

# Sustainability of Cities Built Environment by Urban Regeneration concept

## Case study of the Historic Cairo

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**Abstract** Urban regeneration is a process to improve economical, physical, social and environmental condition of an area. After Second World War many regeneration initiatives were introduced by different political parties to achieve sustainable development in the United Kingdom. When regeneration is considered in the context of "urban," it involves the rebirth or renewal of urban areas and settlements. Urban regeneration is primarily concerned with regenerating cities and early/inner ring suburbs facing periods of decline due to compounding and intersecting pressures. Also housing has been one of the main focused concerns amongst the initiatives due to the basic need of mankind since then. But, housing is different from other commodities due to the distinguished characteristics, which creates housing market more complex. The gap between demand and supply makes housing market in disequilibrium. Regeneration deals with the low demand in the deprived neighborhoods. There are many national, regional and local issues that lead to the low demand of housing. No doubt, regeneration aims for better and positive results in an area but, it is not simple to carry out this process without understanding its (positive as well as negative) impact on an area and more importantly to the people who live there. The final coagulation is assure sustainability of the projects of urban regeneration it is of a basic importance to have properly trained staff and availability of professionals. In addition, it will be necessary to encourage the local and national authorities to allocate more funding.

**Keywords:** Sustainability , heritage area ,urban regeneration, urban pattern ,Historic Cairo

### I. Introduction

Change is the most permanent thing in the world. It could be physical, environmental, economical or any other type. Regeneration stands for the change and is also a process. In other words urban regeneration means physical, economical, social and environmental change in a city/ town/ area.

Regeneration basically covers these four aspects, covering everything of an area - such as community, crime, infrastructure, employment, health, literacy etc. Each aspect is interrelated with another and has its own direct or indirect impact on other aspects. So, regeneration does not include any single or individual aspect or person but it includes all the aspects and everyone who lives in that particular area, which should be taken care of for the sustainable development.

Urban areas are complex and dynamic systems. They reflect the many processes that drive physical ,social , environmental and economic transition and they themselves are prime generators of many such changes .

No town or city is immune from either the external forces that dictate the need to adapt ,or the internal pressures ,that are present within urban areas and which can precipitate growth or decline

### 2- Methodology

Urban regeneration is an outcome of the interplay between many sources of influence and more importantly, it is also a response to the opportunities and challenges which are presented by urban degeneration in a particular place at a specific moment of time.[1]

Despite having argued that an individual example of urban generation is likely to be particular to a specific place ,a number of general principles and models of good practice can be identified .

Such lessons from current and previous experience can be applied in order to assist in the development and implementation of approaches to the task regeneration

The methodology of the research comprised the selection of the case studies, after over viewing the main regeneration principles also taking into consideration the public participation and the government role

The case study is historical Cairo which it is the ideal project as case study because it has different resources of regeneration and the needs of people and the value of this area

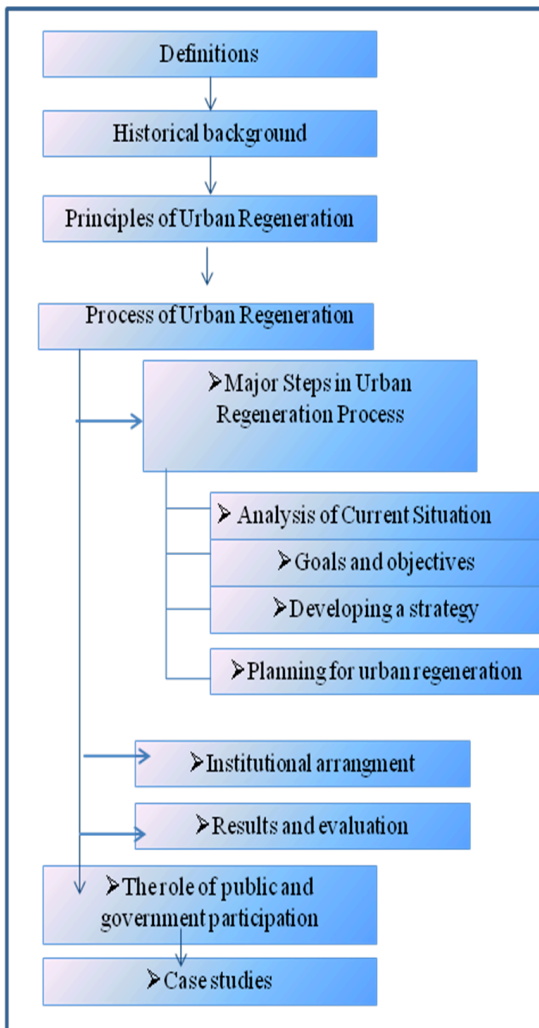


Fig. 1. Research Methodology [1].

### 3-Definition of Urban Regeneration

- The concept of urban regeneration may be interpreted in a number of ways, depending on the level of development of the country. In the most developed economies, the goal is to promote a “return to the city”, revitalize the city centre, restore activity in a fiercely competitive international context, and implement

initiatives to improve the quality of the environment operating in a wide sense towards a smart growth.

In emerging economies, qualitative initiatives have to be kept in mind, but must imperatively be aligned with quantitative requirements as well[1]

- **The initial definition of urban regeneration** is based mainly on following themes:

- the relationship between the physical condition evident in urban areas and the nature of the social and political response;

- the need to attend to matters of housing and health in urban areas;
- the desirability of linking social improvement with economic progress;
- the containment of urban growth;
- the changing role and nature of urban policy.

These themes define urban regeneration

as: **“comprehensive and integrated vision and action which leads to the resolution of urban problems and which seeks to bring about a lasting improvement in the economic, physical, social and environmental condition of an area that has-been subject to change.”**

(Roberts, P. and Sykes, H., 2000 pg. 10-17)Edgar, B and Taylor, J, mentioned that new housing can be a driver of urban regeneration, and decent housing is an essential ingredient of any regeneration scheme.

Decent housing stimulates both physical and economic improvement, and the resulting enhancements in turn stimulate

new investment and new opportunities as the urban environment once again becomes full of life and enterprise [1]

- **Urban Regeneration: In biological terms:** it means to recreate lost or damaged tissues. In geographical

terms it means improving an area that has been experiencing a period of decline.

Renewal or Redevelopment: When areas are rebuilt to improve the physical environment. Redevelopment might involve changing the main functions of areas.

### 4-History of Urban Regeneration; [1]

Urban regeneration was first formalized in the U.S.A.

- **In the 1960s**, when relocation of marine activities triggered the total abandonment of large territories, which have become harbor derelict lands. Municipalities have often reassigned these empty urban lands to central business type of activities as in Boston, Baltimore and New Orleans.

- **In the 1980’s**, a second phase was launched, on the London Docklands, and then in Barcelona. Urban regeneration led to the complete transformation of empty lands, through reconstruction of multi-activity “bits of the city”.

- **Later, in the 1990’s**, urban regeneration was launched in many urban areas, often densely populated, functionally heterogeneous, but facing many urban malfunctions.

- **Generally speaking**, there may be three reasons why urban regeneration is taking place:

- **Imposed regeneration after a long period of abandonment of derelict land** (e.g. London Docklands), or severe dilapidation of living conditions in a district.
- **Opportunistic regeneration** where public and private investors are on the lookout for available land for a big project (e.g. Barcelona, Athens).
- **Preventive or prospective urban regeneration** in areas where the social and economic fabrics have deteriorated (e. g. Istanbul, Aleppo, Alexandria)

### 5-Principles of Urban Regeneration:

Over time, urban regeneration has evolved from a simple form of renovation or rehabilitation of obsolete infrastructure and built-up land, to targeting the restructuring of the urban fabric, the renewal of the urban economy, or the city image, while seeking more social interaction and equity, the participation of local populations and their social and professional integration into a multi-functional context.

Designated by different structures, according to the countries involved, urban regeneration is today an integral part of national urban policies. It has become a new activity in the city, while urban territories are the testing and implementation grounds of the strategies that are now required. This is why it is gradually implementing the principles of sustainable development, which theoretically implies the slow-down of urban sprawl, combat against pollution, dangerous on public health, as well as natural and technological risk prevention.

- **Basic regeneration principles offer an integrated framework to simultaneously develop people and places:**
- coordination between various sectors,
- creating a holistic vision,
- regenerating people rather than a place,
- creating partnerships across all levels of government,

building public sector capacity and leadership, and engaging the local community in the planning process.

- **The implementation of urban regeneration must still take into account:**

- the national political and administrative structures, and the means and degrees of authority at each scale;
- the decision-making circuits.
- the ability to find trade-offs between the general interest, covered by public authorities, and the private interest, emerging under the trend towards globalization and market economy.

**Urban regeneration, as any other applied form of urban policy, can be sub-divided into several stages** over time, which are regularly assessed to implement change whenever required, in view of the short and long-term uncertainties in the evolution of urban societies.

### 6-Process of Urban Regeneration [1]

#### 6.1. Major Steps in Urban Regeneration Process

##### 6.1.1. Analysis of Current Situation

The Analysis of the Current Situation is the first step of any regeneration project.

- Urban regeneration projects are based on many

objective criteria:

- They can be general, covering the entire metropolitan area. This has been the case in most industrialized cities of Europe over several decades, with the decline in local GDP, the deficits in municipal budgets and the dis involvement of external investors, shying away from economically unattractive cities.

- They can be specific to some parts of the metropolitan area. Population census does not readily yield reliable data on the real status of the current situation, the social unease, or the deterioration of living conditions. More reliable data on the present and future trends can be collected through surveys and questionnaires.

The following are examples of the most preoccupying issues in the Mediterranean:

- **Squatter areas**, where populations and children in particular are threatened by health hazards and rising mortality, due to the lack of sanitation networks and accumulated waste.

Three squatter areas west of Alexandria (Maawa El Sayadeen) is a perfect example of such extreme Situation.

- **Old town districts**, where dilapidated dwellings are over-populated, roads saturated, hazardous activities undertaken, and where surveys are the only means of collecting reliable data.

- **Historical centres**, where architectural heritage is concentrated, requiring in depth evaluation of the state of the buildings, land use, access and the various networks.

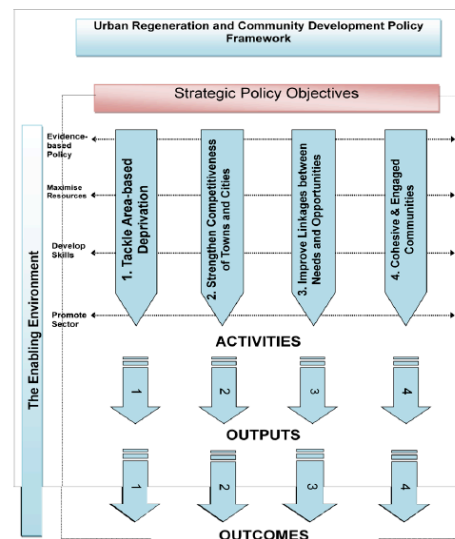


Fig. 2. Urban Regeneration and community Development Policy Framework [2].

### 6.1.2. Goals and Objectives

One of the main difficulties in urban regeneration is the choice and determination of objectives, and the future of the inhabitants, the local activities and the built-up surfaces must be taken into account.

➤ **The main goals of an urban regeneration project could be to:**

- promote rehabilitation of complex urban structures.
- improve the environment, as well as the quality of life of inhabitants and city dwellers.
- preserve the valuable and unique fabric of the selected areas;
- control-reverse the deterioration of specific urban zones (i.e. residential, commercial, etc.);
- restructure economic activities located in the urban fabric.

➤ **Social objectives can be the main focus**, within the framework of a national policy directed towards the consolidation of urban social fabric and greater social mix.

➤ **While the objectives of sustainable development, of improved living conditions, of available structural**

equipment, of risk prevention and protection are never ignored, they are rarely the main focus.

➤ Water supply and sanitation networks must be considered as integral parts of any project.

➤ **Objectives could also include the need to:**

- restore buildings, rehabilitate private residences and upgrade infrastructure;
- identify, analyze and define business needs for selected areas (urban core, city outskirts, etc.);
- develop new business and professional opportunities;
- establish indirect measures (infrastructure) and direct tools to encourage economic growth;
- organize capacity building for institutions and agencies responsible for urban management and physical planning;
- enhance the provision of community-based integrated basic services for the vulnerable population groups;
- empower communities by increasing their problem-solving, management and negotiation skills;
- promote public participation on the national level for urban regeneration policy and support.

### 6.1.3. Developing a Strategy.[3]

The goals and objectives should be accompanied by a description of the basic characteristics of the intervention. Such characteristics refer to the key planning interventions, the financial scheme and organizational structures. These are the outcome of translating the goals and objectives into a strategy.

meaning a coherent and co-ordinate system of actions in spatial and temporal sequences, organized to achieve the desired ends (goals and objectives).

Each of the city's territories must resolve its own difficulties, respect its own social fabric, memory, heritage, and enhance its traditional or new potentials.

➤ **Regeneration strategies must be applied to every urban sub-system by the**

**combination of several objectives:**

• **In squatter or unregulated areas, the focus must be on water supply and** sanitation networks, as well as on waste disposal, improvement of the road network, and the creation of schools, health facilities, city hall office annexes etc.

• **In the old dilapidated districts, the focus must be on the rejuvenation of buildings**, in close co-operation with the owners, the inhabitants, and public aid organizations as in Barcelonese (Barcelona),

• **In the central historical parts of the city, as in the old town of Aleppo, Orin Barcelona**, the goal is the conservation, preservation and enhancement of the still inhabited traditional built-up surfaces upgrade the built-up surfaces, cultural buildings must be constructed, networks restored, pedestrian areas created.

• **In the large derelict urban zones and deserted industrial, harbor or railway lands**, complete reorganization and new urban composition are necessary. Only the existing buildings of quality will be preserved, renovated and transformed, thus ensuring the survival of the memory of the site. These zones are large enough to be used for different functions (housing, offices, public areas), but other activities are also emphasized, such as entertainment, trade, leisure, culture, and are the prevalent choice in all regenerated waterfronts, as in the old port of Barcelona,.

### 6.1.4. Planning for Urban Regeneration.[4]

Urban regeneration does not require special procedures and can be undertaken, in most cases, with the existing policy tools and instruments which, however, must be carefully selected.

**The control of land is absolutely the first mandatory aspect to cover, since** territories are already urbanized and belong to different owners whose legitimate rights must be observed.

The **traditional tools of spatial planning, at various scales, zoning, density**, land-use patterns, are not ideal to meet the needs of urban regeneration,

**Project-based strategic planning seems the best option. It offers a wide range**

of interpretations and choices for zoning (combined land and building use), organization of open space and built-up areas, and of their density. When

permissions to build are granted, each aspect is discussed and defined between the developers and the technical urban development services, to stay aligned with local plans.

**Programming is very useful in the pre-operational phase, and essentially involves**

the expected volumes, expressed in square meters of floor surface for each of the major components

**Implementation stages depend on the scope and nature of the regenerated**

sites:

- On very large sites, each block, district, or piece of equipment, is sold to a developer who is granted permission to build and to carry out the project as scheduled and described in the specifications.
- The regeneration of an old district can require ten years, since it covers many sites and the related owners.
- Traditional urban development tools can not be used in regeneration projects for squatter areas, and are replaced by works of collective interest undertaken by the public authorities and by initiatives organized by the local populations.

**6-2. Institutional Arrangements**

In most countries, the State alone makes decisions concerning major urban regeneration operations, and selects the main contractors since only the State has the necessary financial resources, as in Tunisia, Algeria, Egypt and Turkey. In other cases, such as Spain, the decision-maker can be a regional or territorial collectivity, or a municipality, as in France. As the main public contractor, the State can create a specific organization, and grant it mandate to undertake the work: this was the case in the UK,

The current trend is the establishment of partnerships between institutions, reduced involvement of the State, and building further empowerment of municipal authorities which are sensitive to local issues.

This involves contractual financial ,If the landowners are private investors, they can be the main contractors for medium-scale regeneration Operations.

**6-3 Results and Evaluation of public participation and government participation.**[5]

Urban regeneration was only included in urban policies a few decades ago and its processes and operations comprise many of the traditional urban development action plans and procedures.

Regeneration attempts to include them in the dynamics of multipurpose projects, challenges which stem from the deep-rooted social and economic forces inherent to the city In the cities where urban marketing is a tool, the awareness of urban regeneration is high..

**Urban Regeneration assessment matrices must be developed, and should include:** [6]

- the relevant qualitative and quantitative criteria,
  - the tools and cost/benefit indicators over the short, medium and long term, concerning such major options as the creation of play or leisure areas,
  - the positive or negative external effects of urban regeneration projects,
  - the alignment of urban composition options with the practices and life style of the inhabitants, such as in the creation of public space, which may impact traditional habits and customs,
- The role of local inhabitants remains one of the weak links of Urban Regeneration and requires research for new means of intervention at all stages of Urban Regeneration operations.

**7-The role of public participation and government participation.**[7]

Government has a clear role to play in successful urban regeneration and community development.

One of the most important reasons for government intervention is the need to tackle social deprivation

**7.1. Public Participation and Partnerships**

Public participation and partnerships are key elements in contemporary urban planning and management. Therefore, a process of urban regeneration should be based on mobilizing local communities and their key actors to share and contribute to a collective effort of improving urban areas

. It is widely recognized, however, that a broader range of actors is essential in the context of an urban regeneration process, could:

- provide a clear picture of a city's characteristics, problems, prospects and needs;
- form a shared vision for the city;
- identify common needs and priorities for urban regeneration;
- promote commitment to the implementation of the project;
- generate necessary funding for project implementation and follow up.

**7.2. Governance and Participation.**[8]

In most countries, the public participation procedure is recognized as essential to a successful implementation of projects on urban regeneration, and is secured by law in the preparation of plans through obligatory public hearing activities. Local communities can be involved in the early stages, as well as during the development of the projects, contributing to the information mechanisms or public surveys. However, the public participation procedure is not always applied and the citizens are mostly passive receivers of information, giving them a wrong perception of the spatial planning system as a restrictive mechanism setting only limits.

**8-Case study: Urban Regeneration for Historic Cairo.**[9]

The site of Historic Cairo was inscribed on the World Heritage List in 1979, recognizing its "absolutely unquestionable historical, archaeological and urban importance

The project Urban Regeneration for Historic Cairo (URHC) has been working with local authorities since 2010 with the aim of preparing planning and management tools necessary for the conservation of the aforementioned heritage values in addition to the socio-economic revitalization and environmental upgrading of the World Heritage Site as a whole

### 8-1 Approach To Historic Cairo's Delimitation

The project began with a comparative analysis of historical maps to verify where historical street patterns were still persisting. At the same time, the Statement of Outstanding Universal Value (SOUV) was revised on the basis of the nomination file to integrate and highlight the heritage values for which Cairo's historic city was inscribed on the World Heritage list. The analysis was supported by a field survey to evaluate the current state of the urban fabric.

#### Actors involved in the process of upgrading [10].

- Governmental sector
- Investment destinations
- NGOs
- Civil Society

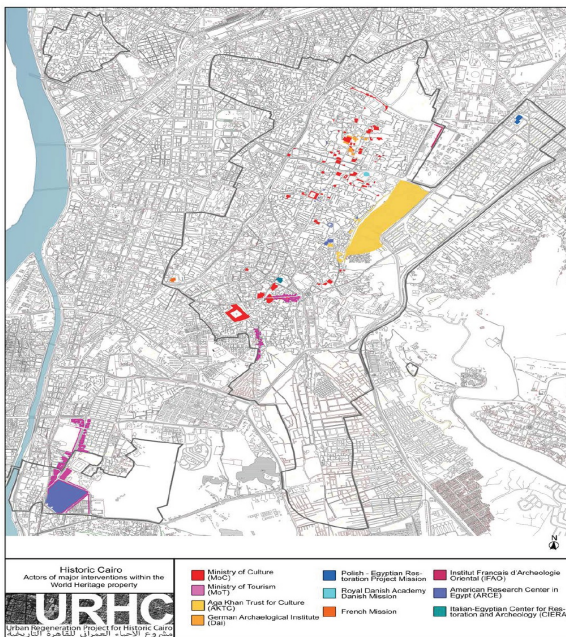


Fig. 3. Distribution of Actors involved in the process of upgrading[9].

#### The project tasks were identified as follows:

1. Definition of the World Heritage property and its buffer zone.
2. Creation of a shared information system.
3. A strategic planning and management system.

4. Conservation and development planning.
5. Consultations with the relevant administrations.
6. Raising awareness amongst the public

#### The general objectives of this work phase were defined as follows:

- Outline a conservation and rehabilitation strategy based on a clear definition of the WH site and its buffer zone to preserve and enhance the heritage values and regenerate the physical - and socio-economic environment;
- Establish a management system for the WH site with the contribution of all the concerned administrations, based on a new and more effective institutional set-up and legal framework;
- Create an appropriate and shared information platform for urban conservation;
- Launch public awareness-raising activities

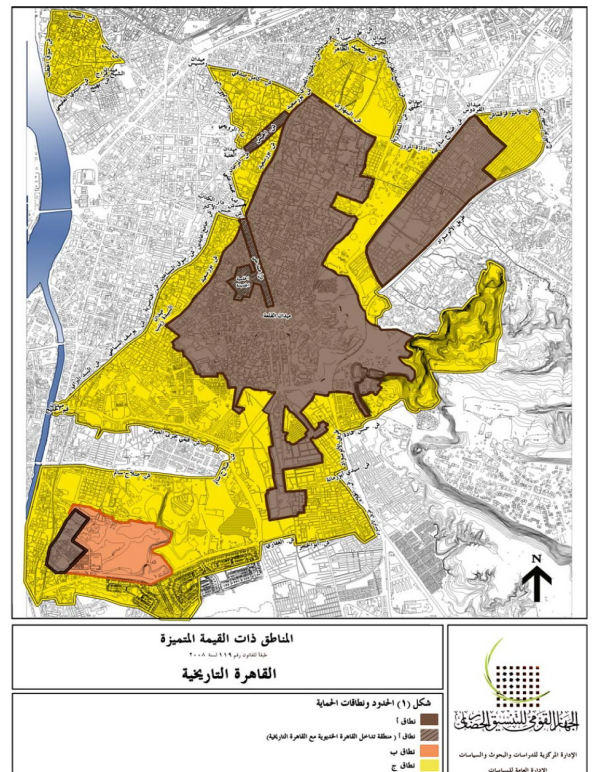


Fig. 4. Boundaries of the study area (Historic Cairo) according to the Uniform Building Code 119 for the year 2008 [11].

## 8-2\_ Methodology And Operational Criteria Of Project

- The delimitation of Historic Cairo had to be consistent with both the inscription criteria and the SOUV. Several elements mentioned in the Nomination highlighted values concerning the urban morphology of the World Heritage property such as:
- The presence of numerous monuments, which are not seen as isolated features but as components of a homogeneous urban context. Their architectural significance and cultural meaning depend on the fact that they are “landmarks” relating to the spatial and functional organization of the historical fabric.

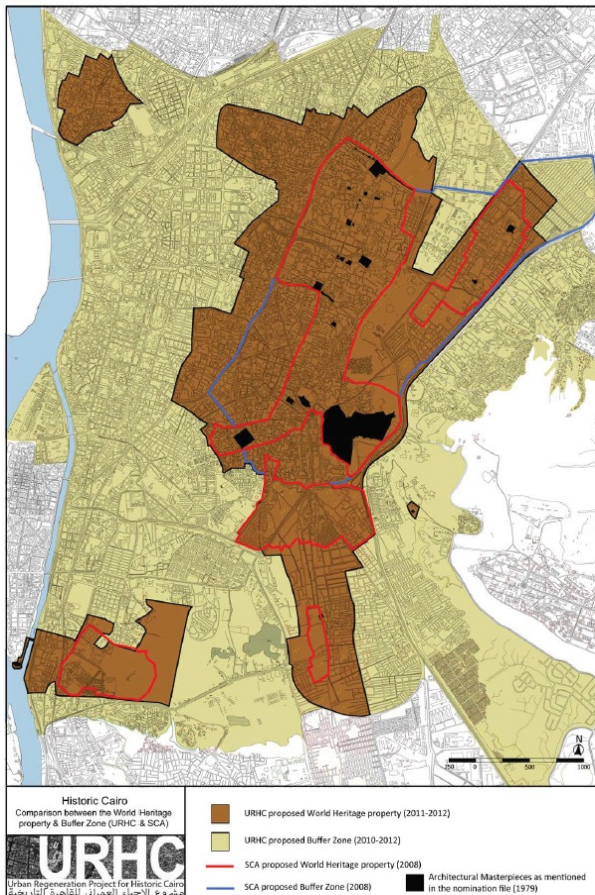


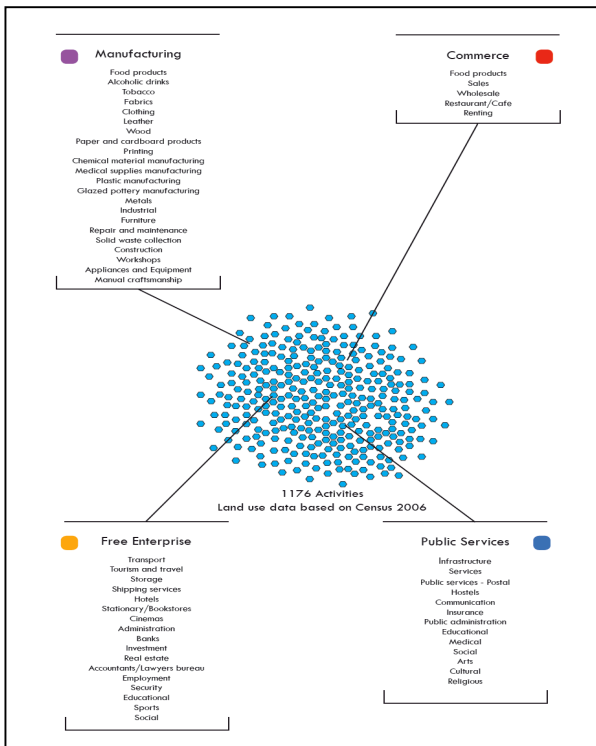
Fig.5. Historic Cairo comparison between the world heritage property and buffer zone (URHC& SCA) [9].

The official perimeter outlined by the SCA also varies significantly from the “property area” and “buffer zone” proposed by URHC for Historic Cairo. It includes the urban fabric with the highest concentration of monuments and excludes the following:

- The pre-modern urban fabric that developed west of the former al-Khalij canal[6].
- The historical urban area that developed north of the city walls in the Ottoman period
- The pre-modern settlements on the Nile banks: Bulaq and al-Fustat [7]
- The “property area” proposed by URHC includes this pre-modern fabric, in accordance with the criteria in the nomination used to revise the SOUV. Simultaneously, the “buffer zone” proposed by URHC encompasses the site occupied throughout the city’s development between the Moqattam Hills and the Nile, a process that led to the shaping of the modern city as an extension of the pre-modern one.
- The buffer zone of SCA, on the other hand, is limited to areas between the identified core area, excluding parts of the pre-modern fabric and the early-modern city. The partial inclusion of the monumental cemeteries, particularly the southern one, and the al-Fustat archaeological site, further reflect a different identification of the concerned areas. The SCA perimeters are also inconsistent with the delimitation of “areas of peculiar value” identified by NOUH.

### To achieve these objectives the following activities were carried out:

- Collection of all available documents (aerial photos, historical plans, bibliography).
- Analysis of the evolution of the historical fabric through studies and field surveys.
- Comparison of the proposals presented by different institutions for the delimitation of the World Heritage property since its nomination.
- Identification of areas protected by existing legislation or rehabilitation program carried out in the site.
- Development of proposals for the definition of the World Heritage property and the buffer zone.
- Identification of areas to be distinctively protected within the World Heritage property, according to the integrity of the urban fabric and its attributes as identified by the SOUV



For successful urban regeneration policy. However, from the account presented above it is clear that there are also some common underlying principles and drivers that characterize the commitment to regenerate cities and regions.

In essence there seems to be a common concern to ensure that territories and certain social groups within the population do not become marginalized or excluded from the mainstream of national, regional and city life.

Also it is very important to focus on the role of public and government.

To assure sustainability of the projects of urban regeneration it is of a basic importance to have properly trained staff and availability of professionals. In addition, it will be necessary to encourage the local and national authorities to allocate more funding, since the process of rehabilitation reflects high economic benefits and returns for the city and the country above and beyond its important cultural value, as well as to encourage the involvement and participation of international donors. It will also be necessary to secure a much higher participation and involvement by the local private sector, to intensify and institutionalize the residents' participation, and to have an effective co-ordination among agencies and stakeholders.

The project's next steps now revolve around implementing the tasks outlined in the work plan (established in July 2010 and later revised in March 2011). These include:

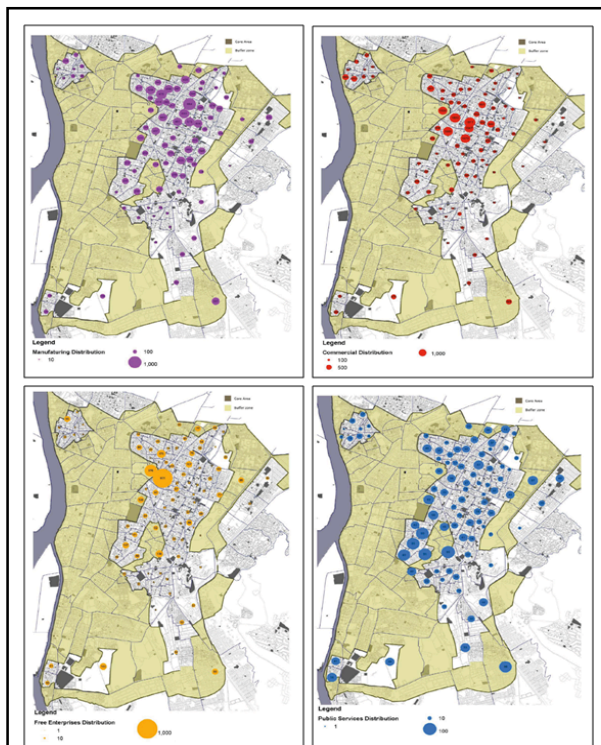
- 1) Consultation and technical cooperation with the concerned administrations in order to:
  - Encourage the official adoption of the World Heritage property perimeter and SOUV by the relevant authorities.
  - Enforce proposed urgent protection measures through the modification, where possible, of the present regulatory framework established by NOUH and the Government

The implementation of the URHC project has been seriously affected by the changing political situation in Egypt, slowing down relationships with officials, team counterparts and concerned administrations. As a consequence, many on-going activities were delayed, in particular, the elaboration of the management plan. no rate of Cairo.

- Establish the framework for the creation of a comprehensive management plan, based on a shared understanding of the key heritage values, a common identification of priorities, and the correct institutional framework.

The involvement of all concerned administrations in the project is vital for its success. To this purpose, a workshop with these administrations must be organized as soon as possible involving the technical staff within the responsible government departments.

- 2) Continuation of the necessary sector studies for the management plan, with the support of external consultants.



ct map [9].

Fig .6. Summarizing CAP MAS Cens us 2006 land use activities into categories and its distribution in proje

## Conclusions:



3) Dissemination of the URHC project's goals and results, to enhance the protection of the World Heritage property and raise awareness among the larger public, professional and academic circles, and local and international institutions. National and international conferences on Historic Cairo, involving universities, associations and cultural institutions presenting and discussing the outcomes of the URHC project, will be organized in 2013.

This will lead in a further phase to:

- The preparation of a complete draft of the management plan, including the definition of an urban conservation strategy, the identification of priority actions, a proposed institutional framework for the management of the World Heritage property, and criteria for monitoring the conservation actions.
- The identification of a priority action project, to be intended as an outcome of the management plan, and as a preliminary step towards the elaboration of the conservation plan.
- The development of an information platform, based on detailed field surveys in the selected action area, to use as the basis of the first action project.

Future objectives include:

a) The establishment and enforcement of general protection measures for the World Heritage property and its buffer zone, in collaboration with concerned administrations. These should include:

- The preservation of historic street patterns (alignments).
- Preserving the visibility of architectural and urban planning

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