



ARCHITECTURE RESPONSE TO RISING SEA LEVELS

By

Noha Ali Mahmoud El kordy

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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Under the Supervision of
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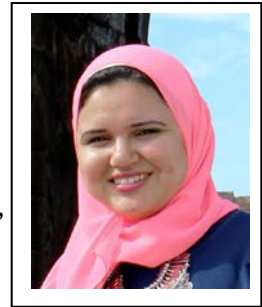
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Key Words:

Sea level rise / Adaptation / Inundation / Floating Architecture / Under Water Architecture

Summary:

Global warming is the greatest threat to the environment. Sea Level Rise (SLR) phenomenon is one of the problems accompanying climate change.

The research starts with scientific data about sea level rise phenomenon, highlighting hazard areas worldwide and on the local level in Egypt Nile Delta. Throughout the research broad solutions to the problem were illustrated "Retreat- defend-attack" strategies. The research adopts the idea of living with water and turning the threat to an opportunity of development promoting floating architectures as a solution to the threat of higher water levels.

Comparative analyses for worldwide case studies in "UK- Netherlands- Bangladesh" were illustrated. The case study application was in Abu Qir village in Alexandria highlighting the problem and defining risks and future hazards then developing recommended design guidelines to solve the problem based on previous studies coming up with general conclusions and recommendations to deal with this future threat.

Acknowledgments

Completing a thesis requires extraordinary persistence, determination, and commitment. Such work is not the result of an individual endeavor and many individuals contributed to this work. Each of them has my sincere gratitude and appreciation.

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Last, but not least, I will never find suitable and expressive words to thank my dear elder brother and friend **Engineer Mohamed el Kordy** for his continuing support, help, guidance and advice in every milestone in my life.

Dedication

My thesis is dedicated to my dear father, May he rest in peace and be pleased with this, He was always my mentor and advisor and a model for wisdom and success. He taught me how to be a successful and an ambitious and challenging person all the way in my professional and academic career and without his guidance I would never have accomplished this research work.

I would like to dedicate this work to interested researchers in the same field, May god make it a worthy and valuable research work.

"عن أبي هريرة -رضي الله عنه- أن رسول الله -صلى الله عليه وسلم- قال: إذا مات ابن آدم انقطع عمله إلا من ثلاث: صدقة جارية، أو علم ينتفع به، أو ولد صالح يدعو له، رواه مسلم"

Water is the origin of humanity and human being.

Water is not something to be controlled but something which is part of the environment that we have to live with.

It is not too soon to start planning for the challenge of higher water levels.

Living on water is essentially no different from living on land, just with a different foundation technique."koen oltuis"

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