercial artery. It connects the railway station to Luxor Temple and Abu El Hagag Square (the main square in Luxor), also leading to the Abu El Hagag mosque. This mosque is an important spiritual setting for the people of Luxor. The Station Street development clearly separates pedestrians from vehicles along this commercial street through the design of a five-metre pavement for the pedestrians next to the shops. This pavement includes green buffers which separate the roadway from the pavement, which also contains seats to allow visitors to rest. The design uses street furniture that is in harmony with the historical style and spirit of Luxor city. The facades of the houses have also been painted to match the local stones, which are similar to those used by the inhabitants of Luxor, who were involved in their selection. The shops are clearly differentiated from the houses above, and are treated with artificial stones, paint and marble, with horizontal modular divisions, imitating the stone and scale of the ancient temples of the pharaohs (Cube, 2010; Ashour, 2009; MOH, 2004).

The market street is considered to be one of the most important tourism centres within the centre of any Arabian or Islamic city, as it offers local products and an urban environment reflecting the local cultural heritage of the city's inhabitants, along with original crafts and local products. Market Street in Luxor city contains a number of bazaars, shops, perfumeries, spices shops and other outlets popular with tourists. The street previously experienced a number of traffic, environmental and aesthetic problems. These issues led to a development philosophy specific to this street, ensuring its role as a major commercial spine for the city by converting it into a pedestrian-only street to be well served by interconnecting roads, which can assist in increasing the commercial and tourism activities. The street was covered by light wooden shades, like most Arabian Islamic markets; these have openings that allow in the indirect morning sun rays, but protect those within from the fiercest sun, while visually separating residential zones from commercial ones. The shades also ensure a human scale along the pathway by reforming the ratios of pedestrians' routes. Market Street was previously six metres wide, with a height of over fifteen metres. The design of the development adjusted these proportions to be six metres wide and five metres high. The street was not only developed externally, but the infrastructure and utilities networks have been completely redeveloped to fit the current and future needs of the

market traders and inhabitants, as well as those of tourists. It has been provided with toilets, cafeterias, restaurants and services that satisfy visitors' needs. Finally, the main and secondary entrances were highlighted, with both the main entrance from the station and the secondary entrances acting as landmarks to facilitate recognition of the market and to indicate its size (GOPP, 2008; Cube, 2010; Ashour, 2009; MOH, 2004).

Although the plans for upgrading should apply to Karnak village and to the areas of Naj-Al Tawel, Naj-Malqata, Naj-Al Tahtany and Naj-Al Sheikh Mosa with Abu-Al Goud, they have not yet been fully implemented. A number of buildings on the Avenue of Sphinxes, and within its buffer zone, have been removed, but as yet these areas have not been supplied with infrastructure or social facilities. Many of the buildings designated for removal have thus far only been partially removed (Figure 6-8).

This has meant that the number of buildings has decreased, so the area is now unsuitable for either habitation or working. The number of houses removed by the upgrading policy was around 150, covering an area of nearly 900m²; this represents 500 families losing their homes, many without compensation as they were not in possession of the correct legal documents (Luxor City Council, 2009). It is clear that a number of families have lost their houses, livelihoods and way of life as a result of the plan. This impact, as described by Lees, eat al. (2008) and Hall (2001:158), is most often manifested in physical displacement, where local residents' houses are demolished to make way for new development. This not only applies to relocation and upgrading policies, but also to the redevelopment policy, as illustrated in the next section.

6.3.2 The redevelopment strategy

In terms of redevelopment, the strategy mainly involves assembling sizeable tracts of land in run-down urban areas, then clearing existing buildings and putting up new structures to create more urban spaces with a healthy environment (Reddy, 1996). The redevelopment areas were defined in Egyptian law No. 119(2) in 2008; this states that these areas require renewal and development, as most of the buildings are made of stone and need to be removed (GOPP, 2008). The redevelopment policy has been applied to the Avenue of Sphinxes and the plazas of the Karnak and Luxor temples. It has also been applied to the western side of the Avenue of Sphinxes, leading from Luxor

Temple to Karnak Temple to the north, along the River Nile Corniche (Figure 6-2). This area is known as 'the Golden Triangle', and the intention is for it to act as the focus of tourism activities (Cube, 2009) (see Chapter Four).

The redevelopment of the Luxor Temple plaza has been designed to ensure its spiritual and historical role and to provide the Abu El Hagag mosque with additional exposure. Local finishing materials of squared sandstone ten centimetres in thickness were used for the flooring, in addition to polished and rough granite, which was distributed in a modular style in order to harmonise the plaza with that of the main mosque (Ashour, 2009).

The entrance to Karnak Temple at Naj-Al Malqata and Naj-Al Tahtany has barriers that obstruct the view of the Nile and the west bank. These barriers include those relevant to transport; i.e. car-parks, trees and development on the riverbanks. A number of domestic dwellings and commercial and government buildings have been removed to create an open space and parking for buses and visitors at the entrance to Karnak (MOH, 2004; Ashour, 2009). There was also an excavation at the first pylon of Karnak at Naj-Al Malqata, where a Greek-Roman settlement was discovered under homes (which have now been removed) (Asem, 2011; Al-Masekh, 2012; Boraik, 2005). New buildings have also been constructed to replace those demolished, in order to house the Karnak temples' display, the CEFFTK centre, restaurants and bazaars (Figure 6-9).

The aim of the Golden Triangle area is to provide open spaces for cultural activities and pedestrian walkways, including all the necessary services; Ashour (2011) described it as follows:

> *"… this triangle has public buildings, schools, a hospital, hotels and Luxor City Council, and this area needs detailed study. We divided it with three striped roads because it suffers from traffic and overcrowding in areas such as Al-Souq Street and Al-Mahata Street, but all of them need to be completed as Karnak Temple Street has been changed to a pedestrian street. As a result, tourism activities (and traffic) have increased at both sites"* (Ashour, 2011).

In addition, the pathways link different activities within the region; they run perpendicular to the Avenue of the Sphinxes, from Souk Street through the Avenue of the Sphinxes. Thus, the Golden Triangle aims to connect the historical path between the temple complexes of Karnak and Luxor through the Avenue of the Sphinxes with the Corniche, which refers to the symbol of life, and Souk Street, which symbolises the human inhabitants. The area is divided into homogeneous sectors according to certain activities that are commensurate with hotels, inhabitants and tourism services (GOPP, 2008; MOH, 2010; Cube, 2010).

The Golden Triangle area comprises: 1) a hotel sector, which includes eight tourist hotels totalling 1,100 rooms set over 20 acres; 2) commercial and recreational areas set over 12,000m^2; 3) green spaces, gardens, squares and pedestrian paths set over 80 acres, equivalent to 350,000m^2; 4) water features, including fountains, set over 5,000m^2; 5) tourist and service centres, such as the Centre for Tourism Services and the Centre for Visitors and Ambulances (GOPP & MOH, 2010; Luxor Governrate, 2010); and 6) a mosque and a church next to buildings that are to remain on these grounds; the Luxor Museum, the General Hospital, the Diocese of Luxor, Chicago House, the Mummification Museum, the Luxor governorate building and the Housing Directorate. The new hotels are all high-class, seven-star hotels, and 300 trade outlets will also be created, including cafes and bazaars (Figure 6-11) (Abdel-Mohsen, 2010).

The proportion of the Golden Triangle Oasis earmarked for development space is only 30%, while the remaining 70% is comprised of green spaces. All the buildings consist of private houses and hotels, and none of them exceed two storeys in height (Figure 6-12). A network of internal roads will be created to make it easier to dispense with the use of the Corniche Road and to facilitate the creation of corridors for pedestrian crossings, which will contribute to the link between the Corniche and the Path of Kebash (Sphinxes Road). In its construction, the Golden Triangle will use eco-friendly materials, such as stone, wood and brick. These are also in harmony with the natural history of the area, following the project's emphasis on achieving consistency in colours for all buildings in the area (Cube, 2010; GOPP & MOH, 2010).

The project has been divided into three phases. The first phase began in 2011 and represents 67 acres, starting from Karnak in Middle Street and Corniche Road in the

west, the Conference Room in the north and the Temple of Luxor in the south (Figure 7-13). The second phase began in 2012, and focuses on a 45-acre area surrounding the Path of Rams. Work was expected to have commenced on the third stage by 2015, and is intended to focus on the region surrounding the temple of Karnak. The golden triangle area covers approximately 244.4km^2, including about 359 buildings in the form of residential buildings, government, public and mixed-use buildings. Overall, about 263 buildings will be removed, and 620 families will lose their homes and/or places of work (GOPP & MOH, 2010). This project is, however, currently on hold due to funding issues and other issues that arose at the start of the project, as clarified in the following section (Luxor Governorate, 2010),.

6.3.3 The relocation strategy

The relocation process in the Luxor Master Plan 2004 requires the relocation of inhabitants from the antiquities areas in Luxor city to alternative sites with accommodation and basic civic and social infrastructural services. Kapse et al. (2012) noted that the relocation of the urban poor from their habitats (slums and informal) is often accompanied by forced evictions, reservation of land uses and security of tenure. During the eviction process, it is mostly the urban poor who are affected, as these are the inhabitants who tend to settle illegally on land reserved for specific uses (e.g. the monuments areas in Luxor city). According to human rights laws, it is the authority's duty to relocate such people to a new site with basic infrastructure, in order to avoid disturbing their livelihood (Kapse et al., 2012).

The relocation policy is one of demolition followed by the resettlement of inhabitants. This policy is an essential aspect of the 2004 plan to create the open-air museum in Luxor. The policy, as explained by Reddy (1996:18), "involves the demolition or removal of all, or nearly all, of the buildings from an area, often accompanied by a new site layout and underground utilities". Importantly, the relocation strategy in the Luxor Master Plan 2004 is fundamentally based on preserving the antiquities areas from any informal encroachment by removing buildings within or on the archaeology sites. Those residents whose houses are demolished will apparently be accommodated in an alternative planned area within the city (MOH, 2004). This strategy is being applied to a number of areas, including: 1) all buildings surrounding the Karnak temples and within

the antiquities buffer zone; and 2) along the Avenue of Sphinxes, starting from Luxor Temple in the south of the city and extending to the tenth pylon in Karnak temples at Naj-Sheikh Mosa to the north. The areas surrounding the Karnak temples are Naj-Al Malqata and Naj-Al Tawel, Naj Abo Osbah and Naj-Al Sheikh Mosa (see Figure 6-14).

The restoration of the entire length of the Avenue of Sphinxes (Kebash Road) is one of the main preservation and conservation projects. The comprehensive development plan of 2004 had already proposed that one of the major projects should be to create the open-air museum, at an estimated cost of nearly 200 million Egyptian pounds. The guidelines for the restoration of the Avenue of Sphinxes are: 1) purchasing land to a width of 76m and 10m on each side, with a length of about 2.4km; 2) the relocation of residents occupying about 100 housing units at the top of the Avenue; 3) the demolition of housing, commercial buildings, government and religious buildings intruding on the route of the Avenue; 4) excavating to a depth of 2m and restoring the statues, followed by landscaping and the provision of amenities; and 5) modification of the adjacent layout and crossing of the Avenue (MOH, 2004).

The relocation strategy at the Avenue of Sphinxes involves three types of buildings: 1) residential; 2) commercial; and 3) government/public (MOH, 2004):

1. The relocation of residences along the corridor of the Avenue of the Sphinxes: The 110 residences that are encroaching on the Avenue corridor (76m wide) will be removed in a phased programme. As far as possible, demolition techniques will be used that maximise the salvage value of the buildings. The major actions required involve developing a programme to provide alternative housing for those displaced, and a GOE decision to move ahead with restoration in each area where intruding structures are to be removed.

2. The relocation of commercial properties on the corridor of the Avenue of the Sphinxes: as with the residential properties, decisions will need to be taken concerning demolition, relocation and monetary compensation, or replacement structures will need to be found.

3. The relocation of government and public properties on the corridor of the Avenue of the Sphinxes: the government has taken actions to begin relocating its offices and other government buildings outside the Avenue area.

The 124 properties remaining within the acquired portion of the Avenue of the Sphinxes, at a 76m width: the 124 properties to be acquired and whose occupants will be relocated in phase one of the open-air museum include: 1) three religious buildings (one mosque and two churches); 2) four vacant plots; 3) five government buildings; 4) one hotel; and 5) 110 residential buildings (Boraik, 2010).

The Northeast of Luxor temple has complex many bazaars that have been removed to create a buffer corridor for the temple and parking areas for tourist buses. There is also a plan to widen Al Maabad Street to create good access to the temple after the entrance is changed from the east side on the River Nile to the west side of the temple (Ashour, 2009). Although this strategy could solve urban and antiquities problems in target areas where the displacement of old structures is involved (Pacione, 2005), this affects local people, forcing them to move out of the areas. This will be illustrated in the next chapter, which concerns the social impact of the museum construction in terms of social justice and social inclusion in the context of the urban regeneration policy.

6.4   Conclusion

The 2004 Master Plan for Luxor, as noted, was based on an understanding of the relationship between the society of Luxor city and its landscape, combined with an understanding of the impact of changing that landscape on society. The construction of the open-air museum and the strategies that were used created a gulf between the residents of the city and the government. The strategies used for constructing the open-air museum aimed to develop the urban context, including developing houses according to their situation and the type of property, and proposing loan programmes to improve housing. Moreover, the preserving and upgrading of the existing urban context in Luxor is considered to be one of the most important principles for development, and one that should be accompanied by a sites and services approach for the gradual replacement of houses and the organisation of the extension of slum areas, particularly in the city centre.

Despite the advantages of the strategies that were proposed for the open-air museum's surroundings, their implementation has had a negative impact on the local people. For example, urban upgrading, at its most basic level, involves improving the physical

environment of informal settlements. This, according to the World Bank, includes improving and/or installing a basic urban infrastructure, such as water, sanitation, waste collection, storm drainage, access roads and footpaths and street lighting. Upgrading should also involve regularising the security of land tenure and housing improvements, as well as improving access to municipal services and amenities and social support programmes (e.g. health and education) (Majale, 2002). However, the residents have lost their houses and their workplaces. They are not satisfied with the way in which the government has dealt with them, and have uniformly failed to receive the correct compensation or a suitable house; their areas are not even supported by the infrastructural networks. The political issues affecting Egypt following the 25th January revolution have also had an effect on the progress of the open-air museum project, making the situation even more difficult for the inhabitants of the city.

Chapter 7. The social impacts of the implementation polices at the Open-Air Museum

7.1 Introduction

The previous chapter predominantly focused on how the plan of Luxor open air museum was implemented with some suggestions as to its social impacts.. The key aim of this chapter is to explore the construction planning processes for the open-air museum, and identify how this affected the sociality of the city. Smith (2012: 135) argues that urban regeneration projects aim towards a positive social impact, stressing social inclusion, shared identity and pride. Smith (2012) agrees with Lawless (2010) in that these social effects are often difficult to achieve, as regeneration projects, configured outside local mainstream provision, have a poor record in terms of delivering collective benefits. As presented in the literature review, by examining the relationship between museums and their communities, Kelly (2006: 2) observes that, "identifying the social impacts of museums and galleries is one way to transfer the focus from the purely economic to a more holistic understanding of the contribution they make to communities". This chapter assesses the impact of the open-air museum on the residents of Luxor city by examining the urban regeneration policies in tandem with gentrification processes, leading to extensive displacement forcing inhabitants to move (Carter, 1995; Hall, 2001; Lees et al., 2008). An evaluation of the social impact of construction will be conducted to explore the implementation of the policy, to consider whether it either achieved or negated social justice and inclusion.

A qualitative methodology was employed to research the policy implementation by mapping the strategies employed and assessing the residents' attitudes and perceptions. Primary sources were gathered from site visits, fieldwork, direct observation and interviews with two groups of participants (See Chapter Three). Secondary sources; principally, news articles, reports, government documents and other evaluations to assist in drawing conclusions about the impact of the project were also utilised (Lu, 1997). Analysis will focus on evaluating the social impact of the urban

regeneration strategies for the upgrading, redevelopment and relocation of inhabitants as outlined in Chapter 6.

The Luxor Comprehensive Development Plan (2004) claimed that the projects initiated were intended to ensure a series of positive impacts on the residents of the city. In addition, the Egyptian Government used all available financial resources to implement the project (Ashour, 2009; MOH, 2004; GOPP, 2010). However, the project had a negative impact on the sociality social framework of the city. The project implementation phases included elements of social participation with residents and project consultants regarding appropriate levels of compensation for displaced residents, possibly explaining the source of much localised dissatisfaction. Therefore, the negotiation process of this crucial area of social impact will also be assessed in this chapter.

7.2 Evaluation of the social impact of the constructions of the open-air museum

Urban regeneration projects can cause a range of social impacts that are difficult to measure (Smith, 2012:138); thus, in this research empirical materials are given as evidence to assess the social impact of the implementation of a particular open-air museum in Luxor.

Evaluation of social impact involves is an analysis of events over a specified period; looking back at social impact that occurred as a result of particular activities (FSC, 2008). Social impact includes all social and cultural consequences relating to the human population, following any public or private actions that have altered the ways in which people live, work, play, relate to one another, organise their needs, and generally function as members of society (Burdge and Vanclay, 1996). The objective of this evaluation is to determine whether the open-air museum project achieved its aims in terms of stated outputs and expected outcomes. It will also assess the impact of the project's implementation on Luxor society. The evaluation of social impact is focus on policies implemented on the surroundings of the open-air museum in addressing them at the following three levels:

- The social impact of the planning process and the plan itself.
- The social impact of the outputs, i.e. the implementation of the construction of the open-air museum.
- The social impact of the outcome of the construction of the open-air museum.

The three levels of evaluation cover the layout of the open-air museum and its influence on the society. The evaluation also provides information about the degree to which goals have been realised, and if issues that have arisen are likely to be solved.

7.2.1 The first level of evaluation: the social impact of the planning process

According to the first level of the evaluation, the social impact of the planning process was anticipated to be positive by the residents of Luxor. In terms of urban development project and its strategies (upgrading and redevelopment with relocation), the residents believed in the importance of the development of residential areas to create a better environment for them in terms of utilities, infrastructure, improved social services and the creation of job opportunities. They believed this would take place in parallel with heritage conservation in the district. In addition, through removing surrounding infringements, a resettlement process was introduced to relocate local people to new areas (south east of the railways, in particular) and to use vacant land within the city. Avoiding inhabitant exclusion was one of the main targets, thus the relocation phase was crucial to achieving a major project outcome. Pacione (2005: 218) reminds us that such processes can be lengthy, for example in Britain; it was almost four years until the residents were rehoused after being evicted. Any delays or failures at local level affecting the completion of new dwellings can affect public service investment and council purchases of property. In Luxor, empty houses attracted the attention of anti-social activities, including squatting.

The interviews show that, residents and bazaar owners were concerned about the removal of their buildings during the excavation of Kebash Road and regarding the urban development process generally. Their primary concerns related to how they would find another place to live, indeed: *"aren't the people more important than stones?"* was a common concern throughout the primary research. This question reflects their fears that the Egyptian government would not comply with the promises made to them in terms of relocation.

The government put forward a case for removing houses and bazaars as follows:

> "…the community that shares the Karnak temple area with residents has three relocation solutions. Firstly, relocate residents to a place nearby [in the same area or close by], or to the area east of Luxor railway station [maximum distance]. Secondly, relocate the groups together so that extended families are not split up. Lastly, have a fair and suitable indemnity; a similar market value in the relocation area"

The meetings thereafter summarised three main suggestions from the residents. First, since the Egyptian Government decided to remove residential houses, that it should prepare a new area to accommodate them to enable extended families to stay together which is a tradition, particularly in Upper Egypt where generations often live together. Rashed (1998: 134) argues that, "the residents of Luxor and in Upper Egypt generally have strong relationships and ties through blood and marriage that make them one unit, thus they wish to continue to live together and not be separated".

Second, residents did not wish to move far from where they lived and worked, and required a new home that was suitable for their needs and supported with all necessary utilities, infrastructure and services. Finally, it was requested that each family be given suitable compensation for their house before its demolition to allow them to find a new place to live (Ashour, 2010; Al-Basyone, 2011).

Despite these meetings and the residents' suggestions, the final decision was made to offer compensation for demolishing buildings and bazaars (Ashour, 2010). Additionally, the interviews held with some bazaar and others commercial shop owners showed that the city council offered some of them bazaars, but in different areas; others were offered compensation only. For example, one interviewee who had a bazaar closes to Luxor temple, said:

> "… My bazaar was close to Luxor temple but demolished to excavate an avenue of sphinxes and a temple entrance with other bazaar …. Four people share this bazaar with me, but when the city council offered us compensation, we found it insufficient to purchase another so we were forced to accept another in the city centre"

The interviews held with local residents who were living in the areas of the Sphinx Avenue and the Golden Triangle explored the decision of compensation that was applied to all the residents in target areas. However, these people not did all join with the community participation. As a result they were shocked when the city council announced they were to leave their homes immediately and would be granted compensation for doing so.

There was also dissatisfaction amongst the inhabitants some of whom felt a lack of choice in the rehousing process. It also highlights the limit of housing offers the councile were prepared to make in order to maintain the speed of the clearing programme. Owner-occupiers in designated slum clearing areas also protested about being forced to accept a reduced housing status, because compensation provision was inadequate for households to purchase alternative housing.

7.2.2 The second level of evaluation: the social impact of the implementation process

Throughout the implementation of the open-air museum, a number of negative social impacts were apparent. The most negative impacts involved the displacement of people from homes and local businesses (Hall, 2001; Smith, 2012). In fact, there is a proposal to remove (completely or partially) further commercial, governmental and religious buildings from the Avenue of the Sphinxes (the Processional Way or Kebash Road), the Karnak villages and those within the Golden Triangle. Luxor city council claim that the government began by opening a dialogue with residents during public participation events regarding the museum project. However, due to the resistance, residents felt a change in the power, and described it as a "bulldozer policy..." implying very little negotiation was available.

Due to the physical displacement used in the implementation of the three polices (redevelop, upgrade and clear), many poor inhabitants thought to be outside the buffer zone of the excavation area, were also negatively affected:

> *"... I lived in my grandfather's house: 3 floors, 3 families of about 4 - 5 people. The house was in a good condition, having been built from mudstone. The demolition of nearby houses caused my grandfather's to*

collapse, and because we were outside the official buffer zone, the City council refused to give us any compensation. All three families lost the house without any compensation… We found great difficulty finding flats for each family …. We have now claimed in court for compensation because the city council is directly responsible for this situation"

Most interviewees were dissatisfied with the implementation of the open-air museum project. The city council demanded that the inhabitants evacuate their homes, often at just three days' notice (see Chapter Six). The houses were then immediately demolished by the city council. Most of the areas proposed in the project plan were evacuated and demolished in this way. The inhabitants were shocked and were unable to organise a new place to live within such a short period, as expressed in the following quotations:

"… The people who are responsible for this project are not interested in us; they deal with us as if we do not live here! I received just 3 days' notice; there was no official declaration from the city council or the survey authority. They came to destroy my house while my wife was cooking. I can't express my shock; it was a horrible time for me and my family. We didn't know where to go, or how to arrange the removal of all our belongings."

"They gave me 7 days' notice for the demolition of my restaurant at Christmas time when I was fully booked with tourists. It was horrible time; they switched off the electricity and started to destroy the restaurant while the guests were still there."

Abo Al-Fadl (2011), one of Luxor's residents claimed that, Luxor City Council announced that citizens must leave their houses for demolition in order to receive financial compensation. They gave them no longer than one week to leave. If individuals refused, the bulldozers destroyed the houses without offering the residents an opportunity to remove their belongings, thus rendering them homeless without any personal items.

Most interviewees, such as the residents, bazaar owners, human rights campaigners and staff at the SAC in Luxor, described the implementation of the open-air museum as the removal of hundreds of homes for the purpose of establishing luxury hotels to develop

tourism. The city planner, Dr. Ashour, commented that, "*I cannot imagine that the open-air museum project started in short time and rapidly most of houses on Kebash Road [Avenue of Sphinxes] are demolished where a huge number of sphinxes are discovered.... Dr. Samir Farag (the city developer) put a lot of effort into the development the city and removing informal buildings in short time*".

In 2009, the second shock came after residents accepted government compensation. Dr. Samir Farag, the Governor of Luxor, confirmed that,

> "*...all citizens whose homes were removed, were compensated through a special committee, which estimated compensation in accordance with current market prices..." (Cited in Amasry Alyoum, 2009).*

In 2010 the Governor of Luxor, Dr. Samir Farag (2010), stated that:

> "*... all decisions taken are not individual decisions, and all the people affected by the demolition of houses are compensated to a higher level than the market price ... all the development work that is within the province of Luxor follows the approval of a committee chaired by Dr. Ahmed Nazif, and members include ministers of culture, housing, investment, agriculture, irrigation and local development and tourism... Show me one person whose home was demolished who was not given their rights...*" (cited in Al-Masry Al-youm, 2010).

In contrast, citizens claimed that the compensation was insufficient and not commensurate with actual market prices. It is also claimed that the compensation did not cover the value of the land:

> "*...we need our rights from the government, we are the owner of our houses and the government has given compensation for the building only, and not the land, this is unfair.*"

> "*...Compensation! Oh, they gave me 81,000 EGP; it doesn't equal the house value which is 250,000 EGP ...*".

"…the restaurant value is 3 million EGP. While the city council compensation is only 30,000 EGP! It doesn't cover the value of the building, nor the value of the land, they didn't give me compensation for the land."

One interviewee, a widow living with her children in Naj Abu Asbah behind the Temple of Karnak agreed to leave her house, requesting the government find her another home, rather than financial compensation, because due to the size of her family, financial compensation would be of no use. However, she was not provided with another house, and as expected, the financial compensation was inadequate (Yaseen, 2011).

Following the revolution of 25th January 2011, owners returned to their land, built a surrounding wall and refused to move until the government gave them adequate compensation. They also challenged the Governor of Luxor in court, temporarily preventing any further building on their land (Figure 7- 2).

The compensation issues did not only relate to the demolition of houses, but also to vacant land. A former owner of expropriated land stated that:

"… the council gave me about 1,500 pounds per metre, despite the market price reaching more than 5,000. There were significant delays in the disbursement of compensation"

"… My land of about 300 square metres was compensated at 950 EGP per metre. However, the real market price is about 2800 EGP per metre"

The building owners did not have copies of their land tenure, which caused further problems because government policy refused compensation in the absence of proof of land tenure. This added to the increasing problem of extensive squatting. The government had long since ignored squatters around archaeological sites, which led to a growth in informal settlements on archaeological sites and agricultural land. One inhabitant, who lost his house and received financial compensation, stated that his family of nine, who previously lived in a house with three bedrooms, were then forced to share a rented apartment. He stressed that the government paid 40,000 EGP for the apartment two years prior, but after the start of the project, the price of an apartment

raised to 70,000 EGP. Buying a new house in the province of Luxor costs ten times this figure. Further, the apartment was not close to agricultural land, so unsuitable for this work in farming; he lost his home, and also his livelihood.

Commercial, government and religious buildings were also negatively affected. Jobs were lost in commercial premises, such as bazaars; the council seldom offered workers jobs elsewhere. Where jobs were offered, bazaars were often in unsuitable; they were not in tourist areas, and were very expensive. Hence, many changed their employment, seeing a significant drop in their incomes. One trader notes:

> *"Traders and employers suffered more losses following the development... the council removed factories which produced handicrafts making popular gifts for tourists ... losses extended to include our livelihood resources..."*

Another person who owned a tourism office stated that:

> *"I owned a tourism company and exchange office and a building of 3 floors with an entrance within the development of the Kebash Road buffer zone. They were located in Park Street, and the project aimed to initially expand the buffer zone for Kebash Road by 76m, however the Golden Triangle that has had buildings removed, some so that larger companies can create a complex of hotels, surprised small investors who owned tourism companies and hotels in the Golden triangle. The smaller businesses were removed, without consideration of the public benefit in the development...."*

A pharmacy owner commented that:

> *"The Governor demolished my pharmacy which is my job ... what I should to do? Planting grass instead of my pharmacy! The city council did not give me compensation, and my wife's clinic, closed months later as a punishment following my claim against them in court. Also, the expropriation of family graves, and my father's house were taken*

without any compensation. The Governor of Luxor said people were
given their rights, but this is not the case."

Issues also arose when it came to the demolition of governmental buildings, particularly the schools. In the Kebash Road area, around 1400 students left school due to the restoration of the Avenue of Sphinxes and were transferred to another school in the south of the city, nearly 5km away. The students and local people complained about this, but without redress; no alternative solution was presented to them. This has increased the problems and stress for those who have been impacted (Al-Youm, 2009). Also, religious buildings; two churches refused to accept demolition, thus causing issues with the Luxor government, and halting the excavation of the Avenue of Sphinxes in that area (Asem, 2012). This problem occurred due to the removals, which negatively affected some mosques and churches. The Governor clarified how this problem appeared as follows:

> *"... I removed four mosques and nobody objected, however, when we*
> *[city council] removed a house behind a church occupied by a priest, we*
> *met false claims that the house belonged to the church, and they say we*
> *have demolished the Church. However, Muslims did not object to the*
> *demolishment of four mosques"* (cited in Al-Masry Al-youm, 2010).

Following these problems in the Kebash Road area, fears arose concerning the actions of the Luxor government among local people elsewhere in the area of the project. Consequently, members of the supreme local council supported all affected residents. Mr. Abdel Mowgod presented an urgent request to Dr. Samir Farag, concerning the removal of buildings for the development of the Avenue of Sphinxes at Nag Abu–Osbah, Al- Shkirat and Al-bhajh, in order to clarify any alternatives to compensate residents who were due to be moved. The members of the Council agreed to provide a number of safeguards when removing Karnak villagers. This included a deadline for citizens to be removed their homes, to measure the condition and cost of alternative housing, and to also raise the value of compensation, taking into account the social dimension of alternative housing. In addition, it was agreed that a conference should be organised to allow residents to clarify aspects of the Comprehensive Development Plan, which was to be implemented within the framework of the removal decision (Al-Youm, 2009).

On the opposing side, a team from the Organisation of the Egyptian Federation for Human Rights, led by Mr. Safwat Yaseen, prepared a survey for the inhabitants of Nag Abu-Osbah. They were invited to determine the amount and type of compensation they wanted in exchange for their homes. The results were submitted to the Prime Minister, Dr. Ahmed Nazif, and the Chairman of the Supreme Council of Luxor, Dr. Samir Farag, and all the authorities concerned with security (Yaseen, 2012).

Despite Social justice focusing on the distribution of societal benefits and burdens and how this comes about (Smith, 1994), Harvey (1973) argues that in urban development, planning differs depending on the needs of the population; for example, the need for housing or jobs. The implementation process for the project reflected a number of social inequities: lack of justice in compensation distribution, and the way in which social needs were neglected. To clarify, the inhabitants were dissatisfied by a 'bulldozer' policy whereby they lost their houses, jobs and schools (education), leading to increased poverty due to inadequate compensation.

7.2.3 The third level of evaluation: the social impact of the outcomes of the implementation process

The issues surrounding the implementation of the Luxor open-air museum project led to an evaluation of its outcomes. Through the implementation and strategies chosen for the surrounding areas, there was an alteration to the plan in view of the fact that a number of the construction goals did not fulfil expected outcomes and many problems were identified.

In terms of preserving and conserving the heritage district, the construction plan involved two main strategies. These included, upgrading, with the relocation of residencies on and within archaeology sites, i.e. the Avenue of Sphinxes and the Karnak temples. The plan's success depended on the removal of all the buildings and activities on the heritage sites and creating a buffer zone for the district. On the other hand, the outcomes of the project failed, particularly, the lives and needs of the residents, indeed: *"The government does not tend to social needs"* and: *"The stones [Antiquities] are more important than people". (interviews with residents)*

Based on the interviews held by the city council with the residents of the surrounding areas, and a number of development partners and academics, most drew the same observation: the residents of these areas felt that the stones were considered more important than their lives, particularly after the implementation of the open-air museum and restoration of the Kebash Road. Almost 18% of the interviews held with local residents rejected the project, and others were dissatisfied with the policies used by the local government to deal with the inhabitants. Even though they were aware of the positive aspects and importance, they felt that they suffered an injustice. The reasons for this rejection and dissatisfaction created an uneasy relationship between the residents of the city and the government. Additionally, the problem worsened following the cessation of project funding.

For example, 'Yassa Andrew' Palace was located inside the campus of the Temple of Luxor in the framework of the open-air museum project. This Palace was established in 1897 and accommodated a number of senior politicians, thinkers and writers amongst which include: Saad Zaghloul, Mustafa Al-Nahas Pasha, Makram Ebeid, Sheikh Mohamed Abdou, Lome Zyada, and Haile Selassie, Emperor of Abyssinia. Prime Minister, Dr. Ahmed Nazif, decided to remove the palace following a recent visit to the city, which was the seat of the secretariat of the National Democratic Party, and the Administrative Prosecution (Alyoum A. , 2 Sept. 2009). Fayez Jesse Andrew, one of the heirs of Jesse, claimed that, "the acts of demolition of the palace began without compensation". This refers to the communication between the public prosecutor and the officials of the Supreme Council of the city due to the delay in compensation and the commencement of removal without prior negotiations for compensation. This is denied by an official source at the Supreme Council, who pointed out that the owner compensation occurred immediately after the removal of the decision for the benefit of the public, stressing "the issuance of instructions from the political leadership has not prejudiced any citizen of this shorter development processes" (cited in Almasry Alyoum, 2009).

The impact of gentrification appeared after the displacement of the old structures of the target areas for the chosen urban regeneration. One of the gentrification outcomes of the implementation process is reflected in the increasing prices of land and rent in Luxor. A local resident (Hussein, interviewed in April 2011) received financial

compensation after his large family of 9 members were ejected from their 3 bedroom house, and now they share with his cousin in one apartment. He stated:

> " *... the government was paying 40,000 EGP for the apartment two years ago and now it is 70,0000 EGP ... However, buying a new house in the Province of Luxor cost tens of times this amount, also, this flat is very small and not suitable for my large family...*"

However, the prices of land in the city have increased by up to 10,000 EGP per metre[2], the residents discussed land prices and flats rent increases in the following quotations:

> "*...the real estate market in Luxor has seen a big change over the past few years, where prices of land rose by more than 100% ... Five years ago it was the best Carat [one Carat is 175.09 m²] land price up to 50,000 EGP, but now, each land price, land in the basin 18, the price ranges between 7,000 and 10,000 EGP per metre [one Carat price between 1225 thousand and 1750 thousand EGP]...*"

> "*...rental rates also increased significantly in the city, where the monthly rent starts from 400 to 700 EGP, while the rent of a furnished apartment is 3,000 pounds... "*

> "*...the price of the land in the street was 3,000 EGP per metre, but now exceeds 10,000 EGP.*"

Regarding the effects of the gentrification process, there are several reasons why land prices in Luxor rose. The most important of these is the displacement of a large number of people to facilitate the city's development plan. Many of those that received compensation preferred to buy homes close to their original addresses, leading to increased demand for real estate and thus increasing prices within the area. This is combined with increasing demand from foreigners, seeking to buy land to establish tourism projects.

By evaluating the social impact of the relocation strategy, focussing only on the removal of buildings and not the policy implementation, no areas were prepared for the

resettlement of inhabitants, despite the city planner setting aside the east railway areas on the southern side of Luxor. The removal of houses was carried out and compensation given, but without building new schools or putting in place other social services and the necessary utilities and infrastructures. Due to the practice of assessing houses when both completely or partially demolished, the owners of houses that had already been partly demolished faced lower levels of compensation. An additional problem arose for smaller houses (about 70m²), when part of the house was removed (decreasing it to 30 m² or less) the area was no longer suitable as a house. Many houses collapsed after being partly demolished and many became unsafe for habitation. As a result, after partial demolition people began changing the function of their homes into retail outlets (Figure 7- 4).

The gentrification process involving the construction of the museum produced a negative social impact. Displaced residents continue to search for alternative places to live and to seek new schools for their children. Many new houses are also now further away from workplaces, which causes travel problems. The local population also suffer from a decreased income, which no longer covers their living expenses.

After the Government ceased resettlement programmes, new informal residential areas increased in agricultural land pockets, as shown in satellite images taken of Luxor in 2013. North of Karnak at Nag Abo Osbah, Nag Al Malqata and Nag Al Tawel, the agricultural land pockets have almost disappeared beneath unofficial dwellings constructed after the demolition of many homes. This reflects the fact that the government finds it impossible to control the growth of informal housing areas.

In the upgrading and redevelopment policies, the key actions taken were the removal of the target buildings, combined with an upgrade of Station Street and Al-Souq Street. However, the redevelopment strategy was only implemented for the entrance to Karnak and parts of the Corniche of the River Nile. In the Golden Triangle, it was pointed out that: "the intention was to build on 40% of the area, with the rest being kept green and the burial ground removed" (Cube, 2010). However, there appears to be no reason to remove the burial ground, as it could be surrounded with walls and high trees, and preserving it would demonstrate respect for the residents and sensitivity towards the graves. In addition, several historic buildings of special importance have been removed,

these include: the Ministry of Irrigation and the Muslim Youth Association, the Roads and Bridges Authority, the Trade School and the School Hotel, and the Institute of Archaeological Restoration. All these buildings were removed within a few days without having been inspected by the commissioned engineers (Alyoum, 2009).

During the interviews with development partners and academics, it was found that the problems affecting the residents of Luxor resulted from the ways in which these projects were implemented. The Governor, Dr. Samir Farag, and the government institutions started an urban development plan to be achieved within a short period of time (Al-Basyone, 2012), while the comprehensive plan aimed to start projects gradually, based on rules and guidelines intended to improve the city and its society. Even the planner opined that the excavation for the Avenue of Sphinxes and the removal of residences took place over a short period of time (Ashour, 2011). The policy of removing residential areas demanded a longer time frame than was implemented in order to prepare new areas to accommodate the relocated people. Any re-homing should be gradual and staged (Ghali, 2011). This has led to great dissatisfaction of city residents. The governor and governmental institutions have neglected the needs of local people and their traditions, by overplaying the benefits local people would gain from the creation of an open-air museum.

Local residents, academics and archaeologists objected to the project's construction, as unsuitable for the Luxor environment, which consists of rural villages and historic buildings. Furthermore, they stated that tourists come to Luxor to see its rural environment, not to view modern constructions. Luxor city is a special environment that combines the ancient history of the Pharaohs' high temples and rural surroundings with traditional houses beyond the Rive Nile, and the green layout of agricultural land on the East Bank with the desert environment to the west. This leads to the question of why Hassan Fathy's experience of relocation was not applied to the people of Kebash Road. Hassan Fathy witnessed a mass relocation of old Qurana residents to new Qurana on the West Bank of the Nile. He understood the Luxor environment, its people and their activities (Rashed, 1994). He therefore offered a better option, proposing the relocation of people to the West Bank in order to conserve the Pharaohs' tombs.

Although there were three strategies guiding the development of the open-air museum's surroundings, these strategies were not implemented because aims shifted from those stated in the Luxor Comprehensive Plan of 2004. The three policies were reordered to redevelopment and upgrade, and the clearance strategy remains incomplete in many areas. The upgrading strategy was applied to Al Mahatta Street and Market Street (Al-Souq Street); however, the redevelopment policy was only applied to the Karnak Temple Plaza and Luxor Temple Plaza. The demolishment was for the Avenue of Sphinxes (Figure 7-7). Consequently, the Luxor open-air museum implementation produced a negative impact on the sociality, and these effects produced consequences of social injustice and exclusion following the displacement and the gentrification process.

7.3 Conclusion

This chapter has discussed the social impacts of the open-air museum implementation. The chapter has illustrated the strategies that were used, which created a gulf between the residents of the city and government officials. It has created new problems for the city involving a number of negative outcomes. In terms of social justice, local opinions and requirements"hit the wall" and demolishment proceeded with "bulldozer policies" followed by poor financial compensation under the pressure and the power of the government. Primary findings reflect that the residents were dissatisfied with the way the government dealt with them, and that they uniformly failed to receive the correct compensation. The gentrification process created social conflict with the local government through displacement. The government failed to give inhabitants suitable housing and even sent them to areas that were not supported with adequate infrastructure.

In terms of social inclusion, the political issues affecting Egypt following the 25th January revolution have also had an effect on the progress of the open-air museum project, making the situation even more difficult for the inhabitants of the city. A lack of housing, unemployment, poor public services, among other problems, has led to social exclusion. Here, the implementation failed to achieve its aim to improve the social life of the areas surrounding the open-air museum. On balance, the strategies used in

constructing the museum in Luxor have produced a series of significant negative social impacts.

Despite these problems, the open-air museum project has succeeded in restoring the Avenue of Sphinxes and has improved the appearance of the entrances to the Luxor and Karnak temples. Furthermore, the development of Station Street and Souq Street has created a better market area for tourists, and is now suitable for the redevelopment of the entrance of the temples beyond the redevelopment of the Corniche area. In addition, these strategies have succeeded in preserving and conserving the heritage area, which now have a clear buffer zone for the antiquity sites to prevent informal settlements in those areas.

Chapter 8. Conclusion

8.1 Introduction

This chapter concludes this study of how the development of Luxor's open-air museum impacted on the social of the city. The analysis of Luxor's open-air museum detailed in the previous chapters highlighted key areas relating to the development of the museum. The thesis chapters comprehensively elaborated on the aims of the research. First, it contributed to an exploration of the development of Luxor's open-air museum, through discussion of the original idea and the plans followed when constructing it. Second, it has identified the type of museum it was intended to be. Third, it has assessed the impact of the open-air museum on its surroundings. The research aims were achieved by collecting and analysing data from primary and secondary sources. These ranged from academic to policy papers, including those issued by the Egyptian government, central and local authorities and semi-structured interviews and observations, which have enabled me to assess the museum's effect on the local residents.

This chapter begins by highlighting the contributions made by the research. The following section presents the data associated with each research aim and offers a summary of the major findings of the study. The final sections of the chapter are devoted to reflection and offering suggestions to support future inquiries in this area.

8.2 Results and findings

This thesis has established and addressed a number of issues of concern, and generated several key themes by analysing in detail the impact of the open-air museum on Luxor City. This section draws together the findings from the literature, relating to museums studies in an urban geography context, and applying Geographic Information Systems to explore the implications of the research on both theory and practice. The current thesis contributes to the on-going debate relating to the effect of Luxor's open-air museum on the society under consideration by addressing three main issues, which have not been investigated previously in the context of urban geography. The main results of this thesis are presented in terms of the three research aims and seven objectives (outlined

in Section 1.3) addressed in the study. The study sought to answer these questions: "Why was Luxor's open-air museum developed in this way? What type of museum is the museum of Luxor intended to be? Further, "What are the impacts of Luxor open-air museum particularly the social ones?"

Tracing the original idea for creating the Luxor open-air museum is the first key finding, the theoretical and empirical implications have clarified this in terms of urban regeneration. As discussed in Chapter Four Luxor City was suffering from different problems such as uncontrolled urban growth, unemployment, poor environment, lack in infrastructures and utilities, among other problems. As a result, Luxor open air museum was been planned to prompt regeneration environmentally, economically, culturally, and socially.

The planners drew on the experiences of the Guggenheim Museum in Bilbao, the Hafnia Quarter in Tunisia, and Washington D.C.'s Pennsylvania Avenue. The geographical characteristics of the Luxor Heritage District are unique, owing to its potential as a location for reliving historical ceremonies (the Opet Festival) at the Karnak Temple, the Avenue of the Sphinxes and the Luxor Temple. These elements, in combination with museum studies, shaped the Luxor open-air museum, as the museum's components comprise the collections and display areas (the Karnak Temple, the Luxor Temple and the Avenue of the Sphinxes), events, ceremonies (the Opet Festival), visitors, activities, and staff.

What type of museum is the museum of Luxor intended to be? The answer to this was the second key finding. The study clarified that museum functions, as planned, influence the design and spatiality of the open-air museum. These functions include preservation, documentation, research, collection, urban regeneration, display and interpretation, economic and edutainment functions. In tandem with the creation of the open-air museum, a number of additional functions were added, such as urban regeneration, which is considered one of the main priorities of the open-air museum. Some of these functions were further augmented, and were arguably more effective, such as preservation, research and edutainment. Subsequently, after the 25th January 2011 revolution, economic and edutainment functions were decreased owing to political problems, resulting in a decrease in the number of visitors to Luxor

The conflict between the open-air museum implementation and the residents of the city, supported by the Geographic information systems analysis, reflected several conflicts in Luxor. The 3D visualisation and visibility analysis illustrated how the museum plans changed, sometimes for political reasons. Therefore, transformations in particular areas such as the Avenue of Sphinxes have affected the visitor's experiences of the museum. For example, the visibility aspect is very evident in the museum plan (2004); however, the partial restoration of the road meant that visibility became very limited along each sector of the processional avenue.

The urban regeneration strategies used for constructing the open-air museum aimed to develop the urban context and assist with social inclusion, i.e. attract private investments and create many job opportunities for Luxor residents. The empirical findings explored the reality, which was the creation of a gulf between the residents of the city and the government. Local opinions and requirements "hit the wall" and demolition proceeded with "bulldozer policies", followed by poor financial compensation under the pressure and the power of the government. Residents were not satisfied by the way in which the government has dealt with them; they had lost their houses and their workplaces and uniformly failed to receive appropriate compensation or a suitable home. The political issues affecting Egypt following the 25th January revolution also had an effect on the progress of the open-air museum project, making the situation even more difficult for the inhabitants of the city.

Despite the development of the open air museum having positive results in the form of successful urban regeneration, it also caused a negative impacts. This process has created new problems for the city, resulting in a number of negative outcomes. A social conflict has arisen with the local government as a consequence of displacement, as the government has failed to offer inhabitants suitable housing and even sent them to areas unsupported by an adequate infrastructure. Moreover, effects on the neighbourhoods have led to increasing rents and land prices.

Therefore, the empirical findings explore the fact that the lack of housing, unemployment, poor public services, among other problems, have led to social exclusion. Here, the implementation failed to achieve its aim to improve the social life of the areas surrounding the open-air museum. On balance, the strategies used when

constructing the museum in Luxor have triggered a series of significantly negative impacts on society.

These findings are supported by Hill's (2001: 151) and Pacione's (2005:233-235) debates on urban regeneration that often involve a process of redevelopment of extensive areas of cities beyond simply upgrading them, as well as relocation processes. This has a considerable impact on the exiting inhabitants and occupiers of these areas and others nearby. Glass (1964), Smith (2007), Lees et al.(2008), amongst many others, have the same opinion where the effects of displacement pressures include impacts on residential populations in addition to the break-up of local business networks and in connection with other businesses. In other words, such displacement can affect local residents, forcing them to move and causing stress, leaving them dissatisfied with what they see as a lack of choice in their rehousing by the local authority. This is reflected in the neighbourhood areas where the gentrification processes also caused an increase in the prices of rent and land. Many people could not able to pay the rent and local inhabitants emmigrate to the edge of Luxor city where the rent and land prices are less than the areas close to the museum.

The planning stages of the Luxor open-air museum failed to account for relationship between the population and the city. The planners failed to assess their aims relative to social inclusion, a common problem in Egypt where the physical end product is valued above the experience of the local population. This study has proven that the plan did not illustrate a procedure for conducting the displacement process, supporting social inclusion.

The process of establishing the museum is not yet over; indeed, the political issues affecting Egypt following the 25th January revolution had an effect on the open-air museum's progress, positively promoting the need to focus on social justice when implementing such projects. This can help to rectify mistakes of the past and re focus the planning of the open-air museum on regenerating Luxor economically, physically, socially and culturally.

8.3 Contributions of the study

This thesis makes a significant contribution to existing knowledge and the wider literature on urban geography, particularly in relation to urban planning processes and museums, drawing on aspects of Geographic information systems. This thesis has taken a unique approach to the studying the development of the Luxor open-air museum, by analysing in detail the experiences of Luxor's residents' within the city environment. Therefore, mixed methods are used to open up a debate about the development of Luxor open air museum. These various methods have afforded me the opportunity to achieve research aims. Geographic Information Systems analyses offer the basis for logically understanding the spatiality of the open air museum. However, these analyses were not enough to clarify the social impacts that reflected from the urban planning processes. As a result, qualitative methods such interviews were used to open up a debate about the trace idea of Luxor open air museum and its impacts on the social. Therefore, the thesis contribution to the literature in urban geography context, museum studies, and Geographic Information Systems illustrated as the follow;

Urban geography context:

This thesis contributes to the urban geography context that helps to interpret the Luxor open air museum context, particularly in reference to understanding of process of urban regeneration in Luxor city through development its open air museum and how the museum functioned. Further, this thesis contributed by highlighting how Luxor open air museum has been used as an instrument in order to regenerate the city i.e. economically, socially, culturally, and physically.

Many scholars such as Van Aalst and Boogarts (2002), Doucet (2007), Plaza (2007) argued that museums can be used as instruments to regenerate cities. Further, museums have been the focus of successful projects to catalyse urban regeneration processes, such as the Guggenheim Museum Bilbao. However, other scholars such as Jones and Evans (2008) consider that urban regeneration is an important chance to rectify the mistakes of the past and create attractive places where people will want to live in the future, which was one of the main reasons behind the idea to develop an open air museum in Luxor city and solve its problems. Further, other studies (Smith, 2012)

illustrated that urban regeneration projects aim towards a positive social impact, stressing social inclusion, shared identity and pride. Therefore, this thesis more specifically contributed by identifying connections between these urban regeneration policies such as redevelopment and gentrification with focuses on displacement and their impacts in terms of social justice/ and inclusion. Therefore, this thesis has unusual approach to studying the spatial changes for the museum implementations and its social impacts, drawing on aspects of urban geography context, museums studies with Geographic Information Systems (GIS).

The gentrification process created social conflict with the local government through displacement. This displacement process can affect local residents if it is removed from the principles of social justice (Carter, 1995; Hall, 2001; Lees et al., 2008). For example, the displacement process forced the local residents to move by the local authority or even sent them to areas that were not supported with adequate infrastructure. This further left them dissatisfied with what they saw as a lack of choice in their rehousing

Moreover, the impact of gentrification appeared after the displacement of the old structures of the target areas for the chosen urban regeneration and the latter reflected a number of social inequities: lack of justice in compensation distribution, and the way in which social needs were neglected. Also, the inhabitants were dissatisfied when they lost their houses, jobs and schools (education), leading to increased poverty due to inadequate compensation. One of the gentrification outcomes of the implementation process was reflected in the increasing prices of land and rent in Luxor. These issues have been covered in earlier chapters (see chapters 6 & 7).

Geographic information systems (GIS):

Another contribution presented in this thesis is the discussion of Geographic Information Systems (GIS) as playing an essential role in improving the effectiveness of urban planning and site management of archaeological areas. The research describes a methodology that used to improve planning strategies for managing archaeological areas and the wider city. The analyses it contains offer a basis to achieve a logical understanding of the city, supporting change and construction of the open-air museum. In addition, GIS helps to assess the effect of spatial changes in the museum by

presenting GIS Viewshed and a 3D visualisation. GIS Viewshed have been used as an analytical tool to reflect on the success or otherwise of the planning instruments, an extension to their normal use.. In addition, this thesis has shown that 3D visualisation can be used to explore urban planning scenarios, and predict changes to urban areas and the possibilities of future development and its consequences on cities. These techniques are not sufficient to clarify human behaviour, as this demands qualitative methods to open up debate into social attitudes towards open-air museum constructions and the policies used to create them.

Museums studies:

This thesis is the first study carried-out to examine the social impact of open-air museum constructs on Luxor city, also detailing the relationship between museum studies and geography by explaining the museum's effect on the city and the local population. The applications of geographic information systems (GIS) are more commonly in urban geography rather than in museum studies. Hence, this thesis is unusual in exploring museum experiences by geographic information systems (GIS) application combined with geographical approach. This is done by using the visibility analysis and 3D visualisation to explore the visitor's experiences in Luxor open air museum. While these techniques are commonly found in a geographical context, it is unusual to see them in museum studies. Space syntax theory applications are more commonly found when examining museums' plans and visitors' experiences.

To date, studies of urban geography in Egypt have tended to focus on cities' infrastructure, migration, demography, housing and planning; however, these studies have not examined the role of cultural institutions, like museums, in supporting regeneration and renewal cities as has happened in the Western World such as in European cities and in UK as well.

8.4 Issues for future research

A number of issues were addressed in this study, and several key areas have been generated by a study of the development of Luxor's open-air museum, including its effects on the social fabric of the city. The following three areas are suggested as a further extension of this research project.

Despite the limitations of the study, and the fact that the open-air museum project was halted before being fully implemented are limitations arising as a consequence of the political problems in Egypt. If the programme is resumed at some future date, it will provide an opportunity to complete the study and test the study findings. Therefore, the following areas are suggested as further extensions of this research project.

The heritage conservation of historic sites and monuments in Luxor is a worthy subject of research. The excavation of a number of areas within the open-air museum remains unfinished; for instance, the Mut and Montu Temples, i.e. the Karnak complex temples group. These areas are unprepared for visitors providing a new approach to examining the spatiality of the open-air museum after change in this area. Additionally, this offers another research direction for example using space syntax, through studying visitors' observations and their behaviour within the newer areas of the museum.

Amongst the limitations of this study was the fact that public participation in the process was found to have had a negative effect on the local residents in Luxor. Therefore, future research must focus upon social justice and social inclusion to assess new tools and policies in order to decrease the occurrence of problems such as those experienced by the residents of Luxor who were removed from their homes and given nowhere else to live, against the stated aim of the 2004 Development Plan.

The study reflects potential areas of future research in museums, urban geography context combined with Geographic information systems (GIS). For example, it has been observed there are a lack of similar studies focused on museums and their role in urban regeneration. In reference to the case of the Guggenheim in Bilbao for example it is important to appreciate fully how tourists are, by spending money having a positive effect on the city (Plaza, 2000) in order to understand better what makes an

economically successfully museum project. Understanding of this could reinforce and provide a new direction for urban geography studies.

The study therefore recommends future research into understanding the experiences of urban regeneration and gentrification in European and UK cities where economic and socio-cultural factors interact and determine outcomes in order to get better understating how these experiences could be applied in developing countries i.e. Egypt and assess their impacts. Another area of future research could focus on the adoption of 3D visualisation in geographical research to present the experiences of urban planning protocols in other Egyptian cities.

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Appendix

Interviews with people involved in urban planning and development/ antiquities preservation of Luxor Open air museum project:

1. What institutions within decision making process regarding Luxor development? And what are their main responsibilities?
2. To what extent has UNESCO affected on the decision making process regarding Luxor Open air museum or on it comprehensive development plan in 2000?
3. From your point of view (Local community or Luxor residents) do they take part in any discussion or their voice taken in to consideration by any means?
4. What institutions were involved in the comprehensive plan of Luxor especially Luxor open air museum?
5. What criteria were the six projects selected in comprehensive plan of Luxor city in 2000?
6. On what basis were six projects selected from a total of forty proposed project? Who was responsible for this selection?
7. In comprehensive development plan of Luxor city in 2000, does the local participation have a role in this plan? How (meeting & discussions)
8. Does local participation in Luxor city plan in 2004 have any role at this plan? How (meeting & discussions) Do you a part of discussion?
9. From your point, what were the main obstacles that faced the implementations of the development plan in 2000?
10. From your point, what were the main obstacles that faced the implementations of the development plan in 1993?
11. What were the main obstacles that faced the implementations of Avenue sphinxes? (antiquities)

Avenue sphinxes Project:

1. What is your opinion towards restoration of the Avenue sphinxes?
2. What are the obstacles that faced the implementation of the restoration of the Avenue sphinxes?
3. How the residents informed by demolition their houses in restoration of the Avenue sphinxes?
4. Have the affected residents approved new areas of relocation?
5. What is the kind of compensation obtained by the residents?
6. Have the affected residents given any number of choices for relocation?

7. What is the buffer zone for the Avenue sphinxes? Does it change after the affected residents objected for demolition their houses?

Luxor Open air museum project:

1. Who were involved in setting the project?
2. How the idea of open air museum appeared? Or who was thinking in creation this type of museum and why?
3. What is the type of obstacles you faced in this project?
4. What is your opinion about creating buffer zone around the monuments area (in Karnak temple, Luxor temple?
5. What are the criteria to create a buffer zone for Karnak temple and Luxor temple?
6. What is your opinion about create a corridor around Karnak temple?
7. From your point of view, what are the kinds of activities that are related to open air museum?
8. How do you view the social impact of the open air museum? What is it?
9. What are the criteria to conservation of heritage of the city?
10. What are the aims to enhance the old section of the city (Khan/ Souq)?
11. What are the guidelines to improve Karnak village?
12. From your point of view, do the aims of open air museum will success in Luxor city? To what level?
13. What is your opinion regarding people participation in your plan? What are you except from them?
14. What are the main problems that are facing the monument area within the open air museum boundaries?
15. What the trends of urban conservation development within open air museum project?

Structured interview with the affected residents of Luxor city

Part one: Personal Data

1. Sex: Male   Female
2. Age:
3. Occupation:
4. Family size:
5. Where have you living? Where you were living before?

Part Two: Building profile

1. What is the status of your house?
   - Owner   - Renter
   - Notes:
2. What is the condition of your house?
   - Good condition
   - Moderate condition
   - Poor condition
   - Other
3. What are house construction materials?
   - Mud   -Stone   - concrete
   - Else (what)
4. How many floors is your house?

The impact of the plan on residents

1. Have you heard about Luxor open air museum and Avenue sphinxes before removing your house?

2. Have you informed that your house will remove?

3. If yes, how you informed that your house will remove?
   - Through city council.
   - Through Luxor Governorate.
   - Through a community meeting
   - Other , specify

4. Have you given any number of choices for relocation?

4. A If yes, what are the suggestions of the city council or the Governorate that offered?
   Offer another houses
   Offer another pieces of lands to built
   Offer consumption
   Other, specify

4. B If the city council offers compensation, what is the kind of compensation obtained by the residents?

5. What is your opinion towards that policy?

6. What is your reaction towards this situation?

7. After the city council removed your house, where are you going to live?

8. What is your opinion towards the open air museum?

9. Does it have a benefit for you? why

10. What are you doing after 25th January revaluation?