An Approach to the Methodology of Land Use Reutilization management

Case Study of Greater Cairo Region

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Urban Planning

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April 2012
DECLARATION

I, Walied Mohamed Mohamed Sadek, declare that this thesis has been composed by myself and represents my own work has been developed between years 2007 and 2011 in the department of urban planning, faculty of engineering, Ain Shams University.

This research has not been submitted for any other degree or professional qualification except as specified.

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University : Ain Shams University.
In the Name of Allâh, the Most Gracious, the Most Merciful

"My Lord! Grant me the power and ability that I may be grateful for Your Favours which You have bestowed on me and on my parents, and that I may do righteous good deeds that will please You, and admit me by Your Mercy among Your righteous slaves."

Holy Quran /27- AN-NAML, Verse “19”
(Holy Qur’an translations of King Fahd complex for the printing of Holy Qur’an)
DEDICATION

To my parents... who taught me a lot.

To my wife... who still has patience and usually encourages me.

To my sons Omar and Yousef and my daughter Nada... who I hope they can find something useful in this modest effort.
ACKNOWLEDGEMENT

I am grateful to my God almighty, who helped me to finish this research that I hope to be of benefit.

I would like to express my sincere appreciation to my supervisors Prof. Dr. Youhansen Yehia Eid and Prof. Dr. Mohamed Tamer El-Khorazaty who not only offered me valuable support, but also have influenced my entire work. Their guidance was of significant value. Without their support during this process, it would not be possible to produce this work.

My gratitude extends to all who supported me whether by information and direction or even by moral assistance.
ABSTRACT

TITLE OF DISSERTATION:
AN APPROACH TO THE METHODOLOGY OF LAND USE REUTILIZATION MANAGEMENT - CASE STUDY OF GREATER CAIRO REGION

Land use reutilization projects are considered the most important urban development projects which could be managed within integrated management processes during the execution of the strategic urban development master plan. They offer the major urban treatments for most of the problems of the city which are caused by unguided land use transformation process. Based on this importance, the integrated management of land use reutilization projects is the key success factor to achieve the objectives of these projects.

Taking into account some global experiments of using the modern management approaches for land reutilization projects, the thesis attempts to explore the interrelationships among the strategic planning, its strategic objectives and the organizational project management (OPM) methodology. It will consider GCR as a case study to manage its proposed land use reutilization projects within the latest proposed strategic urban development master plan for sustainable development of GCR.

Relying on OPM methodology, the thesis attempts to produce an approach to comprehensive and examined management methodology which aims to set a precise management framework and interrelated management processes on different 3PM levels for the land use reutilization projects. This management methodology could be implemented during execution of the strategic urban development master plan of GCR in particular, and any other strategic urban development master plan which may be related to other regions in general.

Finally, the thesis formulates a standard and flexible integrated 3PM model which could be applied for different management levels (portfolio, program, and project management) during execution of the strategic urban development master plan of GCR in particular, and any other strategic urban development master plan which may be related to other regions in general.
# TABLE OF CONTENTS

Declaration ........................................................................................................................................... i

About the researcher ......................................................................................................................... iii

Dedication ........................................................................................................................................... vii

Acknowledgement ............................................................................................................................... ix

Abstract ............................................................................................................................................... xi

Table of contents ................................................................................................................................ xiii

List of figures ...................................................................................................................................... xxi

List of tables ....................................................................................................................................... xxv

List of abbreviations ............................................................................................................................ xxvii

Introduction .......................................................................................................................................... 1

- Problem definition ............................................................................................................................. 2
- Research hypothesis .......................................................................................................................... 3
- Research objectives .......................................................................................................................... 3
- Research methodology ...................................................................................................................... 4
- Research structure .............................................................................................................................. 4

Part One ............................................................................................................................................... 9

- Land use reutilization and strategic planning management – understanding the interrelationship ................................................................................................. 9

Chapter 1 ........................................................................................................................................... 11

- Land use reutilization processes: conception and necessity ............................................................... 11

1.1 Definition of land use patterns ......................................................................................................... 12
1.2 The spatial distribution of urban land uses ....................................................................................... 12
1.2.1 Economical factors ..................................................................................................................... 12
1.2.2 Social factors .............................................................................................................................. 18
1.2.2.1 Ecological factors ................................................................................................................ 19
1.2.2.2 Human behaviour and mass values ..................................................................................... 21
1.2.3 Factors arising from considering the public interest of the community ...................................... 22
1.3 Theoretical framework of the land use transformation process ..................................................... 22
1.3.1 Definition of urban transformation processes .......................................................................... 23
1.3.2 Definition of land use transformation process .......................................................................... 23
1.3.3 The forces affecting land use patterns within urban transformation process 24
1.4 Needs for land use reutilization management .......................................................... 26
1.5 Epilogue .................................................................................................................. 26

Chapter 2 ....................................................................................................................... 29
Strategic planning: approach and structure ................................................................... 29

2.1 Definition of strategic planning .............................................................................. 29
2.2 History of strategic planning .................................................................................. 32
2.3 The theoretical framework of strategic planning .................................................... 33
2.3.1 Different approaches to strategic planning ......................................................... 34
2.3.2 The basic elements of the strategic planning process ......................................... 37
2.3.2.1 Assessment of the external environment ......................................................... 39
2.3.2.2 Assessment of the internal environment ......................................................... 43
2.3.2.3 Mission & Vision Statement .......................................................................... 43
2.3.2.4 Identification of goals and objectives ......................................................... 44
2.3.2.5 Formulation of strategies .............................................................................. 45
2.3.2.6 Implementation of action plans ............................................................. 45
2.3.2.7 Monitoring and controlling ........................................................................ 46
2.4 The outcomes of the strategic planning for regional and local communities .......... 46
2.5 Epilogue .................................................................................................................. 47

Chapter 3 ....................................................................................................................... 49
Land use reutilization processes: achieving objectives and 3PM / OPM approaches ... 49

3.1 Land use reutilization objectives ........................................................................... 49
3.1.1 Urban objectives .................................................................................................. 50
3.1.1.1 Define size and placement of redevelopment .............................................. 51
3.1.1.2 Urban density control .................................................................................. 51
3.1.1.3 Land use / building types development ...................................................... 52
3.1.1.4 Enhance local services and civic amenities ................................................. 53
3.1.1.5 Enhance transport system and pedestrian movement network ................. 53
3.1.1.6 Roads network development ................................................................. 55
3.1.1.7 Landscape and open space scheme development ...................................... 55
3.1.1.8 Implementing intelligent city concepts ....................................................... 56
3.1.2 Ecological objectives ......................................................................................... 58
3.1.2.1 Achieving urban ecology and ecocities principles ...................................... 58
3.1.2.2 Energy saving .............................................................................................. 59
3.1.2.3 Waste management and reduce pollution ................................................. 61
3.1.3 Socio-economical objectives ......................................................................... 62
3.1.3.1 Enhance the living environment for residents ........................................... 63
3.1.3.2 Increase land use economic profit ............................................................. 63
3.2 The role of strategic planning in the landuse reutilization processes .................... 63
3.3 Strategic planning approach in the landuse reutilization processes ....................... 65
3.3.1 Application of laws, regulations and controls ................................................. 65
3.3.2 Encouraging sustainability in the wider community ........................................ 66
3.4 3pm / opm approaches for managing land use reutilization projects ............. 67
3.4.1 Project management approach ......................................................................... 68
3.4.2 Program management approach ..................................................................... 69
3.4.3 Portfolio management approach .................................................................... 71
Table of contents

3.4.4 Organizational project management (OPM) approach ........................................ 71
3.4.5 The link between portfolio management and organizational governance .... 73
3.4.6 The relationship between portfolio management and organizational strategy .......................................................... 74
3.4.7 Strategic planning and 3PM correlation ......................................................... 76
3.5 Epilogue ........................................................................................................... 77

Chapter 4 ...................................................................................................................... 79
3PM - integrated processes and management tools .............................................. 79

4.1 3PM life cycle ................................................................................................... 79
4.1.1 Project life cycle .............................................................................................. 79
4.1.2 Program life cycle ............................................................................................ 81
4.1.3 Portfolio life cycle ............................................................................................ 81
4.2 Standard project processes .............................................................................. 81
4.2.1 Project integration management processes ..................................................... 82
4.2.2 Project scope management processes ............................................................. 83
4.2.3 Project time management processes ............................................................... 83
4.2.4 Project cost management processes ............................................................... 84
4.2.5 Project quality management processes ........................................................... 84
4.2.6 Project human resources management processes ........................................... 85
4.2.7 Project communication management processes ............................................ 86
4.2.8 Project risk management processes ............................................................... 86
4.2.9 Project procurement management processes ................................................ 87
4.3 Standard program processes ............................................................................ 87
4.3.1 Program integration management processes ............................................... 88
4.3.2 Program scope management processes ......................................................... 89
4.3.3 Program time management processes ........................................................... 90
4.3.4 Program cost management processes ............................................................ 90
4.3.5 Program quality management processes ....................................................... 91
4.3.6 Program human resources management processes ....................................... 91
4.3.7 Program communication management processes ....................................... 91
4.3.8 Program risk management processes ............................................................ 92
4.3.9 Program procurement management processes ............................................. 93
4.3.10 Program financial management processes .................................................. 93
4.3.11 Program stakeholder management processes .............................................. 94
4.3.12 Program governance ................................................................................... 95
4.4 Standard portfolio processes ............................................................................ 96
4.4.1 Portfolio governance ....................................................................................... 96
4.4.2 Portfolio risk management ............................................................................. 97
4.5 3PM management tools and techniques .......................................................... 98
4.5.1 Integration management main tools and techniques ...................................... 98
4.5.2 Scope management main tools and techniques ............................................. 100
4.5.3 Time management main tools ....................................................................... 101
4.5.4 Cost management main tools ....................................................................... 104
4.5.5 Quality management main tools ................................................................... 106
4.5.6 Human resources management main tools .................................................... 108
4.5.7 Communication management main tools ...................................................... 110
4.5.8 Risk management main tools ....................................................................... 111
4.5.9 Procurement management main tools ......................................................... 113
4.5.10 Program financial management main tools .................................................. 115
4.5.11 Program stakeholder management main tools .......................................... 115
4.5.12 Portfolio / program governance main tools ................................................... 116
4.6 Epilogue ........................................................................................................... 119

Part two ......................................................................................................................... 121

International experiments of achieving land use reutilization objectives and management approaches................................................................. 121

Chapter 5 ........................................................................................................................ 123

Land use reutilization processes: management approach of achieving objectives – two international western cities................................................................. 123

5.1 Ecological City of tomorrow – City of Malmö, Sweden ....................................... 123
5.1.1 Urban development background of Malmö ................................................... 124
5.1.2 Land use reutilization within Malmö urban development program .............. 125
5.1.3 Land use reutilization objectives of Malmö .................................................. 129
5.1.3.1 Urban Objectives ............................................................................................. 130
5.1.3.2 Socioeconomical Objectives .......................................................................... 131
5.1.3.3 Ecological Objectives ...................................................................................... 131
5.1.4 Management approach for achieving BO01 Objectives .................................. 132
5.1.4.1 Integration Management Approach ............................................................... 132
5.1.4.2 Scope Management Approach ....................................................................... 132
5.1.4.3 Time Management Approach ......................................................................... 133
5.1.4.4 Cost Management Approach .......................................................................... 133
5.1.4.5 Quality Management Approach ...................................................................... 134
5.1.4.6 Human Resources Management Approach .................................................. 134
5.1.4.7 Communication Management Approach ...................................................... 135
5.1.4.8 Risk Management Approach .......................................................................... 136
5.1.4.9 Procurement Management Approach ............................................................ 136

5.2 The main seaport of the United States – City of New Orleans, USA ................ 137
5.2.1 New orleans urban development background ............................................... 138
5.2.2 Land use reutilization within New Orleans urban development portfolio .... 139
5.2.3 Land use reutilization objectives of New Orleans ......................................... 143
5.2.3.1 Urban Objectives ............................................................................................. 143
5.2.3.2 Socioeconomical Objectives .......................................................................... 144
5.2.3.3 Ecological Objectives ...................................................................................... 144
5.2.4 Management approach of achieving BNOB objectives ................................ 144
5.2.4.1 Integration Management Approach ............................................................... 145
5.2.4.2 Scope Management Approach ....................................................................... 145
5.2.4.3 Time Management Approach ......................................................................... 146
5.2.4.4 Cost Management Approach .......................................................................... 148
5.2.4.5 Quality Management Approach ...................................................................... 149
5.2.4.6 Human Resources Management Approach .................................................. 149
5.2.4.7 Communication Management Approach ...................................................... 150
5.2.4.8 Risk Management Approach .......................................................................... 150
5.2.4.9 Procurement Management Approach ............................................................ 151
5.3 Epilogue ........................................................................................................... 151

Chapter 6 ........................................................................................................................ 155

Land use reutilization processes: management approach of achieving objectives – two Southeast Asian City-States................................................................. 155
LIST OF FIGURES

CHAPTER 1

Figure 1-1 Competing land uses in the Von Thünen model ................................... 15
Figure 1-2 The firm’s market area in the Löschian framework ............................... 15
Figure 1-3 The Hotelling spatial framework ............................................................ 16
Figure 1-4 The Christaller model of the urban system ............................................ 17
Figure 1-5 Alonso spatial theory .............................................................................. 17
Figure 1-6 Economic factors affect on spatial distribution of urban land uses ...... 18
Figure 1-7 Concentration and dispersion ............................................................... 20
Figure 1-8 Centralization and decentralization ..................................................... 20
Figure 1-9 Segregation of population .................................................................... 20
Figure 1-10 Invasion and succession ..................................................................... 21
Figure 1-11 Dominance and gradient .................................................................... 21
Figure 1-12 Human behaviour effect on land use cycle ........................................ 22
Figure 1-13 Public utility considerations and their effect on the land use formation .................................................................................................. 23
Figure 1-14 The Theoretical Basis of Land Use Transformations ........................... 24

CHAPTER 2

Figure 2-1 The ABCs of strategic planning .............................................................. 31
Figure 2-2 Basic Strategic Planning Concept .......................................................... 33
Figure 2-3 Bryson’s strategic planning Model ......................................................... 38
Figure 2-4 The effect of external environment factors on the organization ......... 42

CHAPTER 3

Figure 3-1 Urban density in some global cities ....................................................... 52
Figure 3-2 Extension of intelligence concept through the years ............................ 56
Figure 3-3 The DEGW intelligent city model .......................................................... 57
Figure 3-4 Geothermal power plant ..................................................................... 60
Figure 3-5 Wind farm ............................................................................................. 60
Figure 3-6 The Role of strategic planning in land use reutilization processes ..... 64
Figure 3-7 Portfolio, Program, and Project Management Interactions ................. 68
Figure 3-8 Comparative overview of project, program, and portfolio management ............................................................................................ 72
Figure 3-9 Relationships among organizational governance, operations, and portfolio management ............................................................................. 73
Figure 3-10 The organizational context of portfolio management ....................... 75
Figure 3-11 Strategic planning and 3PM correlation ............................................. 76
CHAPTER 4

Figure 4-1 Typical cost and staffing levels across the project life cycle .......... 80
Figure 4-2 Impact of variable base on project time ........................................ 80
Figure 4-3 Sample Work Breakdown Structure ............................................. 100
Figure 4-4 The Precedence Diagramming Method ........................................ 103
Figure 4-5 A sample of Control Chart .......................................................... 106
Figure 4-6 A sample of flowchart diagram ..................................................... 106
Figure 4-7 A sample of Histogram ................................................................. 107
Figure 4-8 A sample of Scatter Diagram ....................................................... 107
Figure 4-9 A sample of cause and effect diagram ......................................... 108
Figure 4-10 A sample of Responsibility Assignment Matrix (RAM) ................. 108
Figure 4-11 Basic communication model ...................................................... 111
Figure 4-12 Sample probability and impact matrix ......................................... 112
Figure 4-13 Single criterion prioritization model ........................................... 118
Figure 4-14 Multiple-criteria weighted ranking ............................................. 118

CHAPTER 5

Figure 5-1 Location of Malmö within Sweden ............................................ 123
Figure 5-2 City of Malmö boundaries .......................................................... 124
Figure 5-3 Malmö development projects ...................................................... 125
Figure 5-4 Real photo - Bo01 site 1970 .......................................................... 125
Figure 5-5 Real photo - Bo01 site 2007 .......................................................... 125
Figure 5-6 Aerial view of Bo01 site ............................................................... 126
Figure 5-7 Bo01 site plan ............................................................................. 126
Figure 5-8 Turning Torso tower - Malmö ...................................................... 127
Figure 5-9 Hardscape features in Malmö ...................................................... 127
Figure 5-10 Softscape features in Malmö ...................................................... 127
Figure 5-11 Roof gardens in Malmö .............................................................. 128
Figure 5-12 Main objectives of Malmö Land use reutilization projects .......... 130
Figure 5-13 Location of New Orleans within United States ......................... 137
Figure 5-14 Satellite image shows New Orleans urban block ....................... 138
Figure 5-15 BNOB portfolios, sub programs and projects ............................ 140
Figure 5-16 New Orleans districts and neighborhood planning plan .......... 141
Figure 5-17 Public recreation space adjacent to industrial operations .......... 142
Figure 5-18 Elevated greenway sweeps through series of highway interchanges ........................................................... 142
Figure 5-19 Pedestrian network and rooftop public green spaces .................. 142
Figure 5-20 Gantt chart illustrating project schedule sample ......................... 147
Figure 5-21 Network logic diagram ............................................................... 147
Figure 5-22 Line of balance ........................................................................ 148

CHAPTER 6

Figure 6-1 Location of Singapore ................................................................. 156
Figure 6-2 Location of Downtown within Singapore ...................................... 156
Figure 6-3 The Singapore “ring development” plan in 1963 .......................... 157
Figure 6-4 Location of the Golden Shoe, Shenton Way and Marina South .... 158
Figure 6-5 Urban design of Singapore New downtown 1996 ....................... 160
Figure 6-6 The comparison of 1996 and 2003 New downtown master plan .... 162
Figure 6-7  Real view of current Marina Bay area .................................................. 163
Figure 6-8  Marina Bay new financial center towers ............................................ 163
Figure 6-9  Marina Bay Sands integrated resort .................................................... 163
Figure 6-10 Marina Bay Gardens, Super trees and landscape features ............... 164
Figure 6-11 Location of Hong Kong ..................................................................... 170
Figure 6-12 Hong Kong administrative districts .................................................. 170
Figure 6-13 Urban Status in Lee Tung Street before URA redevelopment plan .. 173
Figure 6-14 Urban Status in Lee Tung Street after URA redevelopment plan ...... 173
Figure 6-15 Urban Status in Graham / Peel Streets before URA redevelopment plan ......................................................................................................... 174
Figure 6-16 Graham / Peel streets Preliminary concept design of open market .. 175

CHAPTER 7

Figure 7-1  GCR location in Egypt ........................................................................... 195
Figure 7-2  Governorates of GCR ......................................................................... 196
Figure 7-3  Greater Cairo Metropolitan Area ............................................................. 203
Figure 7-4  GCR Metro .......................................................................................... 204
Figure 7-5  Electric capacity in GCR / Egypt ........................................................... 207
Figure 7-6  Amount of clean water in GCR / Egypt ............................................... 208
Figure 7-7  Population pyramid of GCR in 2006 .................................................... 212

CHAPTER 8

Figure 8-1  GCR - PSMP study area ....................................................................... 222
Figure 8-2  Improving living environment of informal areas (GCR - PSMP) ........ 225
Figure 8-3  Proposed locations of new business and commercial areas (GCR - PSMP) .............................................................. 226
Figure 8-4  Proposed locations of industrial zones and new R&D areas (GCR - PSMP) ..................................................................................................... 226
Figure 8-5  Proposed locations of tourism development (GCR - PSMP) ............... 227
Figure 8-6  Proposed conservations of agricultural lands (GCR - PSMP) ............ 228
Figure 8-7  Proposed open and green areas network (GCR - PSMP) ................. 229
Figure 8-8  Existing and future urban development area (GCR - PSMP) ............ 229
Figure 8-9  GCR - PSMP : Hierarchy of statutory urban plan ............................... 230
Figure 8-10 GCR - PSMP : Example of planning permission system .................. 231
Figure 8-11 GCR - PSMP Land use structure plan .............................................. 232
Figure 8-12 programs & projects related to GCR - PSMP strategies- group A.... 234
Figure 8-13 programs & projects related to GCR - PSMP strategies- group B.... 235

CHAPTER 9

Figure 9-1  Land use reutilization management levels .......................................... 242

CHAPTER 10

Figure 10-1  Role of MLRP3 model in Cairo 2050 strategic master plan .......... 284
Figure 10-2  MLRP model - Level A management processes flow diagram .......... 288
Figure 10-3  MLRP model - Level B management processes flow diagram .......... 297
Figure 10-4  MLRP model - Level C management processes flow diagram .......... 306
## LIST OF TABLES

### CHAPTER 5

| Table 5-1 | Responsibility Assignment Matrix (RAM) - Bo01 project | 135 |

### CHAPTER 7

| Table 7-1  | Number of power stations, capacity and generated energy in GCR (2008) | 206 |
| Table 7-2  | Electric capacity (Million K.W.H) in GCR distributed by kinds of usage (2008) | 207 |
| Table 7-3  | Amount of sold gas (by ton) and its usage in GCR and Egypt | 207 |
| Table 7-4  | Amount of clean water produced and consumed in GCR and Egypt (by 1000M3) | 208 |
| Table 7-5  | Capacities / discharge of Sewage treatment plants in GCR and Egypt (by 1000M3) | 209 |
| Table 7-6  | Population of GCR and its governorates in 2006 and 2010 | 210 |
| Table 7-7  | Population distribution of GCR and its governorates by urban and rural as per 2006 census | 211 |
| Table 7-8  | Population distribution of GCR and its governorates by sex as per 2006 census | 211 |
| Table 7-9  | No. of schools, classes, students and class density in GCR (2008-2009) | 213 |
| Table 7-10 | No. of GCR universities, Staff and students - governmental and private (2008-2009) | 213 |
| Table 7-11 | Figures and rates of health care services in GCR and its governorates (2009) | 214 |
| Table 7-12 | GCR regular buildings - types and distribution (2006) | 215 |

### CHAPTER 9

| Table 9-1  | Management processes of GCR land use reutilization portfolio | 244 |
| Table 9-2a | Management processes of programs of GCR land use reutilization portfolio | 250 |
| Table 9-2b | Management processes of programs of GCR land use reutilization portfolio | 251 |
| Table 9-3a | Management processes of projects of GCR land use reutilization portfolio | 267 |
| Table 9-3b | Management processes of projects of GCR land use reutilization portfolio | 268 |
## CHAPTER 10

<table>
<thead>
<tr>
<th>Table 10-1</th>
<th>MLRP3 – Level “A” (1 of 2) ................................................................. 286</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 10-2</td>
<td>MLRP3 – Level “A” (2 of 2) ................................................................. 287</td>
</tr>
<tr>
<td>Table 10-3</td>
<td>MLRP3 – Level “B” (1 of 7) .................................................................. 290</td>
</tr>
<tr>
<td>Table 10-4</td>
<td>MLRP3 – Level “B” (2 of 7) .................................................................. 291</td>
</tr>
<tr>
<td>Table 10-5</td>
<td>MLRP3 – Level “B” (3 of 7) .................................................................. 292</td>
</tr>
<tr>
<td>Table 10-6</td>
<td>MLRP3 – Level “B” (4 of 7) .................................................................. 293</td>
</tr>
<tr>
<td>Table 10-7</td>
<td>MLRP3 – Level “B” (5 of 7) .................................................................. 294</td>
</tr>
<tr>
<td>Table 10-8</td>
<td>MLRP3 – Level “B” (6 of 7) .................................................................. 295</td>
</tr>
<tr>
<td>Table 10-9</td>
<td>MLRP3 – Level “B” (7 of 7) .................................................................. 296</td>
</tr>
<tr>
<td>Table 10-10</td>
<td>MLRP3 – Level “C” (1 of 7) .................................................................. 299</td>
</tr>
<tr>
<td>Table 10-11</td>
<td>MLRP3 – Level “C” (2 of 7) .................................................................. 300</td>
</tr>
<tr>
<td>Table 10-12</td>
<td>MLRP3 – Level “C” (3 of 7) .................................................................. 301</td>
</tr>
<tr>
<td>Table 10-13</td>
<td>MLRP3 – Level “C” (4 of 7) .................................................................. 302</td>
</tr>
<tr>
<td>Table 10-14</td>
<td>MLRP3 – Level “C” (5 of 7) .................................................................. 303</td>
</tr>
<tr>
<td>Table 10-15</td>
<td>MLRP3 – Level “C” (6 of 7) .................................................................. 304</td>
</tr>
<tr>
<td>Table 10-16</td>
<td>MLRP3 – Level “C” (7 of 7) .................................................................. 305</td>
</tr>
</tbody>
</table>
### LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3PM</td>
<td>Project Management, Program Management, and Portfolio Management.</td>
</tr>
<tr>
<td>BNOB</td>
<td>Bring New Orleans Back (New Orleans strategic plan to recover from hurricane Katrina).</td>
</tr>
<tr>
<td>CAPMAS</td>
<td>Central Agency for Public Mobilization and Statistics (Egypt).</td>
</tr>
<tr>
<td>CBD</td>
<td>Central Business District.</td>
</tr>
<tr>
<td>CDBG</td>
<td>The Community Development Block Grant of USA.</td>
</tr>
<tr>
<td>CPI</td>
<td>Cost Performance Index.</td>
</tr>
<tr>
<td>CPM</td>
<td>Critical Path Method.</td>
</tr>
<tr>
<td>DAI</td>
<td>Development Association Inc. of USA.</td>
</tr>
<tr>
<td>EVM</td>
<td>Earned Value Management.</td>
</tr>
<tr>
<td>Ex-LDC</td>
<td>redevelopment projects of Hong Kong.</td>
</tr>
<tr>
<td>FF</td>
<td>Finish-to-Finish.</td>
</tr>
<tr>
<td>FS</td>
<td>Finish-to-Start.</td>
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<tr>
<td>GCMA</td>
<td>Greater Cairo Metropolitan Area.</td>
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<tr>
<td>GCR</td>
<td>Greater Cairo Region.</td>
</tr>
<tr>
<td>GCR - PSM</td>
<td>Cairo Greater Region - Proposed Strategic Master Plan.</td>
</tr>
<tr>
<td>GOPP</td>
<td>General Organization for Physical Planning (Egypt).</td>
</tr>
<tr>
<td>LDC</td>
<td>Land Development Corporation (Singapore).</td>
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<tr>
<td>MLRP3</td>
<td>Management of Land use Reutilization Portfolios, Programs, and Projects.</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations.</td>
</tr>
<tr>
<td>NUCs</td>
<td>New Urban Communities.</td>
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<tr>
<td>NUS</td>
<td>National University of Singapore.</td>
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<tr>
<td>OPM</td>
<td>Organizational Project Management.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>PDM</td>
<td>Precedence Diagramming Method.</td>
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<tr>
<td>PERT</td>
<td>Program Evaluation and Review Technique.</td>
</tr>
<tr>
<td>PM</td>
<td>Project Management / Project Manager.</td>
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<tr>
<td>PMBOK</td>
<td>Project Management Body Of Knowledge Guide.</td>
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<tr>
<td>PMI</td>
<td>Project Management Institute.</td>
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<tr>
<td>RAM</td>
<td>Responsibility Assignment Matrix.</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development.</td>
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<tr>
<td>SDDP</td>
<td>Singapore Downtown Development Program.</td>
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<tr>
<td>SF</td>
<td>Start-to-Finish.</td>
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<tr>
<td>SPI</td>
<td>Schedule Performance Index.</td>
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<tr>
<td>SS</td>
<td>Start-to-Start.</td>
</tr>
<tr>
<td>SWOT</td>
<td>SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats).</td>
</tr>
<tr>
<td>URA</td>
<td>Urban Redevelopment Authority (Singapore).</td>
</tr>
<tr>
<td>URA</td>
<td>Urban Renewal Authority (Hong Kong).</td>
</tr>
<tr>
<td>WBS</td>
<td>Work Breakdown Structure.</td>
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INTRODUCTION

"A city is a living and growing organism, but not without its delicate side, it frequently needs more room in which to exercise its economic muscles. It is subject to fatigue, shortness of breath, hardening and blockage of the arteries, and occasionally to apoplexy. Aspirins and tranquilizers usually do not alleviate its ailments. It may require careful surgery of the heart, veins and arteries and a steady diet of capital investment."


Cities in different cultures have distinct forms; those forms progressively change through passing stages of urban development and land use transformation process, depending on numerous shifts which is profoundly resulted from several conditions relating to the place and time. In many cases, especially in developing countries, those shifts direct the city away from both the sustainability and ecological principals and in the direction of more environmental, economical and social problems.

Every so often, an urban planning treatment is extremely needed to solve those problems and refine the city transformation trend in accordance with the main role of the city in serving its inhabitants. That treatment should be a continual process using selected urban planning ideologies to produce the required perpetual therapy.

From the perspective of both, population and economics, the Greater Cairo Region (GCR) includes the biggest three Egyptian governorates: Cairo, Giza, and Kalyobiya. GCR is considered as one of the fastest growing Egyptian Regions moving towards involving in more urban problems, hence miss the perpetual therapy. Successive Egyptian governments over the last thirty years have implemented different trials to develop strategic master plans for GCR. Regardless of the efficiency and appropriateness of those trials, none has been conducted in an entirely proper way, with the best plans only having been partially effective. The last trial was initiated in the second half of the last decade (2007) to prepare the strategic urban development master plan for
sustainable development for GCR up to year 2050. The proposed strategic urban development master plan for GCR aims to produce a societal conception for the region and to determine the prime character of Cairo as a capital in respect of being either the cultural, historical and financial centre in the Middle East or the most famous eco-city in that area.

Land use reutilization projects are widely considered to be the most important urban development projects could be managed within the integrated management process during the execution of the proposed strategic urban development master plan of GCR. However, there are currently many urban land uses which do not match with any new development approaches of GCR Cities. Many planned urban areas have been located outside the city urban space such as industrial zones, handicraft zones, airports, military barracks and cemeteries. Many of those urban land uses have become inconvenient due to the effect of urban transformation processes, not only inside the urban space but also at the core of the city in many cases. Other old urban areas were planned based on the dominant planning criteria of their time, but as a result of continual urban transformation processes, produced by several social, economical, and political variables, those areas had become dilapidated, needing extra services and adequate infrastructure. As such they call for urgent rehabilitation projects. Many slum areas which had been originally attached to the planned areas for different purposes have grown away from the governmental monitoring, leading to serious problems.

In all of these cases, the projects of land use reutilization can be dealt with as one of the most important types of urban planning and development projects within the execution of the strategic urban development master plan of GCR. The way in which those multi projects could be managed concurrently is the most important key factor for either success or failure. Throughout the past years, some trials have taken place to individually deal with some of those cases. Whereas, some projects have been executed, of which some have succeeded, and some have failed.

**PROBLEM DEFINITION**

Land use reutilization projects are the most significant types of urban planning projects which could be implemented during the execution of the strategic urban development master plan of GCR to achieve its strategic objectives. The prevailing obstacle lies in the fact that most projects of land-use reutilization projects in GCR have been executed with a unilateral approach, serving each individual project’s objectives in the absence of a management methodology that comprehensively controls the whole region development strategy.
This significance highlights the need for a comprehensive, flexible, and tested management methodology for managing concurrent different types of land-use reutilization projects, and which directs and controls those multi projects (within the program or portfolio) during their life cycle. This management methodology helps in the formulation of standard and flexible management model which could be applied for the management of different types of land-use reutilization projects (within program or portfolio) in GCR.

RESEARCH HYPOTHESIS

The OPM (Organizational Project Management) methodology by developing and controlling certain interrelationships among selected standard management processes on the three levels of 3PM (project, program & portfolio management) provides an approach to comprehensive management methodology, as well as for formulating the management model (MLRP3 model) for managing land use reutilization projects during the execution of the strategic urban development master plan for regional sustainable development. The MLRP3 model provides a coherent governing framework for the management of different management areas of knowledge (integration, scope, time, cost, quality, human resources, communication, risk, and procurement) for land use reutilization projects. It also extends proper planning, execution, monitoring, and performing corrective actions during their life cycle stages in order to ensure successful completion of the land-use reutilization projects in accordance with achieving the objectives of the strategic urban development master plan.

RESEARCH OBJECTIVES

Based on both, integrated sustainable urban development and OPM with its 3PM levels (project, program & portfolio management) as two fields of knowledge, this thesis intends to achieve two main goals:

- To determine an approach to comprehensive and tested management methodology that provides a precise management framework and interrelated management processes on different 3PM levels for the land use reutilization projects which could be managed during the execution of the strategic urban development master plan for sustainable development of GCR in particular, and for any different types / categories of urban land use reutilization projects related to other regions in general.
To use OPM methodology to formulate a standard, flexible and integrated 3PM model “MLRP3” that could be applied across different management levels (portfolio, program, and project management) during the execution of a strategic urban development master plan for sustainable development of GCR in particular, and for any different types / categories of urban land use reutilization projects related to other regions in general.

RESEARCH METHODOLOGY

In order to achieve the aforementioned research goals and to test the research hypothesis, this study intends to begin by conducting a comprehensive review of key concepts and theories pertaining to urban land uses, their patterns, their spatial distributions, their urban transformation process and the needs of land use reutilization management. The research also reviews important strategic planning concepts and the management approaches that are followed to achieve the strategic objectives. After this, an attempt will be made to understand the interrelationship between the land use reutilization and strategic planning management. Modern management approaches that are used in managing different types of land use reutilization projects will then be discussed with reference to the execution of the strategic urban development master plan, in different locations of selected global cities, with an attempt to understand and explain those management approaches and their different dependencies.

This research will then move from examining the partials of the phenomenon and then to disclose the rule or general principle governing these partials and will define the proper framework for an approach to comprehensively manage the land use reutilization projects by using OPM methodology. Consequently, the research will formulate a standard and flexible management model “MLRP3” with the intention that it could be typically applied on the three levels of 3PM in managing different types of land use reutilization projects.

RESEARCH STRUCTURE

To accomplish the objectives, the research will be divided into four parts, and each part will be divided into chapters as follows:

PART ONE: LAND USE REUTILIZATION AND STRATEGIC PLANNING MANAGEMENT – UNDERSTANDING THE INTERRELATIONSHIP
This part is divided into four chapters (chapters one, two, three and four).

CHAPTER ONE: LAND USE REUTILIZATION PROCESSES: CONCEPTION AND NECESSITY

This chapter discusses the urban land-use patterns, spatial distribution theories within the city urban space and reviews different effects may influence that spatial distribution strategy. The chapter, then, sheds light on the city land-use transformation process which gives the city its shape as a result of intangible forces and finally discusses the city demand for land use reutilization management.

CHAPTER TWO: STRATEGIC PLANNING: APPROACH AND STRUCTURE

The purpose of this chapter is to shed light on strategic planning literature and its role in the context of regional land-use development. The main objective of this literature review is to provide the relevant theoretical framework and historical background. It attempts to discover the strategic planning tools used for regional land-use development.

CHAPTER THREE: LAND USE REUTILIZATION PROCESSES: ACHIEVING OBJECTIVES AND 3PM / OPM APPROACHES

The purpose of this chapter is to discuss the proposed different objectives of land-use reutilization processes within the organization’s strategic plan and at two urban levels, the city level and regional level. Those objectives will cover different aspects; urban, environmental, economical, and social. Subsequently, the chapter will shed light on the 3PM approach for managing land-use reutilization projects, the link between OPM and strategic planning and the integration with the organizational governance.

CHAPTER FOUR: 3PM - INTEGRATED PROCESSES AND MANAGEMENT TOOLS

The purpose of this chapter is to shed light on the 3PM processes as per PMI® international standards. It also defines 3PM areas of knowledge, inputs, outputs, skills, tools, and techniques of different management processes which are applied in OPM environment to meet projects, programs, and portfolios’ requirements and objectives.
PART TWO: GLOBAL EXPERIMENTS OF ACHIEVING LAND USE REUTILIZATION OBJECTIVES AND MANAGEMENT APPROACHES.

This part includes two chapters (chapters five and six) which present different case studies for global cities have examples of modern management approaches of land-use reutilization projects.

CHAPTER FIVE: LAND USE REUTILIZATION PROCESSES: MANAGEMENT APPROACH OF ACHIEVING ObjectIVES – TWO WESTERN GLOBAL CITIES

This chapter looks into two western cities; Malmö (Sweden), and New Orleans (USA). The chapter discusses their land-use transformation process, their land-use reutilization objectives, and the modern management approach used to achieve the objectives.

CHAPTER SIX: LAND USE REUTILIZATION PROCESSES: MANAGEMENT APPROACH OF ACHIEVING OBJECTIVES – TWO SOUTHEAST ASIAN CITY-STATES

This chapter looks into two Southeast Asian city-states (Singapore and Hong Kong). It discusses their land-use transformation process, their land-use reutilization objectives, and the modern management approach used to achieve the objectives.

PART THREE: LAND USE REUTILIZATION IN GCR – AN APPROACH TO THE MANAGEMENT METHODOLOGY

This part is divided into two chapters (chapters seven and eight).

CHAPTER SEVEN: GCR – EXISTING CONDITIONS AND LAND USE REUTILIZATION URGENCY

This chapter is concerned with collecting information on GCR to form its profile and draws a picture for the region, its strengths and weaknesses; accordingly to explore influences during managing its land-use reutilization projects. Afterwards, the chapter discusses the region's problems from different aspects pertaining to land-use distribution, and then tries to investigate the urgency of some land use reutilization projects within the region urban space.

CHAPTER EIGHT: GCR STRATEGIC MASTER PLAN – VISION, MISSION, AND ORGANIZATIONAL STRATEGIC OBJECTIVES TOWARDS LAND USE REUTILIZATION PROJECTS

6
This chapter discusses the latest proposed GCR Strategic Urban Development Master Plan in accordance with available information to date, its vision, mission, organizational strategy, goals and objectives defined by the Egyptian government represented by General Organization for Physical Planning (GOPP). Finally, the chapter discusses the role of land-use reutilization in any future GCR proposed strategic master plan and the management approach of different types of land use reutilization projects.

**PART FOUR: LAND USE REUTILIZATION MANAGEMENT – INTEGRATION INTO OPM METHODOLOGY**

This part is divided into two chapters (chapters nine and ten).

**CHAPTER NINE: LAND USE REUTILIZATION PROJECTS IN GCR - IMPLEMENTATION OF OPM METHODOLOGY**

This chapter implements the OPM methodology to conclude an approach to comprehensive and examined management methodology that aims to set a precise management framework and sequenced / interrelated management processes on 3PM levels for the land use reutilization projects of GCR within any future proposed strategic master plan.

**CHAPTER TEN: LAND USE REUTILIZATION MANAGEMENT MODEL (MLRP3)**

This chapter formulates integrated 3PM model “MLRP3 - model” which is standard and flexible model could be applied during different management processes of organizational management for execution of any future proposed strategic urban development master plan for sustainable development of GCR in particular, and for any different types / categories of urban land use reutilization projects related to other Egyptian regions in general. Finally the chapter summarizes the research’s conclusions and recommendations.