The Impact of Urban Regeneration on Land Use in Land with High Urban Value – London VS Beirut

¹MOHAMED M. EL-BARMELGY, ¹AHMAD M. SHALABY, ²USAMA A. NASSAR, ²SHIMAA M. ALI ¹Department of Architecture, Cairo University, Faculty of Engineering, Giza, EGYPT ²Department of Architecture and Urban Planning, Suez Canal University, Faculty of Engineering, Ismailia, EGYPT

Abstract: The paper explores the relationship between the economic, social and political forces shaping urban regeneration and its impact on selected case studies (London-Beirut). It draws on experiences with planning and delivery of regeneration schemes through various forms of public / private partnerships in England and Lebanon. The paper discusses urban regeneration definition and its analytical framework, policies, strategies, and key success factors. Then the study analyses two international experiences of urban regeneration for land with high urban value namely; Canary Wharf in London and Downtown Beirut, in order to draw an outline of the objectives of this process, its approach and its analytical framework. Finally, the paper summarizes the most significant findings and highlight the importance of funding resources, institutional management and public / private partnerships to achieve successful and sustainable results.

Key-Words: Urban Regeneration; Land Use; Value; Canary Wharf; Beirut; Policies; Public Private Participation; Funding Resources; Project management.

1. Introduction

Urban regeneration is defined as a comprehensive and integrated vision and action to address urban problems through lasting improvements in the economic, physical, social and environmental condition of an area [1]. It gives its emphasis on partnership strategic approach; it can perform an enabling role to achieve sustainability. The paper has taken this definition as a base of research objectives and approach to the study. It focuses on the evolution of urban regeneration and the public private partnership models that have contributed to its success. Also, aims at exploring regeneration outcomes in a comparative perspectives using evidence from two international experiences namely Canary Wharf in London and Down Town Beirut in Lebanon.

2. Urban Regeneration 2.1. Defining Regeneration.

Urban regeneration moves beyond the aims, aspirations, and achievements of urban renewal, which is seen as a process of essentially physical change, urban development, with its general mission and less well-defined purpose, and urban revitalization, which whilst suggests the need for action, fails to specify a precise method of approach [2]. According to the Department of the Environment, Transport and the Regions (DETR), the institutional anchor for the development and implementation of regeneration policies and programs, urban regeneration is about jobs; their creation, protection, quality and skills and the accessibility to various groups within society. Finally, it is about wealth; the generation of profit, of income, of resources, and how these are distributed between rich and poor areas, and groups. It is a highly political discipline; it is about people and power [3]. Another more inclusive definition of urban regeneration, Robert and Sykes state that urban regeneration is a comprehensive and integrated vision and action to address urban problems through a lasting improvement in the economic, physical, social, and environmental condition of an area. They feel that given its emphasis on partnership and strategic approach, it can perform an enabling role in achieving sustainability. This definition will be a milestone in the subsequent formulation of the paper objectives and the approach to the study [1].

2.2. Analytical Framework for Urban Regeneration.

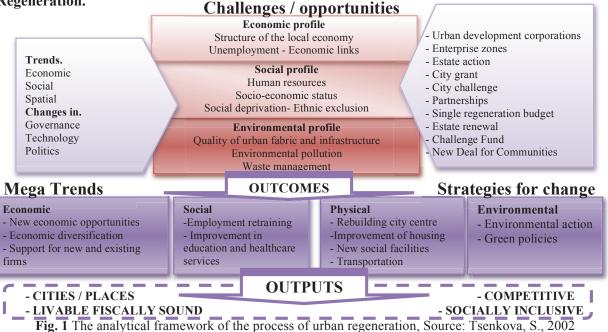
Here, the study explains an analytical framework to guide the comparative analysis of urban regeneration to capture the dynamics of a significant diversity of regeneration initiatives and approaches. Fig. 1 presents this analytical approach [4].

2.2.1. Megatrends.

Urban regeneration needs to be understood in the context of significant shifts in the economy that are beyond the control of particular localities. These sectoral changes are driven by a rapid decline of manufacturing activity and employment of semiskilled workers, contrasted by growth in the financial services. The result is a "two- speed economy" coupled with deterioration of the urban fabric in poor communities, which accelerates the spiral of urban decline [5].

2.2.2. Response to challenges.

The challenges that confront urban regeneration vary from place to place and over time; different areas have a set of unique opportunities that translate into different priorities and strategies for change. Economic restructuring, unemployment, social deprivation and exclusion, as well as problems related obsolete infrastructure, to contaminated land and environmental pollution often define the content of the regeneration process and its operation [6]. The immediate effects of urban regeneration strategies can be grouped in four categories: economic, social, physical and environmental. In looking for ways to define longterm success, the following statement appears to be the key: cities/ places become economically competitive, liveable, fiscally sound and socially inclusive [7].



E-ISSN: 2944-9006

2.3. Key Success Factors.

Successful regeneration seems to involve a process of balanced incremental development, in which a combination of pilot projects and flagship schemes is used to attract and establish new uses for redundant space. Proactive planning concerned with economic, social, physical and environmental development can assist the process. Although each city/place is unique, five key factors are instrumental for success [4]:

- Partnerships are the modus operandi of urban regeneration and have proved to be a powerful vehicle for accelerating the process of change.

- The public sector has a key role in providing strong leadership, and needs to ensure that positive synergies arise from different strategies and programs.

- Public investment is a catalyst for change; regeneration should provide a ladder of opportunities for private sector engagement and community participation.

- Regeneration people, rather than places, although difficult to achieve, need to be the primary goal of regeneration initiatives and sustainability of results is the key.

3. International Experiments in Urban Regeneration Projects.

This study focuses on the evolution of urban regeneration and the public-private partnerships models that have contributed to its success. It aims at exploring regeneration outcomes in a comparative perspective using evidence from urban centres

3.1. Institutional Framework.

The institutional framework draws the objectives, the hypothesis, and the methodology of the analysis

of the related projects and the criteria of the selection process of the case studies.

3.1.1. Objectives of the analysis of similar projects.

The research is aiming to achieve the following objectives:

- Analyse the evolution of the partnership framework and regeneration processes implemented in several places since the 1990s.

- Evaluate the results of urban regeneration policies in London and Lebanon with an emphasis on economic, social, environmental, and physical impacts.

- Identify the main elements of a successful publicprivate partnership model in the context of urban regeneration.

3.1.2. Hypothesis of the research.

The research proposes a model for "Development Body" of the regeneration strategies and process, that has contributed to its success, and that is the responsible of the authority of the regeneration. Public private partnership models are the main elements in successful urban regeneration projects.

3.1.3. Methodology of the analysis of related projects.

The methodology of this part combined qualitative and quantitative methods. A theoretical study review was conducted to bring together theoretical concepts on urban regeneration and public private partnership. The study used the theoretical, analytical framework of the process of urban regeneration to draw the institutional framework of analysing the selected case studies, see fig. 2.



Fig. 2 The relationship between the theoretical analytical framework of the process of urban regeneration and the used institutional framework in analysing the case studies. Source: The researchers

The study assisted the development of an analytical framework and selection of appropriate case studies. The selection process was based upon the following criteria:

- To allow the exploration of a diversity of regeneration programs which addressing a variety of social, economic, environmental, and physical problems.

- Regeneration results and achievements that were recognized as successful by scholars, public officials, community groups and the business community.

- Where regeneration was delivered through publicprivate partnership that allowed the results of regeneration efforts to be sustained over time

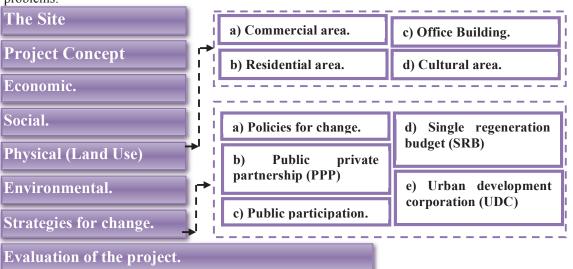


Fig. 3 Institutional framework for analysing similar projects of urban regeneration Source: The researchers

3.2. London: Canary Wharf City Centre [8 to 17]

3.2.1. Introduction.

Canary Wharf is a large commercial development that challenges London's traditional financial centre, The Square Mile. Canary Wharf contains the UK's three tallest buildings: One

In summary, the focus has been on successful urban experiences with regeneration programs, where diversity of approaches, sustainability of results and partnerships were the key. A case study approach was chosen to illustrate the diversity of results as they relate to urban policy evolution in general, and the shift from welfare planning regimes to market based planning policies. Further, the case studies allowed in-depth exploration of changes in urban regeneration policy and practice and better understanding of local dynamics. Fig. 3 shows the institutional framework for analysing related projects of urban regeneration.

Canada Square (a.k.a. the Canary Wharf Tower) at 235.1 m; and the HSBC Tower and the Citigroup Centre joint second tallest at 199.5 m.

3.2.2. The site. Isle of Dogs in the London Borough of Tower Hamlets, see fig.(4a,4b).



 Fig. 4a The site of Canary Wharf
 Fig. 4b Tower Hamlets in London Docklands

 Source: http://www.shortbreaks.com/destination/tower hamlets

3.2.3. Project concept.

Water basins in the region were the basis of this development and the surrounding business, which



Fig. 7 Wood Wharf master plan Source: http://www.canarywharf.com

3.2.4. Economic.

Canary Wharf, one of five main business centres in the city of London, had been started its regeneration from 1967, see fig.6. It consists mainly of companies and business offices, markets,



Fig. 6 Development phasing of Canary Wharf Source: http://aap.cornell.edu/crp/outreach/ upload/TGI_Canary_Wharf_Case_ Study.pdf

3.2.5. Social.

Canary wharf is more than a place to work, it is also a great place to relax and socialize. With 680.000 sq ft of retail space, it is the second largest shopping centre inside the M25. The mix of cafes, and restaurants create the ultimate working lifestyle.

3.2.6. Physical (Land use).

Skyscrapers in the region has a very high rises and the region containing the highest three

gives the region its rich and different character. The footage shows how to use water bodies for the enrichment of the built environment. See fig. 5.



Fig. 5 Urban spaces and pools of water in Canary Wharf. Source:http://www.canarywharf.com/Documents/Pdf/cont ent-visit-us/shopping/store-map/Store.pdf

health clubs, conference centres, open areas. The project provides office space 2120000 and about 100,000 jobs; it is also the leading commercial centre, fig.7 shows Wood Wharf master plan.



buildings in the United Kingdom, one Canada square with a height up to 235 m, HSBC Tower with a height up to 200 m and the Citigroup Centre with a height up to 200m. The built area designed above the massive underground infrastructure (Garages - Metro stations - shops) and so the streets in the region are risen up from the ground level of 3 to 6 meters. The area offers many business and recreational, cultural and educational services, as shown in table 1.

Table 1 Land uses in Canary Wharf

Use	No.	Use	No.
Office buildings	24	Health clubs	2
Shopping centre & Malls	6	Open spaces & green areas	19
Conference centres	2	Parking	5

a) Commercial area. The perfect mix of cafes, bars and restaurants create the ultimate working lifestyle. (90 shops - 4 medical centres and 3 health clubs - 3 supermarkets and 8 banks - 65 cafes, bars and restaurant - 20 acres of landscaped open space - Dockside footbaths)

b) Residential area. There is no residential life in Canary Wharf.

c) Office Building. On the 17th of July 1987, Olympia and York Canary Wharf Investments and the LDDC signed the Master Building Agreement for a 12.2 million sq ft (1.2 million sq. m.) and £3 billion costing international financial centre because so many banks had spent years trying without success to locate suitable space close to the financial heart of London.

d) Cultural area. Canary wharf has a vibrant cultural life, with around 180 indoor and outdoor events each year-as well as concerts and festivals. There are regular sporting events, comedy shows and 40 permanents art exhibition spaces.

3.2.7. Environmental.

Canary Wharf is a founder member of the UK Green Building Council, which champions sustainable building design. The environmental management system has been restructured to better align internal management resources and thus enable them to improve on previous performance and demonstrated the importance they place upon environmental issues throughout the group. The Estate has a number of green spaces both at ground level and in the form of Green Roofs.

3.2.8. Strategies for change. They are the development bodies of the regeneration process, which make the project come true.

a) Policies for change.

LDDC depended on some policies to develop Canary Wharf; these policies are conservation, redevelopment, regeneration, rehabilitation, and revitalization.

b) Public private Partnership (PPP).

The new national force for regeneration was instrumental in broadening the scope and the content of regeneration efforts through PPP. In London, English Partnerships capitalized on the legacy of LDDC and the partners were:

- Reichmann brothers of Olympia and York.

- London Docklands Development Corporation (LDDC)

- SOM	- The City of London		
- Local leaders	-	Green	Building
	Council.		

c) Public participation: Canary Wharf Group PLC lost the public participation in the project of Canary Wharf Development. The idea of a new financial

services district was not popular with local residents as the expectation was that the development would provide no local jobs or transport improvements. However, over the course of the development, the relations with the local community have improved and more than 7,000 local (Tower Hamlets) residents work at Canary Wharf.

d) Single regeneration budget (SRB).

A comprehensive approach to regeneration was funded through:

- Participation between the public and private sectors.

- London Docklands Development, Reichmann brothers of Olympia and York.

e) Urban development corporation (UDC).

Lunched at 1980, The London Docklands Development Corporation was created by the local Government Planning and Land Act 1980.Canary Wharf Group plc ('Group') is a distinctive, integrated property development, investment and management group of companies, focused on the design, construction, leasing and management of Grade A office space and high-quality retail and leisure facilities on the 35-hectare Canary Wharf Estate and more recently, elsewhere in London.

3.2.9. Evaluation of the project.

Canary Wharf has been undergoing a profound physical and economical transportation over the last 30 to 40 years. Its image has changed completely, in a positive way. This is in itself a great success. The regeneration process has, by some aspects, been quite exemplary. The strong points in the experiment of Canary Wharf regeneration can be listed as:

1. The most immediate impact of Canary Wharf has been to substantially increase land values in the surrounding area.

2. At the metropolitan level, Canary Wharf was, and remains, a direct challenge to the primacy of the City of London as the UK's principal centre for the finance industry.

3. Canary Wharf could be cited as the strongest single symbol of the changed economic geography of the United Kingdom.

4. The "Big Bang" deregulation of financial services in London radically changed the way merchant banks operated.

5. Canary wharf projected overall working population of 7.000 people by 1993, which reach to 55.000 people by 2002 and 90.000 people till now.

6. The project is one of the famous examples of the successful urban regeneration schemes, which express the partnership between the public and private sectors.

3.3. Lebanon: Beirut City Centre (BCD)^[18: 22] **3.3.1. Introduction.**

Beirut is the capital, largest city and main seaport of Lebanon, which located between east and west. The city was long ago discovered as a port on east west cross roads for trading and business purposes. Today, the city is also an important banking centre with free currency exchange; Beirut provides employment in trade, banking, construction, import-export and services industries.

Beirut had undergone major reconstruction in recent years and despite the Israel-Lebanon conflict in 2006, the city regained its status as a tourist, cultural, intellectual and commercial centre of the Middle East. Therefore, the Ministry of Tourism

aptly describes Beirut as "The City That Would Never Die".

3.3.2. The site.

The Beirut Central District involves a surface area of approximately 1.8 million sq m, see fig. 8, 9.

3.3.3. Project concept.

The 4.69 million square meters (50.5 million square feet) of built –up space that were developed or reconstructed were parcelled out to ensure that the BCD enjoys a wide variety of activities. The elements of the plans are financial and office centres commanding superb views of the sea and mountains, hotels, commercial and cultural centres, public parks, pedestrian zed areas, and tree-lined promenade on the sea front. Nearly half of the built-up area was reserved for residential development.



Fig. 8 Solidere BCD consists of 5 districts. Source: http://almashriq.hiof.no/lebanon/900/930/9 30.1/ph/ph-index.html

Fig. 9 Aerial view of the BCD, 1995 Limit of the BCD Source: Soldier The Development And Reconstruction of the BCD", Beirut, Lebanon, (Information Report)

3.3.4. Economic.

The economy of the nation can be seen in two lights, a dynamic growth market and a one that is weighed down by a mammoth public debt. Lebanon is a financial centre in the region with a strong private banking system open to foreign investment and large bank deposits with Beirut being its commercial Mecca.

The tourism industry, seen as the primary solution to boost the economy, was hit hard by Hariri's assassination. However, with the plethora of restaurants, hotels, sun, sea and sand, Beirut is fast becoming one of the Middle East's leading tourist centres.

3.3.5. Social (How to Enjoy Beirut City Centre?)

The possibilities are endless like concerts and theatre performances, a children's interactive museum, chess tournaments, exhibitions, conferences, gala dinners at the Roman Baths, fashion shows, music festivals, shopping festivals, street markets, marathons and sports competitions.

3.3.6. Physical (Land use).

Fig.10 shows the land use analysis in Beirut City Centre. The development of Beirut City Centre Project covers 472 acres as follows: 292 acres of the original city and 180 acres to extend the reclaimed area from the sea, divided as shown in Table 2.

Roads	146 acres	31%			
Green areas	96 acres	20.3%			
Development area	230 acres	48.7%			
Public and religious property	54 acres				
Commercial areas	39 acres: 13 acres markets, 4 acres Open spaces, 2900 parking	3%			

Table 2 Land uses in Beirut City Centre

EARTH SCIENCES AND HUMAN CONSTRUCTIONS DOI: 10.37394/232024.2021.1.2



Fig. 10 Land use in Beirut city centre Source: www.Solidere.com

a) Commercial area. The reconstruction of pedestrian souks was a catalyst for the development of specialized retail and small businesses. The Beirut Souks is a 100,000 m2 commercial and leisure complex, destined to be a major magnet in

the city centre. **b)** Residential area. Traditionally an integral component of the BCD, residential buildings established a necessary continuity with adjacent residential areas outside the Central District and contributed to keeping the centre alive outside business hours. The housing shortage in Beirut, along with the planned attractive urban environment, made the BCD residential facilities all more needed.

c) Financial and Business area. In the modern financial centre planned on the sea front, national

and international companies have a prestigious location for their headquarters or local branches. This centre is equipped with sophisticated infrastructure facilities and is easily accessible from the airport and other parts of the city. The Central District houses the refurbished Parliament building, as well as several ministries and public offices.

Mohamed M. El-Barmelov.

Ahmad M. Shalaby, Usama A. Nassar, Shimaa M. Ali

d) Cultural area. The program for the preservation of the Central District's historical and archaeological features, these facilities are very likely to be attracted to the BCD.

- Exhibitions, conferences are regularly organized in the city center. Their origin is local, regional or international. Venues range from specialized art galleries to historic buildings, media headquarters, dedicated exhibition centers, or open spaces.



Fig. 11 Places for the pedestrian (squares- pedestrian streets) in Beirut CBD Source: www.Solidere.com

3.3.7. Environnemental.

According to World Bank estimates, the status of natural resources accounts for 2 - 3% of GDP losses. Within this context, the Italian Cooperation chose the environment as one of its priority areas of intervention. Financed projects tackle the most critical issues; growth of land area covered by forest, solid and liquid urban waste management, water sources management, promotion of renewable energy sources.

3.3.8. Strategies for change.

They are the development bodies of the regeneration process, which make the project come true.

a) Policies for change.

Solidere depended on some policies to develop The CBD; these policies are development, restoration, reclamation, renovation, reconstruction, new development, conservation, and revitalization.

b) Public private partnership (PPP).

In Lebanon, Lebanese Partnerships capitalized on the legacy of CBD and the critical mass of propertyled regeneration created over the years. The agency retained similar powers and successfully managed the regeneration of the Beirut Down Town, and the were SOLIDERE. right holders partners (proprietors, tenants, lease-holders) in the BCD, Lebanese nationals and purely Lebanese companies, the Lebanese state, Lebanese public institutions, the Beirut municipality, persons of Lebanese origin, public and semi-public Arab institutions. international institutions and universities, the Italian corporation and The World Bank.

c) Public participation. The role of public participation in development and reconstruction project in central Beirut district is limited to participation of funding source, through individual

or corporations with rights therein, against their real estate property contributions. Following decisions by appraisal committees, a Higher Appraisal Committee placed the final figure on all private real estate value in the BCD at US\$1.17 billion.

d) Single regeneration budget (SRB).

1- SOLIDERE's capital share is made up of common stock of two types, (A) and (B), totalling \$1.82 billion at incorporation.

2- SOLIDERE. 3-Self-financing. 4-Loans from the World Bank

e) Urban development corporation (UDC).

SOLIDERE, joint-stock corporation, а established formally on May 5, 1994. It is an association of property right holders and investors. SOLIDERE acts as a strategic partner, providing about market conditions information and development briefs, and accommodating investors' needs. It sometimes sells land with a real estate program, architectural design, and possibly a development package. It is responsible for these works: infrastructure works, real estate development and property management.

3.3.9. Evaluation of the project.

BCD has been undergoing a profound physical and economical transformation over the last 20 years. Its image had changed completely, in a positive way. This is in itself a great success. The regeneration process has been quite exemplary. The strong points in the experiment of BCD regeneration can be listed as:

1. The development of BCD was sponsored by the government within a comprehensive national plan and depended on developing the new water front district.

2. Establishing an administrative structure responsible for the project (SOLIDERE).

3. Maintaining the identity of Lebanon: SOLIDERE have identified priorities of the new participants in the project shares, depending on public participation in the project. 4. The development and reconstruction of the BCD accompanied an expansion of the Lebanese economy totalling \$30 billion in the few years after starting the project.

5. The population of Greater Beirut, today estimated at 1.5 million, is increasing yearly at a rate of 2.5 to 3 per cent because of the development of down town project.

4.Learned Lessons From The Regeneration Experiences.

The previous sections have introduced the two selected similar projects (London-Beirut) explaining

their concepts, objectives, economic, social, physical, environmental profiles, and strategies for changes to study the impact of the urban regeneration projects in valuable lands, to simulate these urban projects in the Egyptian cities. Consequently the next section will be mainly concerned with presenting some actual numbers of the evaluation reports to measure the success of these projects.

4.1. Highlights From The Case Studies.

First, according to the Evaluation Report of Canary Wharf "Corporate responsibility 2011": [23]

- The success of Canary Wharf is unprecedented. The district is now an employment hub for East London and a catalyst for its broader regeneration, attracting high-density urban living. As Canary Wharf enters its third decade of planning and building, SOM continues to play a key role in guiding its growth.

- With the new construction, the number of people working in Canary Wharf is set to rise to 100,000 by 2009 (CWG estimate) and to 200,000 by 2025.

- Canary Wharf's national significance comes from what it replaces: the former docks were, as recently as 1961, the busiest in the world. They served huge industrial areas of east London and beyond. Both the docks and much of that industrial capacity are gone, with employment shifting to the service industry accommodated in office buildings. In this respect, Canary Wharf could be cited as the strongest single symbol of the changed economic geography of the United Kingdom.

Second, according to the Solidere annual report 2012, an accounts of facts and events in the reconstruction and development of Beirut City Centre": [24]

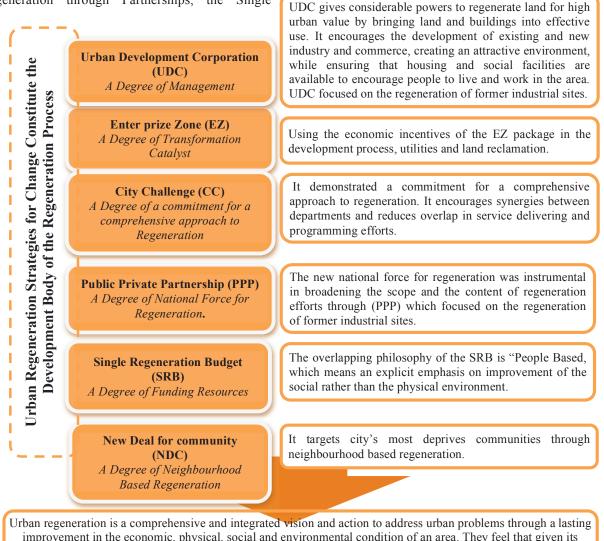
- Beirut city center has evolved around a site continuously inhabited for over 5,000 years. While respecting this past, its reconstruction and development is creating a modern district, spreading over 191 hectares of land, one-third on reclaimed land.

- The exploitation of the impressive archaeological inventory had been discovered in an exhibition called days of archaeological displayed relics unearthed in 1995, which has attracted about 122.000 visitors in the 15 days.

- Because of post-war reconstruction, Lebanese entrepreneurs and representatives of foreign concerns return to Lebanon. Before the war, some 80.000 foreign families resided in Lebanon and this figure rise to 100.000 during the reconstruction process.

4.2. The Development Body.

Whilst traditionally many forms of intervention were state-led, the desirability of intervening to recycle urban land or to deal with market failure has increasingly become a matter of public-private consensus. This shift to new ways of mobilizing collective effort has encouraged a diversity of responses with a particular emphasis on PPP. Regeneration through Partnerships, the Single Regeneration Budget (SRB), the New Deal for Communities (NDC) and other approaches, has marked a transition to a more participatory historic process. These approaches are the development bodies of the regeneration process that make the project come true. Fig. 12 presents the proposed development body for controlling the authority of the regeneration process.



improvement in the economic, physical, social and environmental condition of an area. They feel that given its emphasis on partnership and strategic approach, it can perform an enabling role in achieving sustainability.

Fig. 12 presents the proposed development body for controlling the authority of the regeneration process. Source: The Researchers

Conclusions.

Urban regeneration is one of the most important strategies to address inner city decline and deprivation. Urban deprivation in the last forty years has been addressed through economic and planning policies geared to physical and economic renewal and revitalization of local areas. Another more inclusive definition of urban regeneration, urban regeneration is a comprehensive and integrated vision and action to address urban problems through a lasting improvement in many aspects of the area.

Unlike earlier ad hoc attempts to develop and implement urban regeneration, recent programs and strategies for change have emphasized strategic approaches. A clear vision is fundamental to urban regeneration and is likely to continue to be a hallmark of successful regeneration scheme. However, it also implies the need for strategic longterm resource commitments, which still appears to be beyond the delivery capabilities of many public and private sector bodies.

Experience has shown that because regeneration is often seen as creating islands of excellence in design, strategies for change fail to turn visions into successful outcomes. The key to the process is balanced incremental development, where new uses are attracted to the area, new investors and partnerships are established and the risk is carefully managed. Public investment in infrastructure needs to be carefully orchestrated to leverage additional flow of capital, to generate investors' confidence and a critical mass of development. The cumulative effect of well-coordinated strategies for change establishes a threshold when private investment starts to flow into the area-a classic example of how the whole can be greater than summation its parts.

Successful regeneration seems to involve a process of balanced incremental development, in which a combination of pilot projects and flagship schemes is used to attract and establish new uses for redundant space. Although each city/place is unique, five key factors are instrumental for success: partnerships, the public sector, public investment, regeneration people, and sustainability of results.

References.

[1].Roberts, P. and Sykes, H., 2000, "Urban regeneration: a handbook", The Department of Urbanism, Faculty of Architecture, Delft University of Technology (TU Delft).

[2].Chigbu, U.E., 2012, "Village renewal as an instrument of rural development: evidence from Weyarn, Germany", Community Development, p. 43 (2): 209–224.

[3].Department of the Environment, Transport and the Regions (DETR). Available on: http://www.isecoeco.org/department-of-the-

environment-transport-and-the-regions-detr/

[4].Tsenkova, S., 2001, "Urban Regeneration: Learning From The British Experience", Faculty of Environmental Design, University of Calgary, p.1.
[5].Moss, L., 2012, "Change your city: Top 10 Urban Transformation Projects". TED City 2.0

Conference.

[6].Bloxham, T., 2011, "Challenges Facing our Cities' Regeneration", BBC News Online.

[7].Nobre, A.C., 1994, "Towards a better approach to urban regeneration: defining strategies for intervention in the central area of Sao Paulo", Master of Arts Degree in Urban Design, Joint Centre for Urban Design ,Schools of Arch. & planning, Oxford Brooks University.

[8].Isyumov,N., Mikitiuk M., Garnham D., April 2001, "A study of the pedestrian level wind environment ",Jubilee Park , Canary Wharf , London, England, The university of Western Ontario , Faculty of Engineering Science , London, Ontario, Canada. Available on: www.blwtl.uwo.ca [9].http://www.canarywharf.com/

[10].http://en.wikipedia.org/wiki/Canary_Wharf

[11].http://www.skyscrapernews.com/googleearth. php

[12].http://en.wikipedia.org/wiki/Canary_Wharf

[13].http://www.tfl.gov.uk/dlr/stations/canary_wha rf.

[14].http://www.londonvolleyball.org/search_map. asp

[15].http://www.canarywharf.com/Documents/Pdf/ content-visi

[16].http://aap.cornell.edu/crp/outreach/upload/TG I_Canary_Wharf_Case_Study.pdf

[17].http://www.tfl.gov.uk/gettingaround/transport accessibility/dlr/3267.aspx

[18].http://www.solidere.com/

[19].Lebanese Company for the Development and Reconstruction of Beirut Central District, S.a.i, "The development and reconstruction of the Beirut Central District", Beirut, Lebanon, (Information Report).

[20].Gavin A., 2011, "Solidere and SI: private sector urban development", City Development Strategies Conference, Barcelona, March 2011. http://cmimarseille.org/_src/UD1_wk1/UD1_wk1_ S3_Gavin.pdf

[21].Gaia Heritage, 2005, "Beirut City Centre: a cultural strategy for Beirut with a special focus on Martyrs' square corridor", Study undertaken in the framework of the contract between the Urban Development Division of Solidere s.a.l, and GAIA-heritage s.a.l for the development of Martyrs' Square Corridor and the creation of major cultural projects. \

Mohamed M. El-Barmelgy, Ahmad M. Shalaby, Usama A. Nassar, Shimaa M. Ali

[22].The Most Clearing House-Best Practices Database, "The development and reconstruction of the City Centre of Beirut, Lebanon" Best Practices for Human Settlements. Available on: http://www.unesco.org/most/mideast5.htm.

[23].Corporate responsibility 2011,the report was produced by the help of the following local supplies: Design and project management, Printing; park communications limited.

[24].Solidere annual report 2012, accounts of facts and events in the construction and development of Beirut City Centre.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0 https://creativecommons.org/licenses/by/4.0/deed.en_US