LB/20N 27/19-18

# REVITALISING URBAN BACKWATERS

AN EXAMINATION OF STRTERGIES IN MAKING NEGLECTED WATER BODIES AS URBAN WATERFRONTS



72"98" 711.76

A DESSERTATION PRESENTED TO THE DEPARTMENT OF ARCHITECTURE, UNIVERSITY OF MORATUWA FOR THE FINAL EXAMINATON M. Sc. (ARCHITECTURE)

69361 Um Thesis Coll.

මෙන්මුව විශ්ව විදහලය. **ගි ලංකාව** මෙන්මුව විශ්ව විදහලය. **ගි ලංකාව** මෙන්මුව,

B. A. BIMBA M. WICKRAMASINGHE DEPARTMENT OF ARCITETURE, UNIVERSITY OF MORATUWA 1998



#### **ACKNOWLEDGEMENTS**

I am profoundly grateful to Dr Samitha Manawadu, Senoir lecturer, Department of Architecture, University of Moratuwa, for all his comments, guidance and inspiration from the initiation of this study.

My deep gratitude to Archt. Ranjith Alahakoon, the Year master M.Sc. Year II, and Archt. Vidura Sri Nammuni, the Year master, M.Sc. year I, Department of Architecture, University of Moratuwa for all their encouragement and inspiration.

I am also grateful to Dr. Dayananda Waduge and Arch. Kapila Silva Lectures of Department of Archtecure, University of Moratuwa, for their guidance and valuable comments they given to me throughout the study.

Especially I must thank Arch: Prasanna Silva, Mrs.Ester Basnayake, of Urban Development Authority for providing me sufficient information and guidance for the success of the course.

I would wish to thank Mr. K.D. Fernando senior Lecture department of Town and country Planning, University of Moratuwa. Also my sincere thanks to Mr. Alahakoon of the technical staff of the University of Moratuwa.

My warmest thanks to my friends and colleagues, Surangi, Prasanna and Ravin for their kind support and especially to Mangalika & Aruna for their constant support in numerous ways in the completion of the study.

Very special thank to Sudarshana for his all supports and encouragement through out the study by being the contestant force behind me.

Finally, for my dear parents for their encouragement and support.

#### **CONTENTS**

## Acknowledgements

## INTRODUCTION

- 1. Topic explanation
- 2. The need of the study
- 3. Aims ad Objectives
- 4. Methodology
- 5. Scope and limitations

#### **CHAPTER ONE – SOUL OF WATERS:**

An Exploration of Distinctive Living Dimensions of Waters

1.0. Preface	•
1.1.The Living Waters	2
1.2. Living Dimensions of Waters Towards Man	3
1.2.1. Physical Dimensions of Waters	3
1.2.1.1. Means of Survival	3
1.2.1.2. A Basis for Settlements	4
1.2.1.3. Means of Utility	4
1.2.1.4. Means of Transport	4
1.2.1.5. Source of Defence	6
1.2.2. Psychological Dimensions of Waters	7
1.2.2 1. The Perceptual Dimension	7
1.2.2.2. The Conceptual Dimension	8
1.2.2.3. The Symbolic Dimension	10
1.2.2.4. The Psycho-Functional Dimension	12
1.2.3. Social Dimensions of Waters	12
1.2.3.1.Direct and Active Form	12
1.2.3.2. Indirect and Passive Form	14

1.3.1. Finite Waters	15
1.3.1.1. Lakes and Pools	15
1.3.1.2. Rivers and Canals	16
1.3.2. Infinite Waters	19
1.3.2.1.Seas and Oceans	19
1.4. Living Forms of Waters as Spatial Elements	20
1.4.1. The Space and the Spatial Element	20
1.4.2. Spatial Element of Waters as a Water-space	21
1.5. Water-Space in Two Extreme Living Entities	22
1.5.1. Water-Space in Rural Entity	
1.5.1.1. The Rural Attributes	23
1.5.1.2. Collision of the Water-Space	23
1.5.2. Water-Space in Urban Entity	
1.5.2.1. The Urban Attributes	25
1.5.2.2. Collision of the Water-Space	26
1.6. Water-Space as a Place in the Living Entity	26
1.6.1. From Space to Place	27
1.6.2. Water-space as a Place	27
1.7. Water-Space from a Place to Placeless-Space	28
CHAPTER TWO-THE LOST SOUL OF WATERS: BACKWA	TERS
An Examination of the Phenomenon of Backwaters with Special	
Reference to Urban Situations	
2.0 Preface	29
2.1 The Concept of <i>Backwaters</i>	30
2.1.1. The Meaning of Backwaters	30
2.1.2 The Determinants	30

15

1.3. Living Forms of Waters

2.2. Distinctive Forms of <i>Backwaters</i>	32
2.2.1. Backwaters as a Lost space	32
2.2.2. Backwaters as an Anti-space	33
2.3 Causative Factors for <i>Backwaters</i>	35
2.4. Spatial Characteristics of Backwaters	39
2.4.1 Physical Characteristics	39
2.4.2.Psychological Characteristics	41
2.4.3. Social Characteristics	42
CHAPTER THREE: IN SEARCH OF SOUL OF WATERS	
An Examination of the Two Conceptions of Backwaters as a	
Placeless-Space and Waterfronts as a Place, with Relevant Examples	
3.0 Preface	44
3.1 In Search of <i>Backwaters</i>	45
An Examination of the Lost Souls of Waters in Cities 3.1.1. The Selection Criteria of the Examples	45
3.1.2. An Examination of <i>Backwaters</i> in the Local Domain	45
3.1.2.1.The Beira Lake	46
3.1.2.2.The Kirullapone Canal	51
3.1.3. International Examples of Backwaters	53
3.1.3.1.BostonHarbourfront Boston, U.S.A.	53
3.1.3.2.Goteborg, Sweden	55
3.1.4. Concluding Remarks of Backwaters	58
3.2. In Search of Waterfronts	60
An Examination of the Souls of Cities	
3.2.1. The Basis for the Selection of Examples	60
3.2.2. Waters in the Historic Context	
3.2.2.1. Early Settlements: the City of Babylon	61
3.2.2.2. Milletus: A Greek city	63
3 2 2 3 Kandy Lake Sri Lanka	65

3.2.3. Stirring Waterfronts in the Contemporary World	67
3.2.3.1. Venice:Italy	67
3.2.3.2. Amsterdam: The Netherlands	73
3.2.3.3. Paris: France	76
3.2.4. Waterfronts Re-Developments	79
3.2.4.1. Boston Harbourfront Development: Boston	79
3.2.4.2. Goteborg Waterfront Development: Sweden	82
3.4.Chapter Conclusion	85
CHAPTER FOUR: TOWARDS RE-CREATING THE LOST SOU	J <b>L OF</b>
WATERS	
A Conceptual Approach in Revitalising Backwaters as Waterfronts in	
an Urban Entity	
4.0 Preface	86
4.1 A Conceptual Framework in Revitalising Backwaters	87
4.1.1. The Basis of the Conceptual Framework	87
4.1.2 Examination of the Conceptual Framework	88
4.1.2.1. Response	88
(A). Architectural Response	88
(B). Functional Response	95
4.1.2.2. Accessibility	97
4.1.2.3. Change	99
(A). Change the Meaning	99
(B). Change of Activity/Function	100
(C). Change of Physical Setting	102
4.1.2.4. Publicising	102
4.1.2.5. Linkage	103
(A). Physical Linkage	104
(B). Functional Linkage	105
(B). Visual Linkage	105
4.1.3. The Summery of the Conceptual Framework	106

4.2. A Concept for Revitalising <i>Backwaters</i> into the Urban Context	107
4.2.1. The Background for the Concept	107
4.2.2. The Basis for the Concept	108
4.2.3. The Conception of Backwaters as Water-Squares/Piazzas	109
4.2.3.1 Attributes of a Square	109
4.2.3.2. Backwaters as Water-Square: An Overview	113
4.2.4. The Conception of Backwaters as Water-Streets	117
4.2.4.1. Attributes of a Street	117
4.2.4.2. Backwaters as Water-Streets An Overview	120

#### CONCLUSION 124

# List of Figures and Illustrations

Bibliography University of Moratuwa, Sri Lanka. Electronic Theses & Dissertations www.lib.mrt.ae.lk

