Towards a Compatible Methodology for Urban Heritage Sustainable Development
A case study of Cairo Historical Center - Egypt

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ABSTRACT

Urban heritage preservation plays a key role in achieving urban sustainability at several levels via multidisciplinary activities. preservation plans in Egypt have policies and investments devoted to them, but they often fail to create sustainable urban environments that can meet community needs. Integrating heritage into sustainable development by developing guidelines to periodically maintain and monitor the impact of changing environmental conditions on the built heritage. Rethinking up–down strategies through decisions to materials and techniques used in preserving built heritage to take into account social, economic, and environmental sustainability.

The paper aims at formulating consistent methodology for strategies to support and develop cultural heritage in historical areas and developing innovative planning strategies to integrate heritage into urban development processes to respond effectively to the rapid physical, social, and economic transformation of cities. This paper provides a theoretical background that clarifies objectives and explains the fundamental scientific terms of research variables for a better understanding of the complexity of urban heritage sustainable development processes. It conducts multiple attributes with a comparative analysis between different studies. Finally, the paper proposes a compatible strategy of urban heritage sustainable development.

Keywords: Sustainable development; sustainable urban heritage management; Circulation Traffic Problems

1 INTRODUCTION

The extent to which existing cities, as dynamic physical frameworks of potential transformation, present themselves as places that facilitate accessibility, comfort, utility, diversity, security, prosperity, etc., will determine their capacity to provide a quality of life to the population. Citizens need to be aware of the dependent factors that increase or decrease their personal assessment in relation to levels of quality of life in their urban context. (García, 2022)

Historic cities represent a distinct system that must be dealt with through different and renewed visions from the perspective of human action on them, while places appear to be active, that is, as a spatial act and a carrier of political, cultural and historical interactions, and thus appears to be a carrier of historical memory, symbols, and signs of political events, or places of interactions

As the tourism industry is one of the most important global industries that all countries are interested in, due to the economic movement it achieves, The urban heritage variables are the most important catalyst of Tourism development in Egypt internationally and locally.

Directly or indirectly, tourism plays a great role in urban heritage, in terms of maintaining sustainability, while urban heritage supplies tourism with distinctive attractions and important economic resources for tourism development. Given the economic and historical importance of urban heritage areas. This research aims at formulating a compatible methodology for integrated Urban heritage sustainable tourism development while preserving heritage areas without neglecting social dimensions and cultural identity. The historical centers of the capitals in most old cities were distinguished by an urban and architectural heritage in their vocabulary and elements and their organic and integrated fabric. This heritage was able to accurately depict the features of the successive civilizations that these centers passed through and to express realistically the social and intellectual pattern of its users and residents at the time.

The research reviews the urban heritage status in Cairo historical center within the inductive analytical method for detailed analysis of urban heritage conditions then conducting main pillars of sustainable development strategy and formulation of the proposed strategy aimed at supporting tourism development operations.

A multidisciplinary integrated approach to Sustainable Urban heritage in Cairo Center is an Essential key factor to sustaining the city's image and identity.

2 CONTEXTUAL FRAMEWORK

2.1 Problem and research context

Urban heritage consists of a group of buildings, activities, and spaces, including heritage sites that constitute a human settlement in an urban or rural environment, and their value is recognized in

archaeological, architectural, historical, aesthetic, social, or cultural terms. Cairo, Alexandria, Mansoura, Port Said, Damietta, Rashid, and others, or what is known as the historical center in the old cities.

2.2   Research hypothesis

The main problem concerns achieving a balance between urban heritage preservation and sustainable development. Hence, the historical importance of heritage requires the development of compatible strategies and methodologies aimed at achieving an integrated and environmentally sustainable tourism development that preserves heritage areas and takes into account the social conditions of the population, and the requirements of societies. The visit of visitors and tourists at the global level is not commensurate with its historical, archaeological, and cultural value. The deterioration and weakness of the tourist and cultural attractions of the historical centers may be due to many reasons and factors, the most important of which are the problems that these historical centers suffer from urban deterioration - an infrastructure and a network of movement, which began to actually affect their urban heritage and the tourism movement in them.

2.3   Research objectives

The research aims to formulate a consistent methodology for strategies to support and develop cultural heritage in historical areas, specifically the city of Cairo, and to identify the features of public policies for traditional crafts in the Arab Republic of Egypt, their development over decades, the most prominent actors to enhance competitiveness and productivity, the role of folklore in deepening identity, and the mechanisms adopted by countries in the field of Heritage protection, as well as the various challenges and trying to find appropriate solutions through effective management of heritage areas, and the preservation of their urban and historical content.Through a multi-dimensional strategy: cultural, economic, social, recreational and environmental, through:
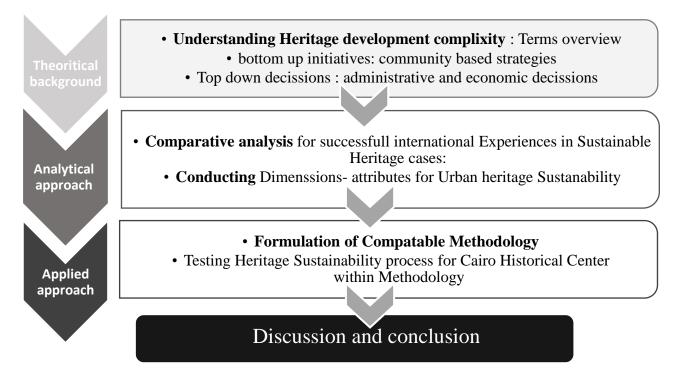
Deducting variables, dimensions of the relationship between urban heritage, sustainability, and the human dimension.
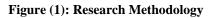
Analysis of the interaction variables between urban heritage and sustainability elements as inputs to the proposed compatible methodology.

2.4   Methods and methodology

The research consists of three frameworks: the theoretical, analytical, and applied framework, using Claude Bernard's method of research inference, which is summarized in the method of extrapolating reality, then extracting hypotheses from induction, followed by applying hypotheses, then re-interviewing the applied hypotheses with reality. Analyzing the reality of urban heritage and

extrapolating the future of sustainable development appropriate to it. In addition to the exploratory field study to identify the reality of the urban heritage in the study area and the systems of the interaction of the population with the urban heritage. The descriptive and analytical approach was used for the urban heritage of the study area to diagnose, rehabilitate and invest economically intourism.

Figure (1): Research Methodology

The research deals with the current state of the urban heritage of the city center and its various problems, such as encroachment on heritage buildings, distortion of the traditional architectural style, and visual pollution. And the challenges facing the urban and urban heritage of the historic city center despite the efforts made to restore, organize and coordinate some important buildings and other spaces, rehabilitate the infrastructure, and evaluate the tourism plan.

The research concludes with the formulation of a consistent methodology to preserve urban heritage rehabilitation and invest it economically and in tourism. Results and suggestions help to preserve and rehabilitate the urban heritage of the city center for its economic and tourism investment and its sustainability for future generations

3 THEORETICAL APPROACH

3.1 Definitions within the context

The research toward more sustainable urban heritage management and conservation is still in the exploratory phase (Roders, 2014). It requires a prior step, which is to develop assessment tools, like

SD indicators, and specify a general framework, which will enable to bridge the use of sustainability indicators and urban heritage management.

Urban heritage management follows the conservation process, which is generally carried out based on potential costs of preservation and projected level of tourist attraction as well as ideologies (Berthold, 2012) Urban heritage: all that man built, including cities, villages, neighborhoods, buildings, and gardens, of archaeological, architectural, or other value urban, economic, historical, scientific, cultural or functional", and this heritage is defined under three levels: Heritage buildings: These include buildings of historical, archaeological, artistic, scientific, and social significance.

Urban heritage areas: These include cities, villages, and neighborhoods of historical, archaeological, artistic, and scientific importance.

The social and all its components, including urban fabric, public squares, roads, alleys, infrastructure services, and others. Urban Heritage Sites: These include buildings associated with a natural environment distinct from its nature or man-made.

The role of heritage in sustainable development is becoming unquestionable. Nevertheless, there is practically no general consensus in terms of how to best approach and deal with it, and current studies on urban sustainability dedicate only a little attention to heritage Furthermore, heritage is often excluded from cities' sustainable development programs and only a few researches about indicators are able to support the claim that a relationship between heritage and sustainable development exists.

The original idea of sustainability arose when it was first put forward by the World Commission on Development and the Environment in 1987.

It is defined as "development that has the ability to confirm the needs of generations without violating the ability of future generations to meet their needs." (Williams, et al, 2000) from the previous definition, it is clear that there are two main directions of sustainable development: (attention to current needs - and attention to future needs).

Sustainable development is a process of measuring and evaluating environmental, social, and economic conditions and variables for suggested directions at specific planning levels. And I see that this is achieved through spatial information systems to make future development decisions.

Economic sustainability: It means the financial return for the owners of tourism projects, and for the host community.

Sustainable tourism development is one that begins to be implemented after a complete and planned scientific study within the framework of integrated planning. For economic, social, and environmental development within the country as a whole or within any region of the country in which the components of development gather Tourism is a natural and cultural attraction.

The components of urban sustainability components are evident from the following dimensions: social-environmental - economic - political – demographic
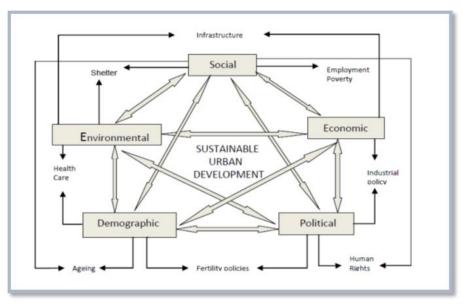

Figure 2 Sustainability's main components (Whittingham, 2013)

4   ANALYTICAL APPROACH

4.1   Reviewing international Heritage sustainability plans

4.1.1   Barcelona

The research project Atlas of Reused Buildings in Barcelona being conducted by the Universitat Politècnica de Catalunya's Habitar Research Group has a register of 878 reused buildings or architectural ensembles (fig.4). The total number of reused buildings is still growing. At this moment the group has checked the architectural guides of Barcelona, the architectural heritage catalogue of Barcelona, the city, questioning and reformulating both the concept of 'type' and policies for the preservation and conservation of the architectural heritage, enhancing the functionalist notion of 'form and function.

4.1.2   The experience of Libya - the city of Derna (Amran, 2021)

Finding a way to deal with ancient historical and heritage cities that constitute an "important" part of the fabric of our urban cities is a priority that we must take into consideration when thinking about development plans in general and sustainable tourism development plans in particular. During this research, some concepts and agreements support the preservation of international heritage because it is a reference for the interventions in the preservation and restoration of architectural and urban heritage. Conservation operations begin at the level of the entire region so that the preservation operations do not conflict with the reconstruction process for the rest of the destroyed city and with the sustainable development processes of the region that includes the city.(Mària,et al 2017)

4.1.3 Sustainable development of ABHA historical center- Saudi Arabia

The city of Abha has an ideal location in southwestern Saudi Arabia, at an altitude of 2200 m between the peaks of the Sarawat Mountains. With the maneuvers of the fog, it is possible to discover its plains, slopes and heritage diversity, and to learn closely about its society inhabited by arts, and how women from traditional arts were able to extract bright colors from trees and stones, to reformulate spaces and decorate their homes with the art of Al-Qatt Al-Asiri, one of the abstract arts, which turned into an icon Cosmopolitan reflects the person and place.

The ancient houses were built hundreds of years ago, whose owners turned them into legitimate museums for the world, which UNESCO included in 2017 on its list of intangible cultural heritage, have been exploited.

The sustainable development of the city's heritage targeted the following:

Rehabilitation of the urban heritage to ensure the economic aspect of the people of the city and the tourist aspect: Maintaining a complete project to stop random development

Launching a precious program in partnership with the private sector with the government to ensure financing and the economic sustainability of the project

Drafting historical-tourist-urban criteria to be adhered to within the scopes of development (El-Ashawy, 2022)

It is clear from experiences the importance of heritage rehabilitation projects in line with sustainable development to ensure the economic and social dimension of the residents of the heart of historical cities and the importance of a methodology as an entry point for preserving the urban heritage.

4.2 Conducting Sustainable Heritage Dimensions – Attributes

Table 1 Conducting Sustainable Heritage Dimensions – Attributes

Dimensions	Attributes
Sociocultural	SC1: Social cohesion — different cultural backgrounds — social SC2: Social interaction — feel connected SC3: Social Equity SC4: Community agreement SC5: Cultural activities SC6: Community events SC7: Provision of public facilities, eg school, health care services, sports facilities SC8: Preserved activities and land uses SC9: Preserved heritage SC10: Safety mobility SC11: Involving stakeholders in decision making SC12: Security against crimes SC13: Sense of belonging SC14: Combine different Income groups
Economic	E1: Land value E2: Real estate improvement E3: Profitability E4: Preserve employment E5: performance E6: Adapting to changing market needs
Planning and Regulations Morphology regulatory	PR1: Land uses convenience/efficiency PR2: Accessibility to public places/work PR3: Parking spaces/standards/public transportation quality PR4: Gross density/plot ratio PR5: Housing conditions PR6: Public /overlapping live workspaces PR7: Mixed use development/horizontal and vertical mix PR8: Services and amenities PR9: Establishment of different, new business/cultural/ recreation activities PR10: Rehabilitation for repairable buildings PR11: Preservation of historic/cultural features PR12: Compatibility with urban context
Sustainability and Environmental	ES1: Creation of new hubs ES2: Functions and attractiveness ES3: City capacity ES4: Green spaces ES5: Controlling pollution level/noise ES6: Waste management ES7: Liveability ES8: Proximity to business and amenities/walkable distance

Historic and cultural in line, and the spatial space constitutes a set of opportunities and challenges that require the development of strategies compatible with sustainable development and urban heritage data.

Physical attributes could be classified into 3 groups: Planning & regulation – Economical and Sustainability & Environmental Dimension. The Non-physical attributes could be classified into1 mixed groups : which are social and cultural.

A parametrical approach proposed to work within particular attributes as follows:

To verify the outcome of the above dimensions and attributes, a framework was developed that could improve the quality and transparency of development projects and guide public administrators in heritage conservation.

Furthermore, the reliability of the different attributes should be examined through an expert questionnaire using statistical analysis. This approach could give an accurate interpretation of decision-making to generalize the proposed methodology for sustainable heritage Plans.

5   APPLIED APPROACH: Case Study

5.1   Documentation and analysis of urban heritage for Cairo historical center

5.1.1   A Brief History

The city of Cairo is considered one of the oldest inhabited capitals in the world, and its name was mentioned on the walls of the pharaonic temples.

Then, the historical eras followed, such as the Greeks, who called it Heliopolis, then the era of the Romans, in which it turned to Christianity. where the Islamic era began with the construction of the Fustat area to be the capital. In the Abbasid era, another capital was established, which they called Al-Askar, and in the Tulunid era, a new capital was built adjacent to it, which they called Al-Qataya.' During the Fatimid era, they gather all the previous capitals and build a wall around it and named it Cairo.

The succession of the various historical eras and eras on the city left its mark on the facilities and buildings of each of them, and these buildings became a harmonious and organic urban fabric that represents a unique cultural heritage... Perhaps the distinction of this fabric comes from its richness in buildings and historical and archaeological monuments and from the plurality and blending of their architectural styles and styles; It is also related to the diversity of its elements and functions: residential, including houses and palaces, commercial ones, markets and inns, religious mosques and mosques, and service ones, such as baths, schools, and baristas.
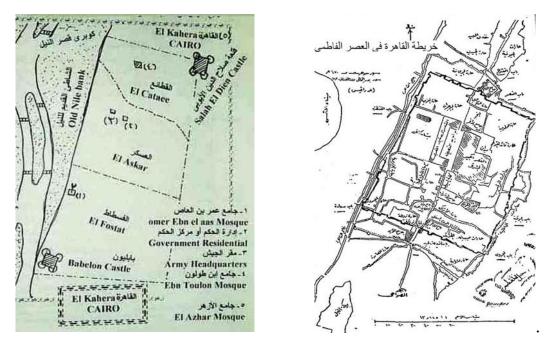
Figure 3 Cairo previous capitals

5.1.2   Problems of urban heritage in the historical center of Cairo

The historical and cultural importance of the urban heritage in the historical center of Cairo prompted its inscription in the UNESCO World Heritage List, but unfortunately, it suffers from some different problems that affect this heritage, the most important of which are- :

•Mixed land uses, where residential, commercial, craft and industrial uses overlap, such as: the manufacture of tents, copper, coal and storage warehouses

•Infringement on distinguished historical buildings archaeologically and architecturally, and the infringement is by using a contrary to the original function of the building and by committing violations by adding extraneous elements and accessories to the original building used for commercial purposes into spaces and small shops; This makes the building lose its importance and distorts its basic design.

Figure 4 Commercial Functions

The stifling traffic problems in many parts of the historical center, such as the areas of Al-Azhar, Al-Hussein, Al-Moez Street and Al-Mosky ... etc., which is caused by the poor organization of traffic and the volume of servicing necessary for commercial and educational activities that occupy a number of heritage houses and because of the lack of private parking spaces, This negatively affects the urban heritage in terms of impeding its investment and in terms of pollution and vibrations caused by cars.

Figure 5 Circulation Traffic Problems

•Distortion of the traditional architectural style in many buildings due to neglect and lack of awareness of its importance and due to the immaturity of the restoration and renovation works, in addition to the heterogeneity between the old and modern buildings adjacent to it in terms of architectural features, materials and height; This is related to the lack of clarity - the transitional area - as the area between the historical center and the center of the contemporary city

•Distortion and visual pollution through the poor spread of billboards and the lack of harmony in the colors of the facades, and because of the parasitic appearance of workshops and shops on the walls of the outer wall of the historical center and on the walls of some archaeological and heritage buildings

•The deterioration and collapse of many traditional residential houses, some of which have fallen into disrepair, due to neglect and misuse, and sometimes deliberate damage.

The problems urban heritage suffers from in the historic center of Cairo have prompted some stakeholders to maintain and restore some distinctive buildings and re-use them and to think about developing procedures and proposals to address the current situation of this heritage in an attempt to develop it urban and tourism.

Figure 6 Maintenance problems

The importance of heritage lies in representing the civilization roots of the community, it expresses its identity and belonging and how much it contributed to the human civilization's improvement. The urban heritage represents the great witness on the communities' civilizations and the culture of people and is considered an indication to its improvement along the history. This is why the urban heritage conservation guarantees the continuity of the identity of people and societies (Ahmed ,2015)
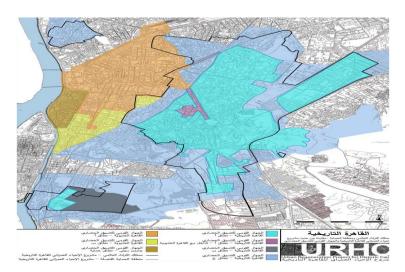

Figure 7 Cairo Heritage Zones

5.1.3 *The reality of the current development in the historical center of Cairo*

The current development in the historical center of Cairo is taking place through procedures and projects at many levels. These procedures and projects are implemented on the ground without a clear and comprehensive strategy or plan that defines the desired goals and the nature of the necessary operational means.

These procedures and projects are characterized by individuality as they are carried out by various government agencies such as the Antiquities and Museums Authority, Cairo Governorate, Fatimid Cairo Development Authority, Khedivial Cairo Development Committee, Ministry of Tourism, Awqaf

Authority, separately without full coordination among them and characterized by limited influence through reading the results Resulting from the application of these procedures are as follows:
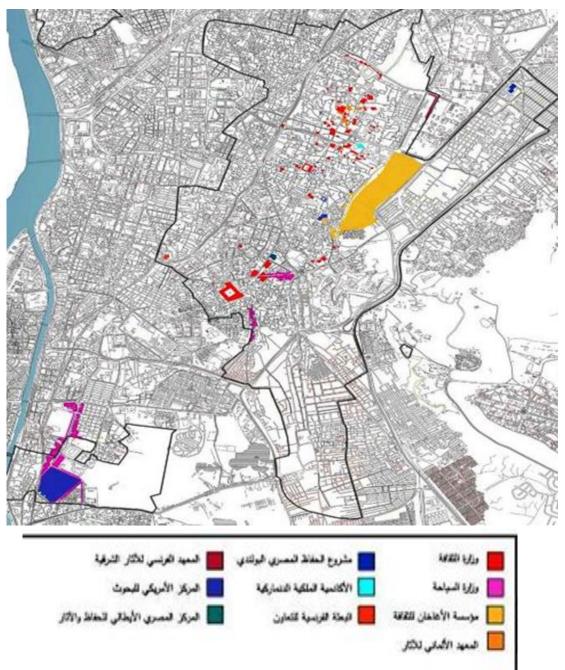

Figure 8 Cairo Heritage Buildings & Projects

A - Urban Development : -

This development occurs on a small scale as it is limited to- :

1. Restoration of some historical buildings such as inns, schools and traditional residential houses and re-using them separately without generalizing urban development to its surroundings and then generalizing it to the entire urban fabric.

2. Reorganizing and coordinating some urban spaces in a way that is limited to their floors and ignores the facades of buildings overlooking them.

3. Reorganizing some distinctive markets and trying to restore it to its previous form after removing all distortions and additions. On the other hand, there is no similar plan to reorganize other markets that are no less important and distinguished.

4. Infrastructure rehabilitation operations, including drinking water networks, sewage networks, and lighting, have started in some areas. Work has now stopped due to the inadequacy of the methods, techniques, and equipment of implementation with the nature of the urban fabric.

Urbanization is a reflection of all aspects of life and its embodiment of it. If the reorganization of revenues is needed for a strong economy, all social levels should benefit from it on the urban and city level. The urban dimension should pay close attention to society without taking sides and accommodate all stakeholders. All aspects of life should be supported not only by housing and should reflect the market demand. If not, this could lead to putting some restrictions on real estate to avoid changes in the property market and ownership. (Magdi.2021)

Figure 9 Cairo Heritage Projects strong economy

B - Tourism development :-

Despite all the measures aimed at revitalizing and developing tourism in the historical center of Cairo, the results of this development seem to have a limited amount of positive impact, due to the following reasons:

1. The tourism development plan is partial and not integrated, especially in the absence of a master plan for the uses of land and buildings in this center. It is often based on the tourism and cultural employment of some important historical buildings after their restoration without taking into account the relationship between these buildings in terms of distance, location, and the

complementary relationship between the proposed functions Orientations of benefit and interest provided to the visitor.

Figure 10

2. The plan is not comprehensive in the sense that it focuses on buildings only without the other components of the urban heritage that can be employed and tourism investment such as urban paths and spaces, which are one of the main components of cultural tourism.

3. The limited services provided by the current tourism development, as it is limited to providing "feeding" services through the use of many architecturally and historically distinguished houses as restaurants, which are mostly distributed near the markets, and this phenomenon has become a real threat to the urban heritage through a large number of restaurants and their spread The randomness and changing the architectural character of the houses used and by neglecting some of the other components of cultural tourism.

•The absence of a general guideline to be the organizer in the distribution of vital projects, for the present and the future.

•The absence of unified standards and foundations for the restoration of historical and heritage buildings, and regardless of determining the role of bodies, committees and bodies that are formed by decisions of ministries or the governorate in granting approval for reconstruction, restoration, employment and supervision of all restoration and construction operations, other concerned authorities are restoring buildings that It is owned by it in varying ways and without unified foundations and standards that everyone adheres to.

Figure 11

•Not specifying the specifications of the buildings that can be used for tourism and the related requirements.

•The encroachments on historical and heritage buildings by adding elements and accessories and making modifications in their architectural plans, and the legal settlement of many of these infringements and violations have been done by the Cairo Governorate, and this is a big problem that expresses the leniency in the deterioration of the urban heritage of the historic city center and indicates the lack of coordination between the concerned authorities

6 The proposed Methodology for urban heritage sustainable development

In order for the urban heritage in the historical center of the city to play its active role in the formation of the city's memory and in activating the national and global tourism, cultural and economic dimension of this center and in highlighting it as an important element in urban planning for contemporary Cairo, it is necessary to develop a sustainable development plan for this center and its objective.

1 - Combining change as a dynamic aspect and preserving historical and heritage buildings and sites as a conservative aspect.

2- Upgrading the living environment and improving its deteriorating conditions in order to be attractive to the population of today and to the population of future generations   .To understand the nature and nature of the required development; The research discusses the following two axes:

The first axis: identifying appropriate development strategies for the historical center of Cairo.

The second axis: defining the general framework for the sustainable development of the urban heritage in the historic center of Cairo in relation to the objectives of the proposed development strategies.

With regard to the first Pillar, the appropriate development strategies, based on the current conditions of the historical center and the urban heritage implicitly, and among the objectives required for development, their basic lines can be defined as follows- :

   •**The social strategy** includes improving the various services necessary for the community, including health, educational, educational, social, and administrative services.

   •**The economic strategy** includes the following- :

1. Determining the appropriate sectors for commercial activities inside and outside the historical center, with emphasis on the role of the transitional area separating it from the modern urban environment

2. Providing advanced information management for employers.

3 .Using loans as an incentive for money investment decisions.

4. Supporting activities and works that contribute positively to the development of the historical center and the improvement of its financial position

5. Creating new professional opportunities in the field of tourism.

6.Develop a detailed plan for the urban economy capable of estimating the economic feasibility of development projects and providing the reasons for the appropriate procedures and means.

Figure 12

6.1   The environmental strategy includes the following- :

1- Establishing a set of sound and realistic environmental standards appropriate to the historic center; And setting standards for conducting an environmental impact assessment to protect the built environment.

2- Drafting a local environmental action plan that includes reducing air pollution, noise, afforestation and greening program, water and soil protection, using alternative energy, and solid waste disposal.

3- Monitoring the planning of land and building uses and removing professions and industries that are harmful to the built environment

6.2   The urban strategy includes the following- :

1- Developing infrastructure networks (fresh water network, sewage network, lighting network, etc).

2- Developing the traffic and transport system (reducing traffic jams in the streets, organizing the public transport network, organizing the pedestrian traffic network, securing sufficient parking spaces, regulating the movement of services and transporting goods

3- Development of land uses through the following:

*Develop commercial functions and maintain the characteristics of each traditional market individually.

*Adopting regulatory measures in mixed use areas

*Reviving properties and using vacant lands to secure some services for the neighborhood.

*Securing new places to meet tourism needs and improve recreational functions.

*Amending the urban system suitable for land uses.

6.3   Society development strategy

The term society mainly refers to the social public with relevant interests in the process of space reproduction, who usually play the role of cooperators and participants, and include local residents, community organizations, surrounding residents, experts and scholars, as well as other citizens and tourists. Among them, local residents refer to the aborigines or villagers living on the renewed land. They are the most important stakeholders in the regeneration and the main users and consumers of residential and living spaces such as houses and communities. (Liu, et al. 2022.)

• Home improvement through: the ongoing housing maintenance programme; securing financial and technical support for the population in the maintenance process; Amending the building conditions system so that it is flexible in dealing with maintenance, restoration and renovation works.

• Improving the situation of residential neighborhoods through: Providing the necessary public services in these neighborhoods; Protecting the urban fabric from the encroachment of extraneous economic and professional activities; Divide residential neighborhoods into work areas to begin short-term housing improvement.

As for the second Pillar, and according to the definition of continuous or sustainable development in its general sense, "it is the development that meets the necessities of the present without compromising the ability of future generations to meet their needs." the present; It is necessary to adopt

some of the basic pillars of this development, which are originally related to the objectives of the proposed development strategies; Among these pillars are-:

6.4 Availability of means of protecting urban heritage:

It is very important to realize the importance of preserving urban heritage in the historical center of Cairo, as it is a non-renewable resource; Which confirms the inevitability of managing its elements in a way that shows appreciation and respect for those who lived before us and shows care and consideration for those who will come after us... It is also a source of a sense of beauty and human behaviors as it provides the possibility of experiencing cultural diversity, provides visual expressions of events from the past and represents physical expressions of intellectual changes over time ... From here comes the necessity of providing the means to protect this heritage, the most important of which are the following- :
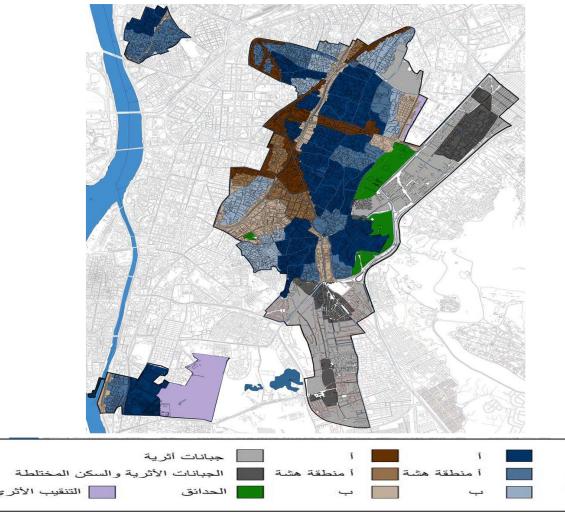
-Develop a master plan that organizes businesses, projects, and appropriate employment, and achieves urban harmony between the historical center and the surrounding environment.

Preparing the national register of documented historical and heritage buildings, after defining the documentation standards for each category of these buildings.

Improving the level of technical implementation of restoration and renovation works by raising the efficiency of its workers, developing methods and techniques for those works, and standardizing their standards. Administrative and legal means:

-Drafting the legal base for the protection of historical and heritage buildings from decisions, standards and foundations regulating construction operations within the boundaries of the historical center.

-Develop a plan that defines the administrative tasks and responsibilities of each of the parties concerned with the protection, development and development of urban heritage, and defines the framework and method of joint coordination among them.

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Figure 13

6.5 Continuing the implementation of development plans and strategies:

The existence of plans and strategies is not sufficient to achieve the required development. Rather, setting the principles of their implementation and the rules of continuity and continuity of this implementation and its development according to the developments will inevitably lead to the achievement of the desired sustainable development. This is done by the presence of an independent authority at the level of the historical center of Cairo that exercises the implementation and control of the procedures of these strategies and the stages of improvement and the management of the budget allocated for this purpose on an ongoing basis.

6.6 Government policies and legislation:

-Setting appropriate regulatory provisions to protect the urban character of the historical center and the harmony of the built environment, through determining the heights of buildings and methods of restoration and reconstruction.

-Providing economic incentives to encourage citizens to undertake development and development projects. Direct incentives include grants within specific specifications and conditions or grants given as a right to owners of buildings and specific projects or participation in the same way. There are indirect incentives based on taxes and loans with low interest and on loan guarantees. Such as These incentives ensure the participation of the beneficiary groups at present and in the future.

Continuing the rehabilitation of administrative cadres and their support in its plan based on educating the local community about the importance of development and starting small projects.

Providing continuous sources of funding (grants and loans) for the implementation of development strategies and projects, and avoiding, as much as possible, expropriation (transfer of property) that burdens neighborhood management and limits community participation.

-Emphasis on the principle of partnership through the creation of a joint sector company in which the concerned authorities contribute more than half of the capital; Its mission is to restore, equip and invest under the supervision of the Ministries of Culture and Tourism.

6.7   Sustainability of community participation- :

-Involving the main target groups (owners and tenants of housing and real estate, employers and workers, local institutions and organizations such as the Women's Union; Chamber of Commerce; neighborhood councils) in the planning, implementation and follow-up of results at present and in the future, as these groups are the direct beneficiaries of development projects, Thus, it can be mobilized to work according to the requirements and requirements of planning.

-Involvement of secondary target groups (such as administrative institutions) in planning and implementation at the level of work areas that make up the historical center.

-The participation of NGOs in the field of spreading population awareness on the issue of preserving the urban heritage in the historical center of their city.

The sustainability of the participation of the local community in all its categories in the process of preserving the urban heritage depends on the permanent provision of economic incentives and awareness programs; And by forming of steering and awareness committees so that community members play a key role in planning, implementing and financing projects to ensure continuity of development.

6.8   The plan for the sustainable management of heritage sites:

The development of the concepts of tourism and heritage and the relationship between them, and the growing role of urban heritage in cultural tourism, prompted the call to adopt a set of new basic principles issued by the Global Convention on Cultural Tourism in 1999, the most important of which are :

Since tourism is one of the most important tools of cultural exchange, preservation must provide opportunities for the effective management of local communities and provide visitors with the experience of understanding the heritage and cultures of these communities.

-The relationship between heritage and tourism sites is a dynamic relationship and these sites must be managed in a sustainable manner for future contemporary generations.

The planning processes for preserving heritage sites and planning their tourism investment must ensure that the visitor gets a useful and enjoyable experience from his visit to these sites.

The host community as well as the indigenous population must be involved in the conservation planning process and tourism investment together

Host communities should benefit from both tourism and conservation activities.

Tourism advertising programs should protect and confirm the natural and cultural characteristics of the urban heritage.

Based on the foregoing, there is an urgent need to develop a plan for the management of heritage sites and buildings in the historical center of Cairo that includes achieving the following- :

 - To make maximum use of tourism from the cultural diversity of the urban heritage in this center, and to achieve the moral and material benefit for the people and residents and create an incentive for them to preserve it.

 - Cooperation between the authorities concerned with antiquities, museums, tourism, the governorate, endowments, localities and decision-makers in setting joint development policies aimed at creating a sustainable tourism industry that emphasizes the protection of heritage resources and sites for future generations.

 -Highlighting the buildings and heritage sites by employing them as integrated tourist and cultural groups and maintaining their distinction by preserving their elements and character in order for the tourist to obtain the maximum possible benefit and enjoyment together... In other words, achieving the management plan and the balance between the protection and use of these sites.

The basic guarantee for the sustainability of development in the historical center of Cairo is the sustainability of the management plan for its heritage sites and buildings after the completion of the implementation of projects and development plans, by constantly monitoring and supervising them and following the developments and unexpected developments to absorb them and reduce their negative effects.

7   Continuous use of information technology:

The use of advanced technologies and information systems is very important in the sustainable development of the historical center of Cairo, as these systems can be used to store, analyze and update

data and data and to develop multiple scenarios to help decision-makers and planners prepare and develop the appropriate master plan to control changes and developments in a way that achieves sustainability and continuity of development required.

8   The proposed strategy of the research aims at the following:

- Linking the changing global trends to the specific challenges and opportunities available in the local urban heritage sites.

- Responding effectively to the need to protect the values of urban heritage sites while ensuring their continuity and change.

- Integrating heritage into sustainable development by developing guidelines to periodically maintain and monitor the impact of changing environmental conditions on the built heritage, and rethink the materials and techniques used in preserving built heritage to take into account social, economic and environmental sustainability.

- Formulate and develop innovative planning strategies to integrate heritage into urban development processes to respond effectively to the rapid physical, social and economic transformation of cities.

- Develop tools and strategies for the comprehensive, sustainable and resilient recovery of the built heritage in the wake of disasters and crises.

The sustainability aspect of modern cities has to be integrated with other design functions. The environmental sustainability of the processes of the city's material production and reproduction is an important constraint for designers. The ecological challenges and opportunities must be used to generate concepts, techniques and tools which allow designers to ramp up the communicative environment, (Schumacher, 2013)

8.1   Suggested characteristics of the sustainable development methodology for the historic center:

•Achieving social justice between generations by meeting the current needs and preserving the rights of future generations in the urban heritage of the historical center as it is a legacy of cultural and economic value.

•Relying on a set of basic pillars of the development process, which were previously mentioned, in order to ensure the sustainability of development and achieve the objectives of the proposed development strategies for the historic center.

•Achieving a continuous balance between the processes of change and renewal included in the urban, environmental and economic development strategies and the process of maintaining the sustainability of urban heritage elements as a permanent resource.
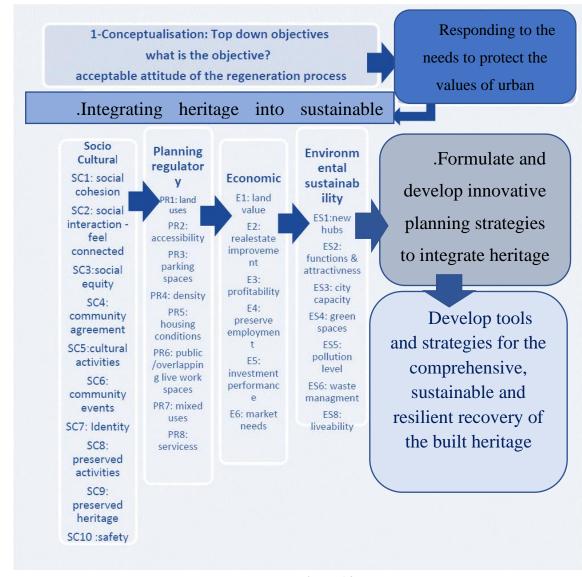
Figure 14

8.2 Providing optimum economic investment opportunities:

Promoting economic activities that increase the level of economic well-being of the population and restore the lost vitality to the historical center.

•Take advantage of the appropriate political decision to support and sustain development processes and intervene to remove obstacles.

•Adopting indicators to measure the development process of the historical center, including indicators related to the variables and influences resulting from economic and social activities and the extent of the response of the historical center to these changes and influences... Such indicators help in assessing the sustainability of preserving the urban heritage of the historical center and its development in all fields.

The historical center of the Egyptian city of Cairo needs to start implementing development strategies to develop and advance its reality and achieve the necessary development, and then lay the foundations, pillars and means that ensure the sustainability of this development

•Achieving a balance between the various activities of the center so that not only does the tourism activity dominate, but there must be specialized economic activities and humanitarian and cultural civilized activities ... and the tourism activity helps in the interaction and exchange of these activities.

•Develop a general master plan for the historic center of Cairo that defines the uses of the lands therein, the areas that can be employed for tourism, and other supporting activities.

•Developing tourism legislation regulating tourism employment and setting licensing requirements within heritage houses and old neighborhoods; It guarantees the preservation of its distinctiveness and its architectural and urban identity and its cultural and social specificities.

•Develop a continuous plan for the restoration of heritage and old houses and provide appropriate material facilities for its residents and owners to encourage them to restore and preserve them for future generations.

•Develop national expertise in the field of study and implementation of the restoration of historical and heritage buildings through external delegation and the establishment of a specialized institute for the restoration and renewal of heritage sites directly affiliated with the Council of Ministers

•Follow-up and study the feasibility of projects included in the development strategies and evaluate their results to correct the negatives and gaps and to ensure the continued success of these strategies.

•Creating a permanent technical body or specialized body in each city for its old centers, expanding its scope of work and powers in managing heritage and historical sites, and having an effective and direct role with the concerned ministries and institutions and linking them to exchange information and technical expertise gained.

9   Conclusion

- Qualities of public spaces depend not only on how well these spaces are designed but more importantly on how they are managed, maintained and integrated with ecology society and cultural aspects.

- A wider exploration of different dimensions that affect public space qualities and a deeper understanding would also help to develop a well-integrated urban design model for the promotion of well-designed public space.

- Society needs a sense of identity and belonging to a specific place. This will provide an anchor of shared experiences between people over time. Individuals need to express a sense of place identity to a collective urban place.

This paper proposed an approach based on integrating morphological, social and ecological parameters to achieve sustainability objectives in local Public spaces in order to strengthen sense of place identity. The paper suggested a set of parameters that could be used as an indicator of sustainability, these parameters are utilized to develop a multidimensional matrix integrating: sustainability objectives and successful public space qualities into 3 main groups of parameters: Morpho-functional, Ecological and Socio-cultural. Such a matrix was applied to create an attractive public realm, to promote mental health, and social communications.

Furthermore, the importance of social subjects and social dimensions of the urban regeneration framework has been strengthened. Despite the various co-petition models formed among stakeholders in space reproduction practice, such as the government-led mode and the government-market growth alliance model, the attention paid to social subjects and their interests seems relatively limited.

Improving urban heritage areas achieves sustainable touristic development.▪ Activating the role of civil society and community participation in conserving urban heritage achieves sustainable touristic development and increases economic development and improves the quality of life generally.▪ Achieving sustainable touristic development in heritage areas happens through the activation of the role of civil society and the community participation in conserving heritage areas and improving them in preparation, planning, or project implementation phases.

The absence of community awareness was one of the reasons behind the deterioration of urban heritage in a lot of historic and heritage areas.

10 Recommendations

- The test of place identity does not emerge only from its urban form, but it is the degree to which it is legible, remembered, and identified by its people. Since it is a function of the observer's mental image, identity can also be increased by educating the observer, and by training him to see significant differences that he never noticed before.
- An Urban Designing expert's survey should be carried out to examine the proposed (SSPS) Matrix and its parameters.
- A social survey should be carried out continuously to reevaluate the proposed matrix (SSPS) in order to achieve sustainable successful public spaces
- "the identification of common indicators between urban development and heritage management could help forecast challenges, set priorities and provide baseline knowledge to foster more and better sustainable practices in urban development (Guzman , 2017)

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