



Assessment Heliopolis Heritage Suburb Against Sustainable Conservation

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Abstract

There is a complete assessment of approaches regarding conservation in the modern heritage suburbs field. As we know that the modern heritage conservation as cultural heritage to a limited degree has been accepted inside a known structure and discipline, and inside hypothesis, the preservation legislation inconsistency has been critically evaluated. The conservation scope is seen restricted to the old and historical, and hence it renders latest heritage not worth of any such conservation. In many countries like Egypt this is seen valid. Regardless of confined elucidations of current and advanced heritage which is able to foresee the mono typing, the cultural suggestions and “product of the past” state are denied especially of the 20th century.

There is degradation in the expanding and transforming features of cultural heritage which is immovable. In Egypt, as such, the latest or modern heritage undergoes inadequate analysis and is generally featured inside the cultural heritage framework. The buildings and their conservation started from the 20th century inside the predilection of Ministry of Heritage and Culture. As no such criteria are determined for such preference, there is a gradual loss in the buildings which symbolize the modern heritage regardless of their unique style and structure in relation to other infrastructure which is considered for conservation. The conservation of modern heritage is rendered with the threat of being torn down or destroyed due to aging functionally and physically inside the cultural heritage framework. This also includes the legal context updating on the basis of recent and modern parameters, essential and vital. The buildings which are not only the modern heritage products, but also the important and vital sources of the city’s history, as well as architecture needed to be sustained and hence Egyptian history and the process of rapid modernization, is becoming more and more important. It is through an impact of Cairo (the capital city) on urban identity. In short, the aim of this paper is to focus on the Heliopolis heritage suburbs and the related studies on the current sustenance of suburbs of modern heritage. Moreover, the approach to conserve heritage suburbs is assessed in this paper, which was developed at first in Cairo in the nineteenth century and the beginning of 20th century. Heliopolis heritage suburbs are given particular importance here in this paper.

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Keywords

19th and early 20th century Egyptian suburbs; Heliopolis suburb; Modern conservation; Sustainability

1. Introduction

Egypt is a reservoir of indispensable heritage and an invaluable heritage of different historical strata reflecting the remaining old qualities, which can be seen in some places as a vivid value until today. The continued Egyptian

suburbs of the 19th and early 20th- century are eyewitnesses on the worth kind of modern heritage that’s realistic and lifelike . It can be found in this typical suburban in different cities all over Egypt. These paradigm suburbs is also found in varied cities around Egypt,like Cairo and a few coastal cities (Alex. and Port Said) (Figure 1).



Figure 1. (a) Heliopolis - The Basilique Church. (b) Cairo - Opera Square and Continental Hotel, (c) Port Said - Post Office and Hotel de la Poste

Most of those suburbs that were built addressing bourgeoisie and wealthy folks of the society became these days rather mixed areas include folks of various social levels. This is additionally susceptible to modification as wealthy folks continue to leave the overcrowded old suburbs and reside in new suburbs wherever they need a lot of way to the greenery to escape from crowded streets and bustling life (Sims, 2010). On the other side, there is a large number of unofficial buildings are clear as ‘red blocks’ are extended everywhere from the empty land between and around the recent suburbs (Nagler & Wessling, 2009). Thus it is imminent and development. This puts additional strain on the existing old suburbs, which requires a clear plan for sustainable conservation.

These suburbs contains heritage buildings and urban fabrics that have cumulative value over decades. They became part of the modern Egyptian heritage and identity although their origin and influence are represented as ‘foreign’. Modern heritage suburbs are worth conserving in a smart and innovative way, providing them with an area of sustainable conservation without losing their true qualities and the identity that distinguishes every completely without disregard the requirements of its society.

The suburb were presented a few years later when the book Garden cities of tomorrow were published by Ebenezer Howard in 1898. In parallel to many important and well-known garden cities, the city was developed on the same pattern. A common perspective in the suburb of the Heliopolis was shared by western and oriental ideologies in the beginning of 20th century. Heliopolis Oases company abbreviated as HOC and Cairo electric railways were introduced initially the suburb of Heliopolis as a garden city model which was built on desert near Egyptian capital city, Cairo.

In Egypt, Supervision of Egyptian heritage under the accountability of two governments authorities. First authority, The Supreme Council of Archaeological, which is responsible for the heritage of Pharaonic, Coptic and Islamic architecture, according to the law no. 117 of 1983. This law considers buildings from the 19th and 20th centuries, not to be heritage buildings. The second authority is The National Organization of Urban Harmony (al-Tansiq al-Hadary), founded in 2004 following the lately progressing laws; law no. 144 of 2006 to monitoring of demolitions and promote conservation of heritage buildings and law no. 119 of 2008 which prohibits the violation of buildings and areas listed in the heritage. These two laws mainly focus on the modern heritage suburbs of Egypt from the 19th and early 20th- century.

Nomenclature	
MH	Modern Heritage
HHS	Heliopolis Heritage Suburb
NOUH	National Organization for Urban Harmony

1.1. The Problems in Research

The modern heritage suburbs and their conservation in Egypt are likely to face two main problems.

- The lack of appropriate or any comprehensive kind of plan or the modern heritage suburbs sustainable conservation.
- The sense of heritage is lacked by the residents of modern heritage buildings and also there is a lack of interest in conservation of assets. They are not able to maintain their assets and are not even interested in it since they clearly lack money related incentives.

1.2. Hypothesis of the Research

A large number of heritage buildings and their urban fabrics are lost by modern suburban heritage. The change in urban fabric is seen related to the greedy nature of investors which are opportunistic leading to the complete wipeout of the modern suburbs identity.

1.3. Aim of Research

To bridge the knowledge gap in sustainability inside the modernized suburbs of Egypt is aimed in this investigation and this is done via criteria of sustainable conservation in relation to the modernized heritage suburbs. Two main issues are focussed in this investigation:

- Assess the application of sustainable conservation criteria through the modern heritage suburbs.
- The second ultimate aim is to select one of the well known modern heritage which is done in the form of a case study of Heliopolis heritage suburb.

1.4. Research Methodology

There are two main approaches in the method used for this kind of research:

- The approach is known as inductive analysis:- Use of quantitative and qualitative data in order to identify the sustainable attributes.
- Deductive and analytical approach:- Making use of SWOT analysis the assessment of criteria of sustainable conservation for the modern heritage suburb.

2. Heliopolis Suburb, the Evolution of the Town, in Brief

An urban transition and financial success were constituted with Heliopolis suburb. Baron Empain and his Partner Boghos Nubar Basha as a global city as developed a Heliopolis suburb. The group being primarily targeted was Europeans which were given invitations to stay and settle in the modern city developed inside the desert near the older city of Cairo. Many vulnerable social classes were successfully gathered by the new suburb in one urban platform and there was a huge success with the help of careful planning and development of the city in regard to breaking of boundaries among certain cultures and ethics. During 19th and 20th century the architectural designs which are dominating the suburbs of Heliopolis demonstrate a great deal of variation in style multiplicity which reflects the impact of regional as well as local trends and tastes in cosmopolitan (Alhowaily, 2014).

2.1. Heliopolis Suburb, the Evolution of the Town

Heliopolis suburb and its early development can be understood by the hypothesis which passes through dramatic variations at many levels for Heliopolis suburb (Volait & Piaton, 2003). It is mentioned in (Table 1).

Table 1. Urban movements Heliopolis suburb since 1906 up to 1937

Phase I: 1906-1914	Phase II: 1915-1925	Phase III: 1926-1937
At this phase, public facilities construction such as a racetrack, places to worship, markets and shopping centers, the Hotel Heliopolis palace, factories to make bricks and other raw materials, networking of road and various categories of the housing such as villas (fig 2).	In this phase which is named the phase II, buildings comprised of ground and first floor. However, some buildings have shown better development with three floors all having balcony access (fig 3).	In the years to follow, the Heliopolis northeast of the historic core was de-veloped. In this, the buildings used were ArtDeco type and were highly luxurious especially the palaces and other buildings which were regarded as ornamental and residential buildings. From the historic core, the growth and expansion took place in the direction of north-east (fig 4).



Figure 2. The Hotel Heliopolis palace



Figure 3. The Heliopolis residence



Figure 4. The Heliopolis residence

There were three distinguishing features of Heliopolis suburb at the same time:

- There was no help or assistance of government to develop it.
- The development of this city started in the desert.
- At third, it was rather a dream Empain Imban.

There were hence a lot of doubts due to these three aspects at the initial time of this project and later on it was the cause of its success.



Figure 5. (a) the city Heliopolis, General plan 1930 (b) Aerial view of Heliopolis from the west towards the Al-Ahram Street. Source (Ilbert, 1985)

2.2. Heliopolis Suburb Today

A little outlook to the Heliopolis suburb today will be considered in the beginning of this research in order to demonstrate the importance of such modernized suburbs inside the modern Egyptian life as a key contributor. In Cairo, the Heliopolis suburb is considered as one of the highly prestigious suburbs which houses the presidential palace as well. The modern suburb is situated at the Eastern Gate of the metropolitan city of Cairo along with an international gateway to the same city. As the international travelers leave the Cairo airport, they pass by the modernized suburb on the east side.

There are 2210 total suburbs of Cairo and Heliopolis is one of them belonging to northeastern part as mentioned in the following (Figure 6). There are four main parts into which the Cairo is divided on the basis of administration. East, west, North, and South. The administrative boundaries of Heliopolis comprises four suburbs named shykhat which are al-Bostan, Almaza, al-Montazah, and Mansheyet el-Bakry.



Figure 6. (a) Heliopolis Administrative Map with its 4 sheykhath division, (b) Cairo suburbs according to Cairo Governorate.

3. Recognition of the Modern Heritage Suburbs in Egypt

The research discusses the recognition of the modern heritage suburbs, How, When, and How evolved. Recognition is divided into two entities:

- First, as one of the entities of government the National organization of Urban harmony identifies and trains the importance of conservation of any specific property.
- Second, a popular base interested in conservation of Heliopolis suburb is a Heliopolis Heritage initiative (HHI).

3.1. History Recognition For Modern Heritage

Table 2.

The European urban conservation and preservation movement	International Scientific Committee on 20th Century Heritage ICOS-MOS	In the 70s, Southern Mediterranean countries, including Egypt.
Since the first 1960s, a lot of European Countries have introduced legal 'conservation district' wherever the existing architectural and heritage character sets the framing for current development. In such urban conservation suburban area. The crucial aim is to determine a balance between continuity and necessary change.	Approaches for the Conservation of 20th-Century Architectural Heritage: Madrid Document" in 2011 and an update in 2014 to develop guidelines for the conservation and management of 20th-century heritage places	There was far more increasing interest in direction of pre colonial and traditional heritage which is more authentic as seen. (Carabelli, 2006).
Much successful conservation suburban area in Europe has formed the idea of latest housing policies that have promoted a revival of the inner-city suburban area, primarily by means that of rehabilitation. Those who design and plan the urban areas also started to praise more heritage related to suburb in the main cities after a long period of modernized thinking.	Modern Movement arose in the West and swept across the world, irresistibly during the last century. Modern heritage largely constituted the contemporary world but performed quite differently from place to place. This diversity results from the context, which birthed the distinctive characters, significance, and values of modern heritage buildings, sites and suburbs. Thus, the contextual interpretation is essential to the understanding and assessment of modern heritage.	In the period of 80s, a clear and obvious change was there while protection legislation issuance and it was latest Antiquities' law released in 1983 in Egypt. (Carabelli & Minnaert, 2005). In 90s the interest to modern heritage conservation became much more clear as there were certain authorities who started discussing the regulations parts which were unclear particularly after a wave started which ended in the demolition of certain villas which took place during the same time.

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Table 2 continued

The European urban conservation and preservation movement	International Scientific Committee on 20th Century Heritage ICOMOS	In the 70s, Southern Mediterranean countries, including Egypt.
Modern heritage is analyzed in Three different periods. The “First National Architecture” is the architectural style that brought together façade formation. Northern African (Maghrib) and even Muslim Indian architecture, and later, in the 19th century. Neoclassical and Imperial styles in effect in Europe at the time-image. Neoclassical style of the period emphasized not plan forms, but façade designs (Kayın, 2007).	According to ICOMOS worldwide Survey on 20th - century heritage:- The concept of the 20th century Heritage has been expanded from the limited concept of the heritage culture to the intangible aspects of heritage such as industrial, educational, planning, and social life	In 1996, the Cairo Governor prohibited the villas demolition from the end of 19th to the beginning of 20th century. Later in 1998, it was confirmed by the decree military order No. 2 in order to end the demolition trend which is producing a considerable partial loss to the Egypt’s modern heritage (El-Aref, 2014).

3.2. The State’s Attitudes Towards Conserving the Modern Heritage Suburbs (end 20th)

During the beginning of the 1990s, the concern regarding conservation was mentioned at the level of government with so-called modernized Egypt for any of the associated architecture. This encompassed the 1850 to 1950 period of time and in this concern, Heliopolis is among the suburb which were tackled in such connection.

The Cairo government in 1997 established a consultative committee in order to conserve the 19th and 20th-century buildings so as to establish the building’s inventory for the protection of buildings and also in order to suggest some steps to increase conservation. 1900 villas as shown in the first estimation in the total of this age are no more existing in the Egyptian capital Cairo. A team of consultants from Helwan University in Egypt (Volait & Minnaert, 2003) identified 350 buildings of suburb Heliopolis as of great significance historically and artistically.

In 1999, the GOPP which is the General Organization for Physical Planning started a project which was highly important and was given the title of Conservation of Greater Cairo’s Architectural and Urban Cultural Heritage’. The aim of this project was to enhance the environment of cities along with the conservation of architectural characters of Cairo’s various suburbs. 10 urban areas were selected and it was applied on it with the Cairo’s modern and historic character.

The selected 10 suburbs of Cairo the Egyptian capital are Ain Shams, Heliopolis, Abbaseya, Wust al-Balad (downtown Cairo), Helmia, Garden City, Magra el-’ouyouun, Maadi, el-Roda, Zamalek, Gizadefines. Each of these districts have boundaries by four streets in west, east, south and north direction. Two important islands were completely studied and investigated as shown in the below figure. 7. Conservation of urban groups and the desire to conserve such areas with the modernized heritage of Cairo the capital of Egypt was one of the strongest motivational force to conduct this investigation (Carabelli, 2006).

Laws and certain tools are suggested by this investigation which are given special consideration not only for the conservation and protection of important buildings but also for the urban fabric conservation. The teaching elements are also proposed in this investigation in order to carry out the rehabilitation of several public areas and coaching in order to restore the personal buildings. The intentions of one of the project were to support and motivate the decision makers and suburb residents regarding the needs and significance of conservation and related projects over the long haul. (Figure 8).

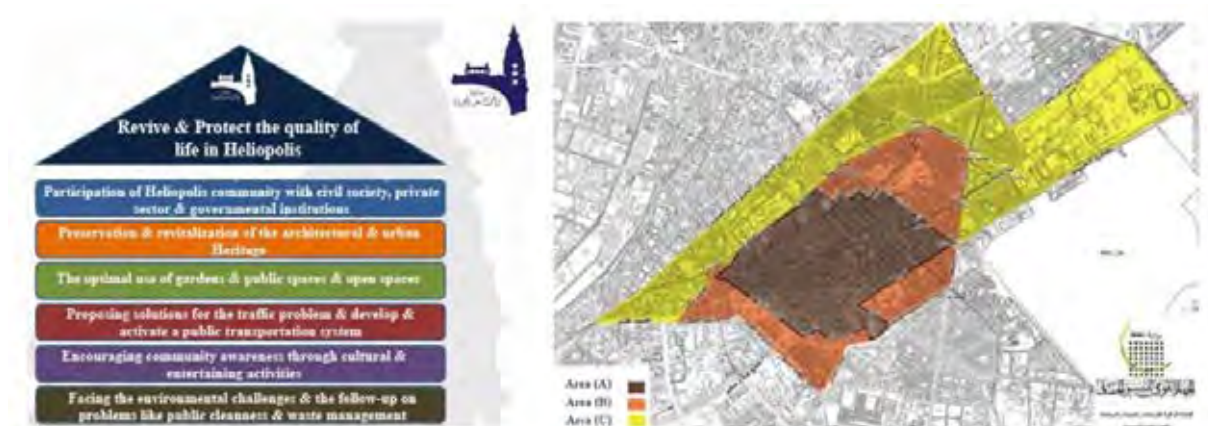


Figure 9. (a) Limits for areas with a special value in the Heliopolis suburb

- Distinctive Value (B): these include the buildings which are lesser distinct as compared to A category and resemble the expansion and growth of suburb. In internal modifications, a certain degree of flexibility is permitted and at the same time, external modifications of such buildings are not permitted.
- Distinctive Value (C): it is considered as a zone of transition between the areas of maximum and minimum protection and zones which are ordinary with maximum changing flexibility which include renovation or either replacement. To reach demolition more flexibility is allowed during the retaining of buildings face and their structures. The complete and thorough internal rehabilitation of buildings is allowed (Figure 2).

3.4. Heliopolis Heritage Initiative (HHI)

HHI which is the Heliopolis Heritage Initiative is one of the most popular initiatives which were taken during 2011, Amr Hamzawy sponsored it. In order to make decisions, the initiative was aimed to conserve the important infrastructure of the suburb. The main aim or goal of this organization is to fight for the distinctive assets heritage of the Heliopolis suburb. There are six main goals for the working of HHI and these are mentioned below:

1. The participation of various societies in the Heliopolis such as civil, private, administrative organizations.
2. Architectural and urban heritage conservation and their essential revitalization.
3. The ideal use of greenery, parks, and community space
4. Suggesting solutions for the traffic problem and activate a public transportation.
5. The increase society awareness through cultural and recreational activities.
6. Management to conserve the environment from waste and garbage.

Lastly, There is a gradual qualitative shift in respect of the modern heritage occurring in Egypt. Where awareness is growing and discovering volunteers interested in saving the modern heritage as mentioned in a wide variety of initiatives have been developed.

4. Sustainable Conservation of Modern Heritage

What are the ways to decline the negative effects on the sustainability of promoting environment? For all types of cities, the urban growth became a prevalent factor apart from the growth or mass. There is a considerable change in life and urban patterns (Short, 2008). Modern heritage conservation which is sustainable is a highly qualified retort inside the suburbs opposite to the suburb growth spills and loss of buildings. It begins which the introduction of approaches for sustainable conservation to introduce the sustainable suburbs promising principles.

4.1. Characteristics of Sustainability

Social and geographical are two elements in the sustainability characteristics. The fair distribution of the costs and benefits of the natural resource use and environmental protection are the part of social equity and some other aspects of it are good governance and conviviality (W. Maclaren, 1996). The other important element or component is the geographical equity which means to get the proper growth and development of the economy and better standard of life all inside a community at the expense of degradation of the environment. This is considered as inequitable development unless compensation or reparation takes place inside the two known communities (Ibid, 1985). Sustainable communities support global sustainability is implied to the geographical equity by reduction of the worldwide inequities with the increase in self-reliance capacity (Figure 10).

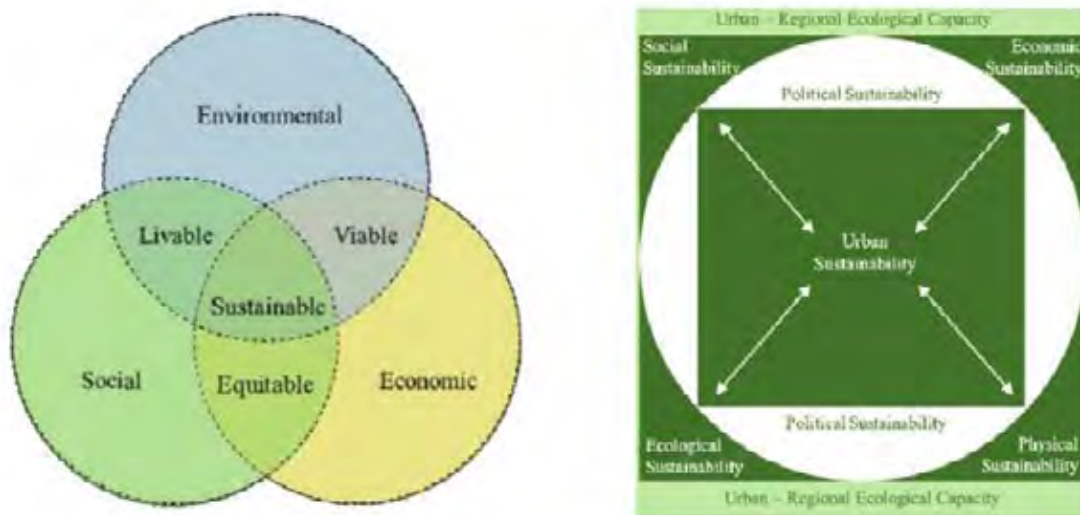


Figure 10. (a) Classic dimension of sustainable development (b) five dimensions of urban sustainability

4.2. Sustainable Urban Development & Urban Sustainability

The sustainable development term accompanies three great measurements, social, financial and natural, urban supportability includes two different measurements, which are political and physical manageability (Figure 10). The maintainability of the manufactured condition "physical maintainability" is worried about the limit of a mediation to enhance the bearableness of structures and to the urban framework for "all" city tenants without exasperating or harming the urban district's condition. Moreover, it incorporates a worry for the productivity of the fabricated condition to help the neighborhood economy. Then again, political maintainability is worried about the nature of administration frameworks directing the relationship and activities of various performing artists among the social, ecological, financial and physical supportability. Accordingly, it infers the interest and democratization of the nearby polite society in every aspect of basic leadership (Allen 2009). Every one of these measurements are researched inside an urban provincial natural limit where the general point of accomplishing urban supportability is satisfied inside all the urban cycles on the full-scale level.

4.3. Conservation Principles For The Modern Heritage Suburbs

Several important principles of conservation are there as we deal with the suburb present or existing heritage. Two most important qualifying conditions are authenticity and integrity which are considered important and vital in the list of world heritage nomination. under the notions of integrity & authenticity stovel introduced six sub-criteria and these include the intactness, wholeness, genuineness of material, space of an organization and its form,

functionality continuation and settings continuity linked with the suburbs heritage (Stovel, 2007).

5. Heliopolis Suburb Between Sustainability and Loss

In the following part, The research will focus on two issues:

- First, the sustainable qualities of the Heliopolis suburb from the past to today introduce the conceptual framework.
- Second, Assessment HHS against to sustainability criteria by using the SWOT analysis, to conduct an in-depth assessment.

5.1. Sustainable Qualities Of The Heliopolis suburb In The Past

The different features are shown in the research within HHS from the past and which can be described as sustainable at present. The success of the Heliopolis suburb has proved from the past that it needs a long-term vision (Hussein & Attalah, 2005).

Table 3. Sustainable Qualities of TheHeliopolissuburb in the Past (by author)

Sustainable	The Heliopolis suburb from the Past
Cultural	Unique architecture /mixed international city (different national origins& religions) / pro-vision cinemas / race-course
Urban	Shopping area was Korba / houses, villas and palaces /wide streets /urban planning & urban landscape (Hussein&Attalah, 2005).
Environmental	Unique location /marketed as ‘the city of clean air’/ bicycle riders /local building materials /planting trees, green areas (Volait&Minnaert, 2003).
Social	People lived together, side by side /Grand Palace Hotel /provision of workers’-housing /middle class were attracted to the city (Hussein&Attalah 2005).
Economic	A variety of companies such as, stone factory and lemonade factory (Ilbert, 1985).

There are a lot of qualities in the Heliopolis suburb and is possible to say that these qualified can be termed under sustainable suburb. Some features are existing while others are lost. The conservation is important and is much needed along with finding certain ways to increase the sustainable approach at the local level for the suburb with distinct heritage.

5.2. Assessment HHS According to Sustainability Criteria

In the following part, The research will assess HHS against sustainability criteria by using the SWOT analysis. The assessment of HHS suburb was divided into the internal and the external evaluation of the Site under study. The intimate scale of a suburb identifying the different qualities dealing certain features are dealt with internal evaluation. These features include environment, economy, social factors, the aspects of overarching etc. Such aspects are taken normally in this range was weakness or strength. On the other hand, the external evaluation deals mainly with the impacts of leader scale such as socio-economic conditions of a nation along with government which is worth processing and has its impact on the process of historical conservation of any of the given suburb. These aspects are generally taken as opportunities as well as threats which in a given suburb come from outside but there is a direct influence of these aspects on it. the internal evaluation including strength and weakness while external evaluations include threat and opportunities which are likely to be implemented making use of SWOT analysis opposite to a given matrix along with sustainability detailed criteria including urbanization, social aspects, economy, culture and overarching etc.

Table 4. Assessment HHS against sustainability criteria by using the SWOT

Sustainable	Sustainability Criteria	Assessment HHS			
		Internal Evaluation		External Evaluation	
		S	W	O	T
Cultural	Conservation of historical resources	The laws 144 of 2006 The laws 119 of 2008 Strong suburb identity	No upgrade & maintenance Distort elevations profoundly from original construction	Make cultural, economic and social use of existing valuable assets	Instability, Building demolition, an ugly place, crowded & loud, Repellent to the population
	Conserving Unique Urban Fabric	HHI and NOUH fight to protect Heliopolis There is no alteration in the old fabric	For the building height regulation there is no strict respect. Latest constructions are seen alternating the sky-line	Some buildings are there which emphasize on the conservation of their identity carefully.	The developments which are unplanned and high rise infill's are likely to deteriorate the physically powerful individuality.
	Heritage Image	In bad shape it exists in different states.	For ads or guidelines of shops on buildings there is no respect.	To rescue the existing	Demolitions and encroachments
	Reuse of Historic Listed Buildings	The ground floor is turned into cafes, in an area on the other hand, more traffic is brought in.	Lack of funds And absence of pilot projects	The awareness initiative existence in HHI for the latest and pioneering concepts.	Intervention of greedy investors
	Urban	Walkable Streets	Heliopolis streets have generally high walk scores e.g.	Wheel chair and stroller it is not possible to move around.	Transformation of Korba like streets into pedestrian
Green Infrastructure		original street network which is very well and efficiently planned	by exploiting land-uses Streets are pressured	Buildings and urban fabric conservation measures.	A collapse is expected as a result of pressuring on the infrastructure

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Table 4 continued

Sustainable	Sustainability Criteria	Assessment HHS			
Environment	Public Spaces & Green Areas	A complete vision for Merryland park was proposed In April 2015 by HHI	There is a bad con-dition showing clear negligence.	Closed green zones, predict Security reasons	The cutting of the old trees Merryland park losing more green areas
	Energy-Efficient Transport	The new underground Metro line 3	The old tram-line not work, More traffic & parking problemsStreets don't prepare for cycling	Old tram HHI revival in order to get the modified metro stations loca-tion.	The appearance of new microbes sta-tion in front of the basilica Tram-line infrastructure removal
Social	Sustainability & Cultural Awareness	Originally planning Enough lighting Commercial areas are very vibrant	Weak respect for traffic rules mini-mizes safety levels	-	The deserted dark Merryland park can attract un-wanted people
Overarchin	Community Safety & Security	Having the so-cial resistance of HHI, Korba cultural festival	There are many people who don't admire and appre-ciate the existence of older infrastructure	Local com-munity of Heliopolis is very much aware of belonging to the suburb	Heritage owners are pushed to demolish due to high economic pressure.
	Plan for Long-Term Renewal & Development	The accred-itation of Heliopolis as a Valuable area (NOUH, December 2013) is a start	The gov-ernmental bodies are not con-cerned with devel-oping plans for existing suburbs	-	Undesired development streams

6. Conclusion

In order to achieve the sustainable conservation, there are different processes which can be highly complementing in terms of profit.

- Sustainability criterion can be used together with community support to avoid negative development processes and can accumulate and strengthen each other.
- Sustainable conservation invests in the modern heritage suburbs, at the latest and existing social economical and environmental requirements which call for the new economical boosters. While attempting to structured

approach regarding the principles of sustainability with whom a path can be drawn to conserve the buildings and modern heritage inside a suburb.

- The aim of sustainability is to reach the primary and initial demands at first step which include the preserving of current buildings rather than to demolish them and to plan the best ways to make use of such buildings without harming them. Another way is to encourage the walkability and eco-friendly transportation.
- HHS taught some important lessons and they must be applicable primarily at the abstract stage on the same suburb in Egypt and also in another Arabian world, it must be widely applicable.
- HHS developed criteria is not always essential to scrutinize for all the suburb many times and also supplement the criteria positively; their suburbs with various features can be included.

In the end, in the case of HHS the developed sustainability approach carried out has sought to make a development for sustainable future in the suburbs along with some important lessons which can benefit the suburbs heritage in a long haul.

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