Donated to the Library of the UNIVERSITY OF MORATUWA SRI LANKA by

Colorbo - 5

18/00/11/1/2016 PhD 46.



LIVING SKYLINE

High-Density High-Rise Vertical Living: An Appropriate Housing Solution for Low-Income People in Colombo, Sri Lanka?

UNIVERSITY OF MORATUWA, SRI LANKA
MORATUWA

Submitted in total fulfilment of the requirements of the degree of

Doctor of Philosophy

Presented By

Thushara Chaminda Samaratunga

B.Sc (Estate Management) University of Sri Jayawardanapura, Sri Lanka M.Sc (Urban Housing Management) Lund University, Sweden MUP (Master of Urban Planning) Bond University, Australia

University of Moratuwa



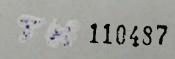
110487

711.5 (043)

Faculty of Business, Technology & Sustainable Development Institute of Sustainable Development and Architecture Bond University

110487

07 March 2012



පුස්තකාලය, මොරටුව විශ්ව විදනලය LIBRARY, UNIVERSITY OF MORATUWA

STATEMENT OF

This book should be returned on or before the last date stamped below.

This thesis contain:	asi hay a see a see		· degree at a
university or other		and the second	:f it contains
no material previou	la villa bull		t where due
reference has been			
JOM Verified Signatur	e		
Thushara Chamind			
Faculty of Business	A.Smillion Lea	Coping Bond Un	ustralia,
March 2012			

ACKNOWLEDGMENTS

Completing the PhD was a journey I had travelled many times in my dreams. I did not embark on this journey alone, because the truth is I would not have travelled far. There are those who have guided me when I got lost, those that have picked me up when I was weary, those that have encouraged me when I had become complacent, and those that have watched from the sidelines and never stopped cheering me on. To all these people I am forever grateful; you have made the completion of this project possible and the journey memorable.

First, I would like to express my appreciation to the Bond University for having given me this opportunity and the necessary financial support to study in Australia. On the successful completion of my study, I extend my thanks to my employer organisation, the Urban Development Authority, who supported me and gave me the opportunity to participate in this course. I would like to thank my supervisor Professor Daniel O'Hear for his wise guidance, knowledgeable criticism, constant encouragement and unfailing support throughout this project. I acknowledge the valuable support, encouragement, enjoyable company and constant help of all my PhD colleagues in the School of Sustainable Development with gratitude. We have shared both difficult and happy times of 'Bond life' and they have enriched my life in the University. I owe special thanks to my senior officers at the Urban Development Authority: Mr Prasanna Silva, Mr Nihal Fernando and Ms Pushpa Gamage for moral support and continued support in overcoming difficulties in logistic matters in my work organisation.

Last but obviously not the least my family deserves a special acknowledgement, especially my beloved wife Disna, my daughter Himara and my little son Rovindu for all their sacrifices and for giving me invaluable moral support, power, strength and continuous love to survive the pressures of 'Bond life'.

Thushara Samaratunga Gold Coast, Queensland Australia 07 March 2012

ABSTRACT

A house is a basic and fundamental human need. In a literal sense, a house provides warmth, shelter and security. Beyond its physical nature, the concept of 'house' is deeply ingrained in human civilisation as the space where the institution of family is nurtured. It is a place that reflects a person's identity, living condition, human values, aspirations, future expectations and one's social and cultural identity. However, despite the global recognition of its importance, many millions of people in the world live either without safe habitable housing or without any housing at all. This situation is common in developing counties, especially in urban areas. The thesis is motivated by a sincere effort to practically address the problems of housing in the city of Colombo, in particular the scarcity of sustainable habitable housing for low-income people. The Colombo City Development Plan (UDA 2008) revealed that there were 66,000 households within the city of Colombo living in under-served settlements considered unfit for human habitation. This figure represents 51 per cent of the city's population (UDA 2008). Since gaining independence in 1948, the Sri Lankan Government has devoted much attention to finding a solution to this situation and has introduced a number of policies, programs and projects to address the issue of under-served settlements with varying degrees of success.

High-rise housing for low-income people is one option that has been chosen by the current Sri Lankan government in the hope of re-housing those who currently live in under-served settlements in Colombo in sustainable, safe and affordable housing. At the time of writing this thesis (2012), the construction of nearly 12,000 high rise housing units has commenced with the aim of constructing 35,000 high rise dwellings within the next three years (UDA 2011). However, the appropriateness of high-rise housing for low-income people is a very controversial topic. Some countries have rejected high-rises as an option for low-income housing due to significant failures in the past while other countries have been very successful

using high-rise housing for low-income people as a way to upgrade the living conditions of the people who live in slums and shanties. Very little research has been done in this sector, especially in Sri Lanka, and this thesis attempts to fill the knowledge gap about the lowincome housing sector in Colombo, discussing the research contribution of the theory, the contribution to the Sri Lankan research and the contribution to the profession. A qualitative research approach was chosen as the most appropriate method for investigating the research problem in depth. This research uses both secondary and primary data collection methods to enhance the quality of the research. Literature review, documentary research. Internet references, case study analysis, observation and key informant interviews are the main data collection strategies which have been used throughout the research. Twelve key informant interviews were conducted with officials in various government ministries, private-sector investors and professionals who are engaged in the housing sector in Colombo city. All participants are senior critical decision-makers and well-known government and private sector experts in the housing field in Sri Lanka. The data and information collected from the key informant interviews, case studies and other sources were scrutinised, edited, coded and analysed using qualitative data-analysing methods. The quality standards of this study take into account construct validity, internal validity, external validity and the study's reliability.

Finally, this research makes recommendations to the professionals and policy-makers who work with high-rise low-income housing on how to minimise the risk associated with high-rise low-income housing in Colombo and open a way of thinking about high-rise low-income housing.

PUBLICATIONS

During the course of this project, two refereed conference papers have been presented based on the work undertaken in this thesis. They are listed here for reference.

- 1. Samaratunga, T. (2009). Rapid Population Growth and Affordable Housing in Colombo city. <u>PIA International Planning Conference</u> Darwin Australia, Planning Institute of Australia
- 2. Samaratunga, T. (2011). Planning for Quality Urban Living and Sustainable Community. <u>PIA International Planning Conference</u> Hobart Australia, Planning Institute of Australia

ABBREVIATIONS

ABBREVIATIONS USED WITHIN THIS DOCUMENT

Abbreviation Definition

AUD Australian Dollars

BOI Board of Investment

BUREC Bond University Research Ethics Committee

COC Certificate of Conformity

CAP community action planning'

CMRSP Colombo Metropolitan Region Structural Plan

CMC Colombo Municipal Council

CTBUH Council on Tall Buildings and Urban Habitat

CBD Central Business District

CEO Chief Executive Officer

GLA Greater London Authority

GBCA Green Building Council of Australia

HLB Housing Loans Board

MHP Million Houses Program

NHDA National Housing Development Authority

NGO Non Governmental Organisations

PIA Planning Institute of Australia

PTFHUD Presidential Task Force on Housing and Urban Development

REEL Real Estate Exchange Limited

STP Sustainable Township Programme

UDA Urban Development Authority

UN United Nation

US United State

URDA Urban Re Development Authority

UNP United National Party

UK United Kingdom

UHDA Urban Housing Development Authority

CONTENTS

A	CKNOWLEDGMENTS	iii	
ΑI	BSTRACT	iv	
уq	JBLICATIONS	vi	
ΑI	BBREVIATIONS	vii	
CC	DNTENTS	viii	
LI	ST OF FIGURES	xiv	
LI	ST OF TABLES	xvi	
1.	CHAPTER 1. INTRODUCTION		
	1.1. Introduction		1
	1.2. Background of the Research Area		3
	1.3. Key Themes and Definitions		3
	1.3.1. High rise		4
	1.3.2. High density		4
	1.3.3. Under-served settlement		5
	1.3.4. Low-income People		5
	1.3.5. Low -income Housing		6
	1.4. Problem Statement		6
	1.5. Research Objectives		10
	1.6. Research Questions		11
	1.7. Other Options for Fixing the Housing Shortage in Colombo		12
	1.8. Research Proposition		13
	1.9. Research Methodology		13
	1.10. Limitations of the Research		14
	1.1. Structure of the Research		15
	1.2. Conclusion		16

2. CHAPTER 2. LITERATURE REVIEW

3

2.1. Introduction	17
2.2. Theoretical Conceptions of House, Dwelling and Home	17
2.3. High-density Building - Theoretical, Technical and Legal Definitions	20
2.4. High-rise Buildings - Theoretical, Technical and Legal Definitions	23
2.4.1. History and Academic Debate on High-rise Development	25
2.5. High-rise Residential Development	31
2.6. High-rise Low-income Housing	35
2.6.1. High-rise Low-Income Housing in the Western World	38
2.7. High-rise Public Housing in Asia	44
2.7.1. High-rise Low-income (Public) Housing in Sri Lanka	47
2.8. The Academic Debate about High-rise Low-income Housing	51
2.9. Why has High-rise Low-income Housing been Successful in some Countries and Failed in Others?	54
2.9.1. Architectural Planning and Technical Issues	56
2.9.2. Social issues	59
2.9.3. Management and Maintenance Issues	61
2.9.4. Financial Issues	61
2.10. GAP in the Research	64
2.11.Conclusion	64
CHAPTER 3. RESEARCH METHODOLOGY	
3.1 Introduction	67
3.2 Research Approach	68
3.3 Research Philosophy	70
3.4 Research Design	71
3.4.1 Qualitative Research	71
3.5 Research Strategy: Case Study Method	73
3.6 Data Collection	76

	3.6.1 Secondary Data	77
	3.6.2 Primary Data	78
	3.6.3 Key Informant Interviews	78
	3.6.4 Observation	81
	3.6.5 Ethical Considerations	82
	3.7 Data Analysis	84
	3.7.1 Coding	85
	3.7.2 NVivo in Qualitative Research	86
	3.8 Criteria for evaluating research	87
	3.8.1 Validity and Reliability: Verification of Data	88
	3.8.2 Internal Validity	88
	3.8.3 Reliability	89
	3.8.4 External Validity	89
	3.9 Research Process and Time Frame	90
	3.10 Limitations of Methodological Approach	90
	3.11 Conclusion	92
Ĺ	CHAPTER 4. HOUSING POLICIES IN SRI LANKA	
	4.1 Introduction	93
	4.2 The Pre-independence British Colonial Period (before 1948)	96
	4.3 The Origin and Evolution of the Urban Housing Policy (1948 to 1969)	98
	4.4 Socialist Housing Policies (1970-1976)	99
	4.5 Housing Policy (1977-1983)	101
	4.5.1 The Hundred Thousand Houses Program (1977–1983)	102
	4.6 One Million Houses Program – "Housing for All" (1984-1989)	103
	4.7 The 1.5 Million Houses Program (1990-1995)	104
	4.8 Compact City Development (1994-2005)	105
	4.8.1 The Sustainable Township Programme (STP) and Real Estate Exchange (Pvt) Limited (REEL)	107
	4.8.2 The REEL Process	108

	4.9 Tsunami Housing	110
	4.10 The 'Mahinda Chinthana' Program (2005-2010)	11
	4.11 2010 Onward - Relocation of the Under-Served Settlement Program	113
	4.12 Housing Polices for High-Rise Housing	117
	4.13 Conclusion	120
;	CHAPTER 5. THE FIRST HIGH-RISE HOUSING PROJECT FOR LOW-INCOME PEOPLE IN COLOMBO	
	5.1 Introduction	121
	5.2 The Need for Redevelopment	122
	5.3 Sustainable Townships Programme: Policy Framework	124
	5.4 Main Criticism of the STP's Policies	126
	5.5 Main Features of the "Sahaspura" Project	129
	5.5.1 Location and Demographic Profile	129
	5.5.2 Architectural Design and Facilities	130
	5.5.3 Financing	134
	5.5.4 Ownership Structure	137
	5.5.5 Operation and Maintenance	138
	5.6 Stakeholders and Actors Involved	138
	5.6.1 Sustainable Townships Programme (STP)	139
	5.6.2 Urban Development Authority (UDA)	139
	5.6.3 Colombo Municipal Council (CMC)	139
	5.6.4 Community Participation	140
	5.7 Identification of Key Planning Challenges	143
	5.7.1 Financial Sustainability	145
	5.7.2 Social Sustainability Through Social Recognition	146
	5.7.3 Environmental Sustainability	149
	5.8 Conclusion	152
	JIO CONTINUION	132

6.1 Introduction	
6.2 Key Informant Interviews and Data Analysis	
6.3 Definition/Interpretation of Key Concepts/Terms?'	
6.4 Under-served Settlements In Colombo City	
6.5 Attitudes towards the Sustainability of High-rise Housing for Low- Income People	
6.6 Why Colombo Needs High-rises to House Low-income People.	
6.7 Alternatives to High-rise Housing for Low-income People in Colombo	
6.7.1 On-site Upgrading of Under-served Settlements	
6.7.2 Low rise Housing (Walk-up Apartments)	
6.7.3 Enforcement of Regulations for Unauthorised Construction	
6.7.4 Relocate Under-served Settlements to Outside Colombo	
6.7.5 Decentralisation of Administrative and Institutional Activities	
6.7.6 Discourage Housing Demand in Colombo	
6.8 Housing Policies Concerning High-rise High-density Development In Colombo	
6.9 Main challenges for high-rise low-income Housing in Colombo	
6.9.1 Financial Issues	
6.9.2 Architectural, Planning and Technical Issues	
6.9.3 Social Issues	
6.9.4 Management Issues	
5.10 Awareness of International Success and Failures in High-rise Low-income Housing	
5.11 The Future of High-rise Housing Low-income Housing in Colombo.	
5.12 Conclusion	

7.1 Introduction

7.2 Achievement of Objectives of this Research

205

206

7.3 Contribution of the Research	207
7.3.1 Contribution to Theory	208
7.3.2 Contribution to Sri Lankan Research	211
7.3.3 Contribution to Planning Profession	213
7.4 Recommendations	214
7.5 Limitations of the Research	216
7.6 Avenues Further Studies	217
7.7 Conclusion	297
REFERENCES	221
APPENDICES	229

LIST OF FIGURES

1.1	Problem Tree Analysis	09
2.1	Residential Density	20
2.2	History of High-rise Stretchers	26
2.3	Visionary Ideas of High-Rise Development	28
2.4	Demolition of Pruitt-Igoe high-rise public housing complex	42
3.1	The Research Process	68
3.2	Research Approach	69
3.3	Research Philosophy	70
3.4	Different Types of Research	75
3.5	Method of Data Collection	76
3.6	Data Analysis	84
3.7	steps in data analysis	85
4.1	British government servant quarters	96
4.2	Bambaiapitiya Flats	98
4.3	Slave Island Flats	99
4.4	Maligawatha Flats	102
4.5	The Sahaspura Housing Project	107
4.6	Tsunami Housing	110
4.7	Dematagoda Relocation Flats	111
4.8	Proposed High-Rise Low-Income Housing under the Relocation Program	115
4.9	Ongoing Projects under the Relocation of the Under-served Settlement Program	117
5.1	"Sahaspura" Housing Project	121
5.2	Sahaspura Before, during and After Construction	122
5.3	The Ground Floor Plan of the Sahaspura Housing Project	132
5.4	The Upper Floor Plan of the Sahaspura Housing Complex	133
5.5	Sahaspura Management Corporation	144
5.6	Planning for a Sustainable Community	144
5.7	Life Changes in Sahaspura	148
5.8	Garbage Collection	151
5.1	Percentages of Under-served Settlements in Colombo	159
5.2	Key Informants' Response to the Question 'Is High-rise Housing a Good Alternative for Low-income People?'	161
5.3	Minimum and Maximum Building Heights in Colombo	168

6.4	Walk-up Apartments Adjoining Sahaspura in 2003	175
6.5	Issues in High-rise Housing for Low-income People	184
6.6	Typical Layout Plan of Sahaspura and the Proposed Low-income Housing in Colombo	189
6.7	Livelihood in "Sahaspura"	194
7.1	Relationship Between Academic and Professional Knowledge	215

LIST OF TABLES

2.1	Needs for Housing	19
2.2	Public Housing Tenure and Size	37
2.3	Housing Tenures/Size of Social Sector	40
3.1	Qualitative and Quantitative Research Methods	73
3.2	Interview Structure Continuum of Formality	79
3.3	A List of Key Informants	18
5.1	Extent of Lands Liberated for the Sahaspura Project	135
5.2	The Composition and Description of Relevant Stakeholders	141
6.1	A Summary of Key Themes of the Research	158
6.2	Population Density and Growth Rate of Colombo (1870-2010)	163
6.3	Land Use Distribution Pattern in Colombo (1981-2010)	174
6.4	Density of the Proposed Low-income Housing Projects in Colombo	190