

The Avenue of Sphinxes: Restoration of a Legend

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Abstract: The redevelopment of historic cities is often challenged by intricate—and in many cases contradictory—missions. From one side, there is the urge to comprehensively preserve cultural resources. At the same time, opportunities of economic growth should be made available and needs of contemporary living maintained and nourished. The main aim of this paper is to reconcile probable incompatibilities between such missions through promoting “sensitive” redevelopment approaches in historic cities. The paper focuses on the city of Luxor, Egypt with its immensely capturing yet quite undermined legend: the Avenue of Sphinxes. In Luxor, the injection of nonintrusive interventions presents itself as a highly potential candidate in protecting and enhancing the experience of the avenue while meeting contemporary needs of living. Adopting less sensitive development approaches can lead the quality of experiencing the whole city to be worsened for the increasing numbers of tourists and locals.

Key words: Noninvasive interventions, image of the city, sense of place, selectivity, responsiveness.

1. Introduction

The city of Luxor is located on the east bank of the river Nile, 635 km south of Cairo, Egypt. The city is demarcated by the river Nile on the west and rural peripheries and farmlands on the east. In 2009, a presidential decree declared Luxor a governorate, adding to it a number of adjacent districts and cities. Demographics and geographic information concerning the recently established Luxor Governorate can be consulted in the official report issued by the EIP (Egyptian Information Portal) (a subsidiary of the Egyptian Cabinet of Ministers) [1].

The city of Luxor houses two of the world's most important monuments: the Karnak Temple and the Temple of Luxor (Fig. 1). Both temples were substantially completed during the New Kingdom period, over 3,000 years ago, and were altered and expanded by successive rulers. Pharaoh Amenhotep III of the 18th Dynasty built the Temple of Luxor adding gardens, rest places and shrines between the two temples [2].

More than a thousand sphinx statues were lined in

rhythmic repetition to define a pathway connecting the two temples. The construction of the pathway extended between the 18th and 30th Dynasty with the majority of sphinxes assuming the form of ram-headed statues (Fig. 2). The sphinxes added by the Pharaoh Nectanebo I of the 30th dynasty have his face on the statues' heads [3].

The legendary pathway, which became known as the “Avenue of Sphinxes”, hosted the magnificent ceremony of the “Opet” festival in ancient Egypt. During this festival, statues of the gods of the Theban Triad—Amun, Khonsu and Mut—were escorted in a joyous procession down the Avenue from the Karnak Temple to the Temple of Luxor [4].

Over the past 50 years, several portions of the avenue were excavated. During the process, remnants of the sphinxes and the Pharaonic limestone roadbed were exposed (Fig. 3). According to the report: “The Avenue of Sphinxes” by the eminent archeologist Dr. Zahi Hawass (former head of the Egyptian SCA (Supreme Council of Antiquities)) [5], the excavations also revealed reliefs and cartouches of several kings and queens. One of the reliefs bears the name of the infamous Queen Cleopatra VII who is believed to have

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Fig. 1 A CAD (computer aided design) map of the city of Luxor: The Avenue of Sphinx is graphically denoted as the thick dotted line (courtesy of the Egyptian SCA).

visited this avenue during her Nile trip with Mark Anthony to implement restoration works.

The fascination with the Avenue of Sphinxes is universal. Architects and urban planners all over the world have emulated the axial layout of the avenue with its two magnetic endings in several contemporary design and planning practices. Test excavations carried out along the length of the avenue continued to unveil its archeological potential as one of the most important historic routes in the world.

1.1 Statement of Problem

Directing restoration efforts towards the Avenue of Sphinxes is expected to reveal much about civilization's beginning and enhance the world's appreciation of Egypt's contribution to humanity's collective culture. A number of severe challenges,

however, confront the mission of fully exploring the cultural and touristic potentials of the avenue while satisfying the needs and wants of contemporary living in Luxor:

- With tourism in Egypt projected to return back to its former levels in 2010 (almost 15 million tourists annually) [6], there is a significant and urgent need to protect archaeological and monumental sites;
- The Governorate of Luxor is characterized by a high population density (almost 1,092,000 residents in 2013) [7]. The associated urban sprawl regrettably resulted in housing, asphalted streets and other structures being built over the Avenue of Sphinxes only to obscure its axial progression and interrupt its historic value;
- The Avenue of Sphinxes is situated in the center of today's city of Luxor and runs 2 m to 4 m below the



Fig. 2 (a) Ram-headed sphinx; (b) sphinxes added by Pharaoh Nectanebo I [1].



Fig. 3 Part of the excavations along and around the Avenue of Sphinxes [8].

street level depending on location (Fig. 3). If the original length of the avenue (2.4 km) is fully excavated, there is the potential risk of creating a “trench” that segregates Luxor’s urban fabric into two linearly isolated stretches;

- Local residents are aware of, and in most of the part thrive on, the economic benefits of tourism. If the avenue is fully excavated, the resulting traffic congestion should be relieved. Also of significant importance is providing new jobs and commercial opportunities that integrate with the avenue as a tourists’ magnet.

The thorough analysis of these challenges unveils how Luxor is based today on mass transportation, uncontrolled urban sprawl and large-scale investment projects: all trends in opposition to the restoration of the avenue.

1.2 Aim and Objectives of the Paper

This paper advocates that Luxor can extensively benefit from fully restoring the magnificence of the avenue. The paper is thus intrigued to investigate and assess redevelopment approaches that can establish a dialogue of harmony and compatibility between the avenue, urban fabric, landscape and mobility in Luxor.

A highly potential candidate presents itself in injecting noninvasive interventions that are most attentive to the quantity and quality of changes they stir as they reconcile the discrepancies between restoration tasks and the needs of contemporary living in the city of Luxor.

The precise aim of this paper is to assess and consecutively set the fundamentals for the “sensitive” restoration of the Avenue of Sphinxes through the injection of noninvasive interventions.

1.3 Methodology

The paper commences by investigating the logic behind injecting noninvasive interventions in Luxor. Explanatory discussions and historic references are made to introduce the characteristics and goals of nonintrusive interventions. The paper then proceeds to demonstrate the practical dimensions of noninvasive interventions through analyzing a project proposal for the restoration of the avenue. The project is interpreted as a series of interventions injected into Luxor's urban fabric to protect the monumental legacy of the avenue and, at the same time, satisfy contemporary living needs in the city. The paper finally progresses to assess the resultant sensitivity of the proposed project. The assessment is carried out in terms of particular key themes selected by the paper to fully identify, weigh and optimally guide the impacts of injecting noninvasive interventions to restore the avenue. Synthesis of knowledge is based on a comprehensive critique of the quality and quality of changes induced by the project on Luxor's urban context and historic fabric.

2. Restoring the Avenue

2.1 Noninvasive Interventions Introduced

Noninvasive interventions ideally strive to create high quality places without inducing mutilating changes to the character of the original urban context [9]. Instead, noninvasive interventions aim to "sensitively" introduce novelty and creativity to redevelopment plans while preserving the factors and elements defining the urban identity. Such factors and elements typically include the physical characteristics of places. As the human factor is introduced to the equation, noninvasive interventions aspire to enhance the identity and values held by a place for its users and inhabitants.

A prime target for nonintrusive interventions is to develop places into focal points of attraction, sociability and communal interaction. This is optimally achieved while enhancing (and not deforming) the

people's vision of the places they use.

The roots of noninvasive interventions, as a redevelopment strategy for Luxor, are clearly identifiable in history. The sphinxes added to the avenue by King Nectanebo I of the 30th dynasty maintain the rhythmic repetition of their predecessors and are harmonious in terms of their relative size (Fig. 2). In emphasizing the vital religious role of the avenue, Queen Hatshepsut recorded on her red chapel in Karnak Temple that she built six chapels dedicated to the god Amun-Re on this monumental pathway during her reign. Remains of Queen Hatshepsut's chapels have been found, along with the remains of a Roman gate and bath. A Nilometer was also exposed during the excavations [10].

The paper clearly recognizes that these additions enhance the physical and emotional character of the avenue instead of devaluing (or even redefining) its meaning and significance.

Following the footsteps of the ancients, it might be extremely constructive to investigate the benefits of injecting the avenue with nonintrusive interventions within the aim of promoting sensitive redevelopment approaches that consider the avenue as an integral aspect of Luxor's past, present and future. The following discussion sheds more light on the subject.

2.2 Noninvasive Interventions in the Act

Enticed by the importance of the avenue, a team of researchers at the Politecnico di Milano, Italy prepared a project proposal for the restoration of this monumental legend. The team is headed by Maria Grazia Folli: Professor of Architectural Design at the school of Civil Architecture. The project proposal is developed in fulfillment to the articles of a collaboration protocol (initiated and coordinated by the author of this paper in 2010 between the Politecnico di Milano and the Egyptian SCA) headed by Dr. Zahi Hawass at the time.

The proposed project is based on injecting a series of buffers and tourists' facilities along the periphery of the

avenue (Fig. 4):

- The “Antiquarium” near the temple of Luxor: The Antiquarium is a facility offering virtual displays of numerous and important archaeological findings dug out over the years (Fig. 5);

- Green terraces surrounding the bridges: New spaces of congregation and rest are strategically deployed in the immediate vicinity of two bridges suggested by the project to overcross the avenue (Fig. 5). Pedestrian ramps and stairs connect the avenue to



Fig. 4 The six stations suggested by the project: (1) Antiquarium; (2) green terraces; (3) pharaonic and public gardens; (4) folks' house; (5) quality crafts neighborhood; (6) palm grove (developed by the research team).



Fig. 5 (a) A computer generated perspective of the Antiquarium's interior; (b) a sketch of the green terraces flanking the bridges (developed by the research team).

the street level through the terraces. Upon descending this ramp, it is possible to enter into the avenue through adequate security controls;

- Pharaonic and public gardens: A gardens system is strategically deployed on a vacant piece of land on the avenue's west side (Fig. 6). These gardens connect the avenue to the Nile and Corniche Street and, at the same time, constitute a buffer against future urban sprawl. The gardens also play a vital socio-cultural role through informing tourists and locals about the vegetation practices in ancient Egypt while providing a green and shaded space to rest and appreciate the majesty of the city;

- Folks' house: The project recommends the rehabilitation of particular buildings that can add a sense of local culture to the city's experience. A highly potential candidate is the small building located in the green square next to the west wall of the Karnak temple and currently used by locals as a neighborhood

centre (Fig. 7). This building dates back to 1917 and can be restored with modern adobe conservation techniques. While maintaining its current use, the building can be open to tourists in order to provide a taste of local culture through refreshments and traditional products;

- Quality crafts neighborhood: The area near Karnak temple and folk house is characterized by an irregular (free) urban grid and slow mobility. The existing neighborhoods can successfully and easily integrate new commercial functions while introducing the locals to the economic benefits of the proposed project;

- The palm grove: On the east side of the Karnak Temple, a natural palm grove establishes a particular anchor point in the surrounding landscape. This grove can be also integrated in the touristic tour to provide shade and a touch of green (Fig. 7). Light work on ground leveling is needed to link the grove to the avenue

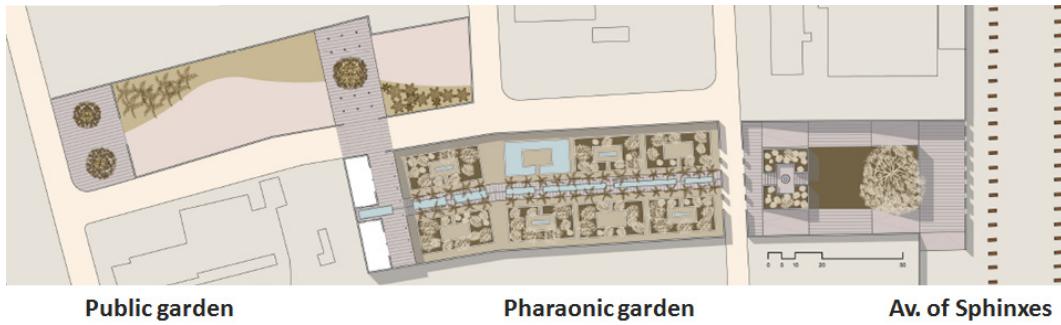


Fig. 6 The proposed gardens system (developed by the research team).



Fig. 7 (a) The folks' house before and after restoration (developed by the research team); (b) the touristic potential of the palm grove: shaded seating area for refreshments (photo by research team).

while offering a comprehensive experience of monuments and natural landscape.

3. Discussions

The main objective behind assessing the Politecnico's proposal is to provide a better understanding of the logic behind the quantity and quality of suggested interventions. The final aim is to set the fundamentals for the successful injection of noninvasive interventions to restore the avenue as an integral aspect of a comprehensively revalorized Luxor.

The discussion is elaborated under a number of key themes selected by this paper to assess the sensitivity that should be ideally demonstrated in preserving Luxor's archeological patrimony while satisfying the diverse needs of contemporary living in the city.

3.1 The Image of the City

In his renowned book "Image of the City", Lynch [11] argues that cities tend to offer visual pleasure, emotional security and intensity to the human experience when five components (landmarks, districts, nodes, edges and paths) are present and distinguishable.

The impact on the image of the city is adopted by this paper as a major key theme in assessing and guiding the sensitive restoration of the avenue as an integral aspect of Luxor. This is because sensitive redevelopment approaches are attentive to the identity and character of a city's original image and aspire to induce positive enhancements to present and future images.

When investigated in terms of Lynch's components, the paper acknowledges the project's attempt to reinstate the original image of the avenue as a pathway connecting two landmarks (the temple of Luxor and Karnak Temple). The project is further acknowledged to upgrade the avenue into a node through injecting different and vibrant activities (the Antiquarium, green terraces, gardens system, etc.). At this point, the

avenue itself is argued to start evolving into an "edge" that collectively enrich and define the urban fabric of Luxor without segregating it into isolated stretches.

This attempt to inject the avenue with Lynch's components is highly praised especially in light of historic precedents. The gardens, rest places and shrines added by King Amenhotep III (in similarity to the six chapels added by Queen Hatshepsut) depict the avenue as a pathway of congregating activities that links between two landmarks and defines a monumental edge parallel to the Nile.

Further assessment of the project's sensitivity reveals a serious trial to enrich the avenue on two fronts relating to the image of the city. The first front is physical and is concerned with retrieving information for the sake of way finding by navigation from one place to the other along and across the avenue. The other front involves emotional values which enable people to easily and quickly familiarize with the city's archeological findings and built environment. These emotional values serve as a broad frame of reference in organizing activities and offering security and intensity to the human experience. As an emotional experience, the avenue surpasses its role in way finding by navigation and evolves into a travel adventure without the restrictions of pre-planning.

3.2 Sense of Place

In similarity to the image of the city, the sensitivity of injected interventions can be also assessed in terms of the resultant "sense of place" through which people qualitatively identify with the surrounding urban setting. The subject is quite elaborate in the writings of Bernard Tschumi, particularly in the publication "Questions of Space" exploring the significance and implications of "ideal" and "real" spaces [12].

The proposed project is argued to recognize the importance of amalgamating reason and imagination in order to present the avenue as a wholesome "sense of place" experience rather than spatial fragments of no meaning. This comes in defiance to planning theories

and policies encouraging insensitive redevelopment approaches in terms of quantity and quality of changes inflicted upon historic cities.

In reinforcing the avenue's "sense of place", the paper also views the project as an attempt to prevent this monumental pathway from looking like a dried artificial canal with steep stone banks. The injection of green terraces and strategically deployed gardens along the avenue break the rigidity of the path and provide an easy transition to and from the street level. The project is further praised for taking Luxor's climatic conditions into account. Shaded areas are provided under the pedestrian bridges and in the added gardens in order to render the tour more pleasant in intensively hot days.

3.3 Selectivity

In addition to the Avenue of Sphinxes, Luxor is a city where natural landscape, memories, uses and customs define the city's character and add to its appeal. Several modern buildings play a vital role in the socio-cultural and economic life of today's Luxor. The sensitive restoration of the avenue should optimally identify all of these assets and combat against massive and inconsiderate demolitions of the avenue's entire surroundings.

Based on such arguments, the theme of "selectivity" presents itself as a key player in assessing and achieving sensitivity. Selectivity encourages redevelopment approaches to recognize that a historic city has much to offer in addition to heritage.

In these regards, the proposed project is identified by the paper to use different criteria—other than the age of archeological findings—to select assets (such as folks' house) that can be injected to enrich the experience of the avenue and consecutively the whole city.

This selective approach adopted by the project can be better assessed in light of the "MPP (Monuments Protection Program)" [13]. The MPP was first conceived in the UK in 1986 in response to the urgency of speeding up the rate at which statutory protection was being extended to nationally important assets. To

this end, a new classification system, "Monument Class Description", was created to provide a comprehensive reassessment and a better understanding of archaeological resources. The set of fundamental criteria used in "Monument Class Description" include:

- rarity and significance (on the international and emotional fronts for example);
- historical role whether contemporary or archaic;
- attraction to various entities (for instance tourists, scholars and international parties);
- current conservation status;
- vulnerability to threats.

The project's attempt to identify and preserve Luxor's assets is merited when weighed against the "Monument Class Description" criteria. An additional benefit is to draw more attention from tourists, environmental committees, heritage organizations and funding resources.

The project's selectivity can be further assessed in terms of the works and writings of the eminent architect Gustavo Giovannoni (1873-1947). Giovannoni was a pioneer in identifying the problems of historic cities in modern times. Challenged by the severe incompatibilities between heritage and urban development, Giovannoni introduced the theory of "Diradamento" (Italian for "thinning out" the built fabric) as a compromise between extensive preservation tasks and limited forms of intervention [14].

Following the same "sensitive" logic, the project carries out a GIS (Geographic Information System) survey to selectively re-appreciate the built and natural environments of Luxor and then recommend the injection of the identified assets into the city's fabric.

The survey identifies (Fig. 8):

- registered monuments;
- assets of the urban fabric other than registered monuments. The survey covers museums, mosques, churches, libraries, cemetery, urban parks and green spaces;

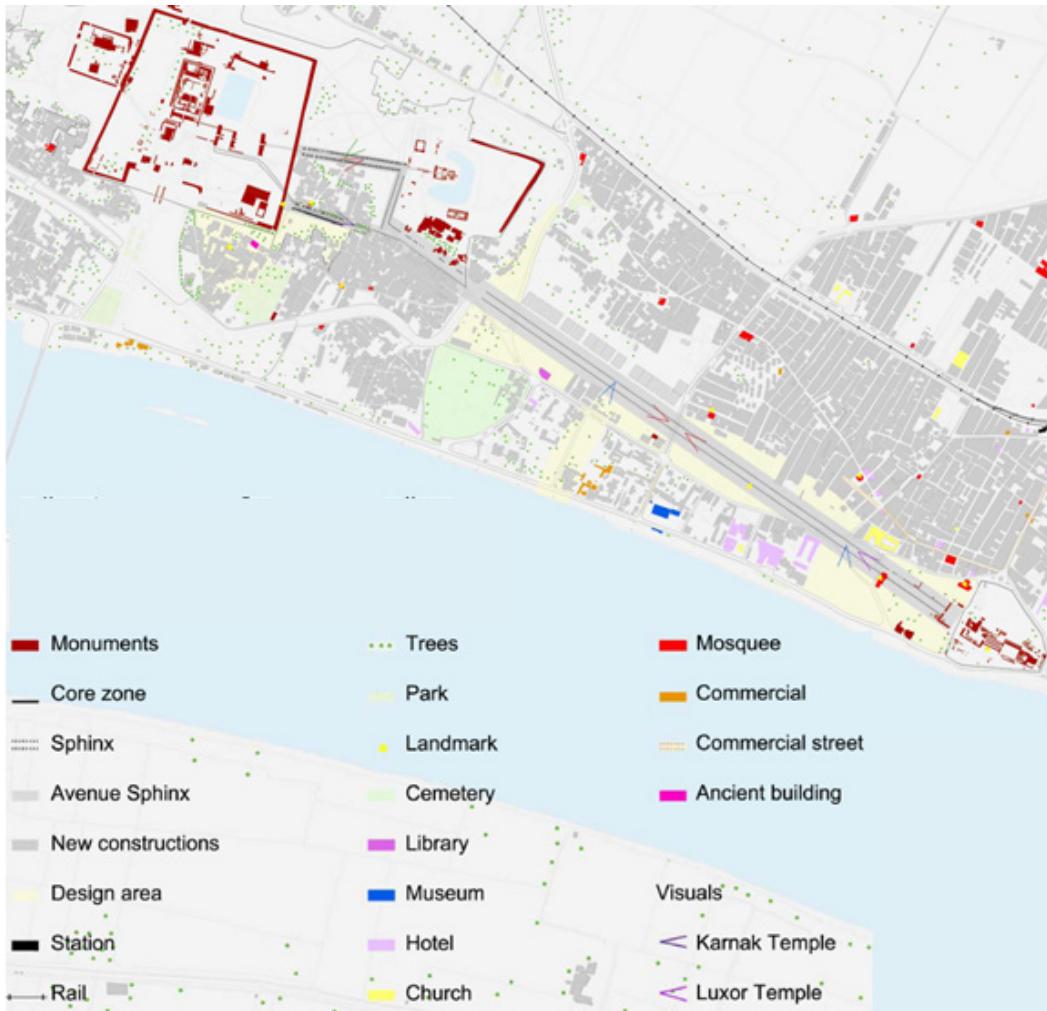


Fig. 8 GIS map of Luxor illustrating major assets for tourists and locals (developed by the research team).

- accessibility and infrastructure services (railway station, railway lines, traffic routes);
- services for tourists (hotels, commercial venues).

3.4 Responsiveness

The project presented in this paper is recognized to build upon the notion of “responsiveness” in order to grasp a holistic vision of the city of Luxor. The target, as assessed by the paper, is to translate today’s behavioral, economic, socio-cultural and aesthetic needs into places of high quality that are most sensitive to the city’s historic setting. Responsiveness is practically materialized by the project through a set of design tactics that provide Luxor’s visitors “with an essentially democratic setting, enriching their

opportunities by maximizing the degree of choice available to them” [15]:

- **Permeability:** The redeveloped mobility system in Luxor provides locals and tourists with new modes of accessing the avenue and its archeological setting. The green terraces enforce this connection and support the continuity of activities all day long within Luxor;
- **Variety:** The proposed project maintains a variety of uses for the city of Luxor including housing, shopping, employment and recreation without “contaminating” the archeological setting. In addition, the project proposes new attractive uses through facilities like the Antiquarium and folks’ house;
- **Legibility:** The proposed project portrays a more legible image for the avenue as a monumental path

connecting two landmarks while defining the city's urban fabric;

- Robustness: The redevelopment of the avenue enables it to host temporary events all year long in addition to activities of recreation and culture;

- Richness: New patterns of light and shade redefine the sensual experience of Luxor. This is identifiable in the green terraces surrounding the bridges, the palm grove in the vicinity of Karnak Temple and the palm garden near the temple of Luxor. The various plantations of the gardens system also enhance the richness of the city;

- Personalization: Gardens and socio-cultural facilities create a new network of urban spaces capable of reestablishing the relationship between locals and the city.

4. Conclusions

The city of Luxor is one of the most valuable archeological and touristic sites in the world. Yet regrettably, the historic repertoire of the city—in particularly the Avenue of Sphinxes—is challenged by an encroaching built environment in addition to pending economic and socio-cultural needs resulting in uncontrolled urban sprawl.

As a top priority, there is the urgent need to preserve and enhance Luxor's antiquities setting. Serious attempts should be carried out to fully explore the touristic and cultural potentials of the avenue. At the same time, there is also the pressing need to implement functional, infrastructural and economic enhancements capable of preventing urban sprawl and improving the living standards of the locals.

Missions of this genre can prove to be quite contradictory when carried out in real life redevelopment scenarios. "Sensitive" planning approaches are thus called for in order to insure attentiveness to the quality and quantity of changes induced by redevelopment plans on the city of Luxor.

On this route, the injection of noninvasive interventions presents itself as a highly potential

candidate in achieving balance between the avenue's restoration and meeting the needs of contemporary living.

The final outcome of such interventions can be assessed through a number of key themes capable of fully exploring the resultant sensitivity and improvements achieved.

The impact on the image of the city is a significant key theme to start with. Noninvasive interventions are attentive to the identity and character of a city's original image and aspire to induce positive enhancements to the present and future images. In Luxor, this is achievable through introducing vital and noninvasive services in parallel to modifying mobility plans (vehicular and pedestrian) with safety and ecologic friendliness in mind.

On a similar level of importance, sensitive redevelopment plans strive to enhance a historic city's "sense of place". Noninvasive interventions in Luxor can play a highly successful role in amalgamating reason and imagination to reintroduce the city as a wholesome high quality experience rather than spatial fragments of no meaning.

The city of Luxor has much to offer in addition to heritage. Natural landscape, memories, uses and customs define the city's character and add to its appeal. The theme of selectivity is thus a key player in guiding and assessing the sensitivity of restoring the avenue and redeveloping the whole city. Sensitive redevelopment approaches identify valuable assets in Luxor's urban fabric and selectively recommend their preservation and integration as interventions in the touristic and daily life experiences of the city. The sensitivity manifested in restoring the avenue can be also widely appreciated in terms of responsiveness. The main goal of responsive interventions in Luxor is to guide and assess the ease with which the historic city is accessible, the degree of comfort offered to visitors and residents as well as the diversity of activities and richness of sensual experience within the city.

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