



Cairo University

PRINCIPLES FOR A SUCCESSFUL RIVERFRONT REGENERATION WITH SPECIAL REFERENCE TO CAIRO

By

Hoda Assem Nour El-Din Mostafa El-Halaby

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Architectural Engineering

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Title of Thesis:

Principles For A Successful Riverfront Regeneration With Special Reference To Cairo

Key Words:

Waterfront; Regeneration; principles; Cairo.

Summary:

This research aims at finding a comprehensive set of principles to follow for a successful waterfront regeneration with special reference to Cairo. Based on a three phase deductive methodology, data is collected and analyzed from both literature and examples then validated through survey and interviews to reach an updated set of principles for riverfront regeneration in Cairo.

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Dedication

To my beloved ones may our paths lead us to reunite in heaven.

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Abstract

Waterfronts are magical places, and Cairo is blessed with the magnificent River Nile, and as we are in the beginning of the 21 century waterfront areas are facing unprecedented challenges. Urban planners along with urban management entities of cities find that they need to reach a balance between the pressure of development , the needs for tourism , the socio economic needs of citizens for open spaces, the whole city residence , as well as, the financial burdens of operation and maintenance. The current situation is not the best case, a large portion of the river banks are either privatized, poorly managed or have an entrance fee, moreover there are several organizations that control the development of the waterfront which makes the case even harder. Moreover there are no specific combined rules for the waterfront regeneration, and thus the aim of this research is to find the set of principles to follow for a successful regeneration of Cairo's waterfront.

The aim is achieved through a deductive methodology; data is gathered through three ways reaching a triangulation of data sets. In the first part secondary data is gathered through a review of the literature to find the principles for successful waterfront regeneration. In the second part the principles are extracted from four successful examples of waterfront regeneration on a river in a major city. The principles are divided in to sub groups environmental, urban, social, branding, financial, managerial, economic and political. The data from the previous sources are combined then the outcome is a set of comprehensive principles that are not specific to Cairo. In the final stage an online survey and in-depth interviews with experts is undertaken to tailor the deduced principles of previous stage to the case of Cairo.

The conclusions of the research is a set of principles that can be a guide for future designers, developers and governmental authorities when considering a waterfront regeneration for Cairo to insure a successful and sustainable riverfront regeneration plan.

Chapter 1 Introduction to Research

1.1. Introduction

Waterfronts are the heart of cities and the site where civilizations began. A water source is essential for living and agriculture, later used for transportation increasing connectivity between cities, and as industrialization evolved, ports took over several waterfronts and in time and due to the technological changes numerous waterfronts were left behind abandoned and polluted.

In the 1970's the United States started the wave of waterfront regeneration in a call for the cities to reclaim their edges and bring them back to life, the movement was followed by the United Kingdom in the 80's and other countries after that. Today finally the issue is raised in the developing countries, and it is time to use all the data possible and learn by example to come out with the best probable practice.

Egypt surrounded by both the Red sea and Mediterranean Sea where the Nile River runs to reach its last destination into it. With such an extended waterfront and a long history of cities and villages with waterfronts, Egypt has an immense prospect for waterfront regeneration. However, we are facing trends of privatization, abandonment and pollution of waterfronts.

Greater Cairo with a population of over twenty-one million¹ is one of the densest metropolises in the world however its urban population is underserved with parks and other public open spaces, and the Nile's waterfront regeneration holds a great opportunity for reconnecting the citizens to their city and the people with the river that was historically the heart². Thus significantly improving their daily lives, allowing them a breath out contributing to their development in all areas³, providing equity of society and strengthening of the social fabric.

Although there are some plans and pilot projects for the Nile's regeneration in Cairo today, however due to the lack of financial support, rules and principles, stakeholder approval and participation, the results are old fetched and superficial.

Thus this research aims at providing a set of principles for a successful and sustainable riverfront regeneration validated to Cairo's specific case to be used by developers, designers, and authorities for an optimum outcome.

¹ CAPMAS: Central Agency for Public Mobilization and Statistics, 2017.

² G Mathias Kondolf, Rachael Marzion, and Louise Mazingo, *Connecting Cairo to the Nile*, 2011.

³ Mauricio Hernández Bonilla, "The Significance and Meanings of Public Space Improvement in Low-Income Neighbourhoods 'Colonias Populares' in Xalapa-Mexico," *Habitat International* 38, no. 1 (2013): 34–46, doi:10.1016/j.habitatint.2012.09.003.

1.2. Research Problem

The Nile's waterfront is occupied by many uses, formal and informal, residential commercial, industrial and recreational, but many of such land uses are private developments thus inaccessible for the public who find their refuge in the urban bridges.

Like many rivers, the current conditions along the Nile reflect a pattern of neglect that in return generates a behavior that adds to the river's environmental deterioration. However this condition was typical of other urban rivers across the world such as the Thames through London or the Hudson in New York City, The Nile in Cairo is no different than any of these rivers a few decades ago and perhaps even a bit better as industrial pollution is not as intense. As the current conditions demonstrate, the Thames and Hudson have markedly improved in both water quality and edge conditions through a steady combination of public awareness, regulation enforcement, strategic improvements, public access, and ongoing efforts at both the public and official levels. This is possible in Cairo as well.

However as searched by Basel Studio⁴ and shown in the following figures only minimal sectors are accessible to the public.

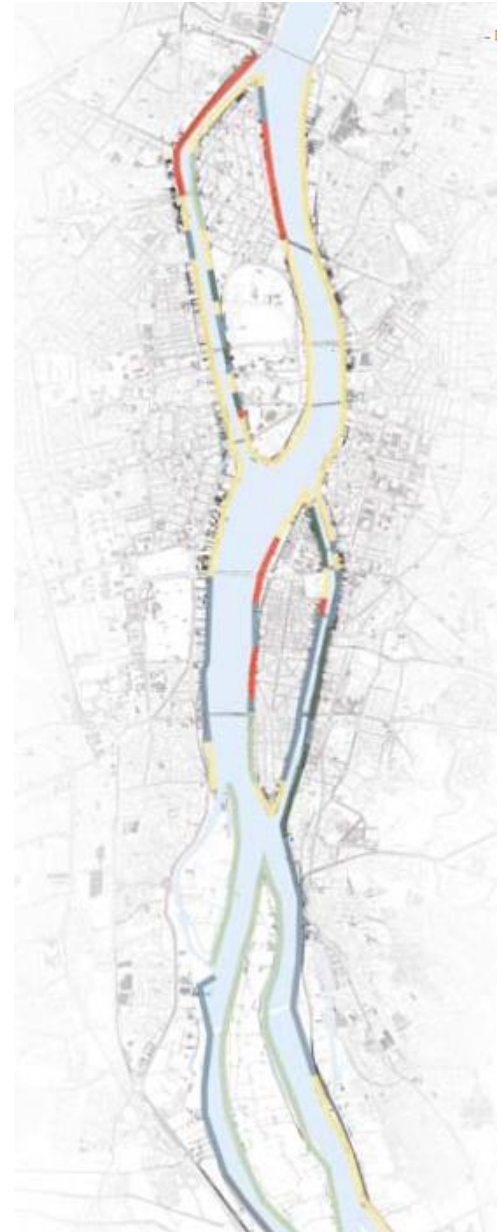


Figure 1: Accessibility to Cairo's Riverfront
Source: E T H Studio Basel, *Studio Nile Valley – Urbanization of Limited Resources*, 2009.

⁴ Herzog Jacques et al., "Islands of the Nile," *Studio-Basel.Com*, 2010.

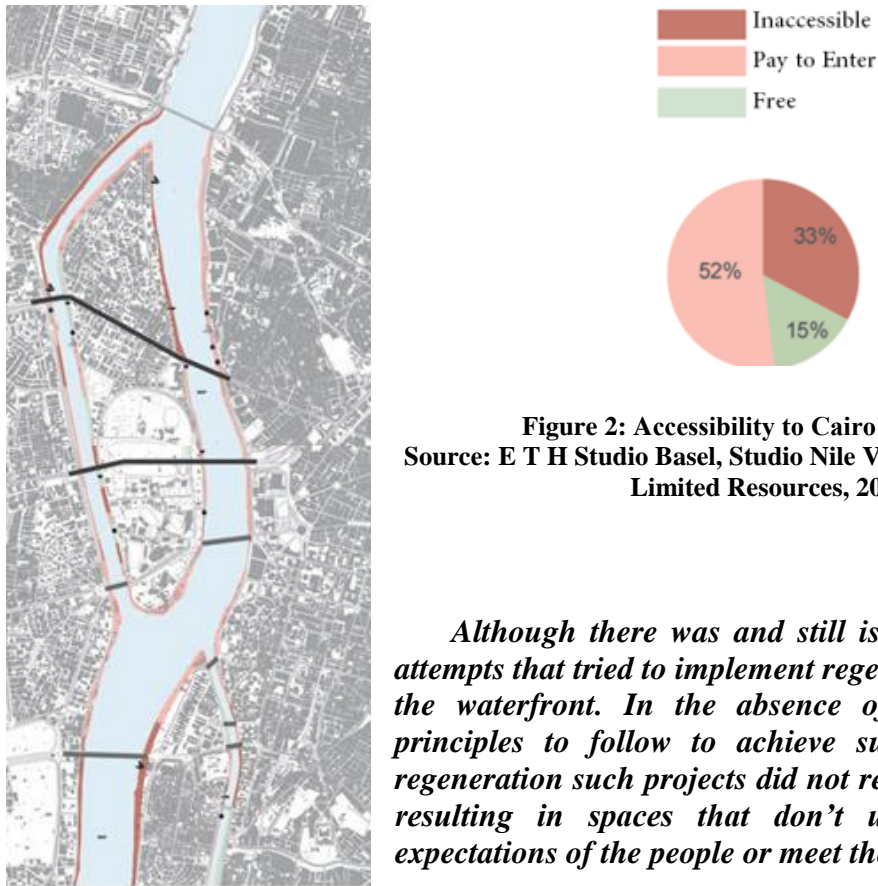


Figure 2: Accessibility to Cairo's Riverfront
Source: E T H Studio Basel, Studio Nile Valley – Urbanization of Limited Resources, 2009.

Although there was and still is many regeneration attempts that tried to implement regeneration projects for the waterfront. In the absence of a specific set of principles to follow to achieve successful waterfront regeneration such projects did not reach their objectives, resulting in spaces that don't usually rise to the expectations of the people or meet the desired city image.

To understand the problem more a public questionnaire (Shown in Appendix A,B &C) was carried out with 50 respondents of the citizens by the Nile in Cairo, the questionnaire was carried out with a diverse sector to understand the norms and type of user the following is a map with where we met the respondents and where they live.

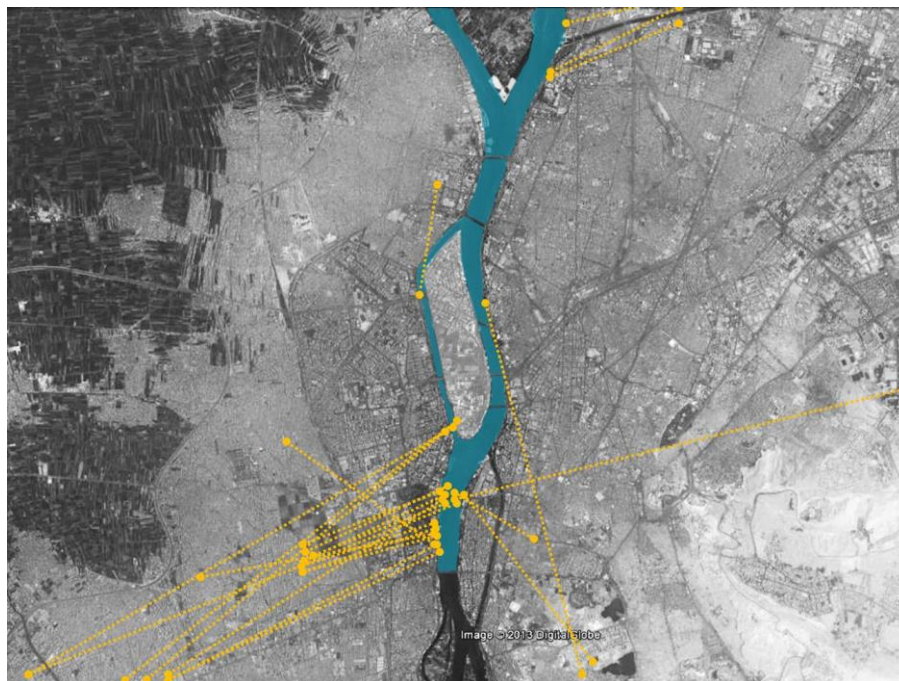


Figure 3: Respondents meeting point and home
Source: Researcher 2016