Landscape Infrastructure and Liveable Communities

A **C**ase **S**tudy of **N**ew-**C**airo, **E**gypt

A Thesis Submitted to Newcastle University for the Degree of
Doctor of Philosophy

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To Sama and Adam with love...

Dad

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Abstract

To control urbanisation and to improve urban quality, Egypt has adopted the concept of master-planned estates (MPEs). This form of urbanisation is the latest manifestation of utopian place-making derived from the Garden City movement. With the emphasis on 'landscape' rather than 'architecture' and on building 'communities' rather than 'neighbourhoods', the development of these MPEs is underpinned by expectations that landscape characteristics have the potential to produce liveable communities. Located in the desert, the MPEs have often been criticised because of their weak connections with history, geography and culture.

This study challenges this criticism and argues that some of these landscape practices when analytically related to residential mobility and satisfaction, are crucial to the enhancement of liveability. However, these relationship need to be carefully examined and subsequently reconstructed in a holistic conception rooted in the challenging physical and cultural settings. To achieve this, the study draws on an extensive literature from several disciplines to develop a conceptual framework which provides a platform for meaningful analysis of practices, attitudes and aspirations.

Drawing on an empirical study of six MPEs in New-Cairo, the massive master planned extension to the east of Cairo, the research examines the strategies employed to attract residents and the factors required to satisfy residential needs. Using a variety of qualitative data collection techniques, the core of the analysis is centred on the fundamental role played by different stakeholders in making these MPEs into liveable places. These stakeholders include the officials involved in applying urban policy, the planners and developers who are the providers and the residents who live there.

The thesis offers a range of insights into what constitutes a liveable community and the contextual influences on landscape practices in MPEs. It also demonstrates that the consideration of MPEs with respect to liveability and infrastructures opens up innovative alternatives to understanding how these MPEs are shaped and function. The thesis concludes that landscape is an essential factor in enhancing liveability in the desert MPEs. There is a potential therefore in pursuing the consideration of landscape as infrastructure, worthy of further investigation both in Egypt and elsewhere.

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Chapter 1

Living in a Transformed Desert: an Introduction

Chapter One

1.1 Introduction

It was 5:10 pm when Hani headed towards the parking area allocated to the multinational company he works for in one of the business parks west of Cairo. Quickly he climbed into his 4x4, drove off towards the gates and then sped down the motorway heading south, tuning the radio to the English speaking 'Fm' to listen to his favourite 4-7 programme, 'The big drive home'. He emerged 15 minutes later onto the Circular Road, heading eastward towards his home in the desert suburban city of New-Cairo. Without so much as a glance, Hani drove through the mess of bricks, concrete, self-made tenements, ugly public housing, refuse, smoke and dust, affirming to himself that he has made the right choice in moving away.. He savoured the prospect of a splash in his swimming pool with his daughter before dining in the garden, followed by a walk with his wife around the lake. The stress of his day was already fading away as he arrived at the entrance to his 'gated community', and realised the dashboard clock read 6:35 pm.

Three hours earlier, around 3:20 pm, Yahia was awaiting the microbus in downtown Cairo, after finishing work in the governmental agency. He waited almost half an hour before he managed to get onto one of the microbuses, which then travelled through Cairo with a horrific driving style giving an uncomfortable ride. Yahia studied the view from the window, thinking that the city can't carry on like this; it is getting uglier and extremely stressful. One hour and 20 minutes later he arrived at the eastern outskirts of the City, where he changed into another microbus which moved off quickly to merge onto the Circular Road, heading toward New-Cairo. Yahia took a deep gulp of air as the chaotic old city vanished behind him; he imagined a scene of his two kids playing 'hide and seek' with their peers in his residential cluster's common green area. It was 5:25 pm when he recalled the decision to relocate and smiled as he entered his flat in the 'Improved Cooperative Housing'.

With the above narratives we arrive on the desert plateaus bordering Cairo[2]. This desert is experiencing radical transformation following the current urban policy which has taken overwhelmingly to the concept of master-planned estates (MPEs)[3]. *"Against an extremely compact organic urban area, the model for dense city analysed by orientalists, is juxtaposed against the horizon of a new city more like Los-Angeles, gauged from now on according to the speed of the automobile"* (Singerman and Amar, 2006:49).

[2] These opening narratives are a fictionalised composite of several individuals interviewed by the author in New-Cairo during the field work (2007), the objective being to evoke the overall contours of the experiences, motives and visions of new suburban lifestyles.

[3] The master-planned estate (MPE) is the latest manifestation of utopian place-making to derive from the Garden City movement of the late 19th century. This form of urbanisation is underpinned by utopian expectations that the form of a development can produce a better place to live (Gwyther, 2005).

Being in the desert, the major practice shared by some of these new MPEs throughout their development process is the emphasis on 'landscape' rather than 'architecture' and on building 'communities' rather than 'neighbourhoods'. The phenomenon of MPEs in Egypt has been widely studied and criticised with its often imaginary, utopian, exclusionary, picturesque conceptions as well as its vague connections with history, geography and culture (Fahmi and Sutton, 2008; Kuppinger, 2004; Asfour, 1999; Abdelhalim, 1996). None of the previous studies tried to address the role of this emphasis on landscape and community within the broadly recognised influx of Hani and Yahia and many others to these desert MPEs. Both residents are from different socio-economic backgrounds and live in different residential settings but both are equally eager to accept a long daily commute; they are doing this for a reason.

1.1.1 Landscape and Community: the Keywords for Liveability

To attract people to an MPE, the landscape character is offered as the component of development that makes it a community[4]. Symbols of this conception can be seen in advertisements for these new developments; the associated images and the written texts typically illustrate residents enjoying the public spheres of the development, 'not' the private ones (i.e. their homes). The reading of these advertisements suggest the new MPE as a 'community' generated 'not' from the bricks and mortar of the houses but from the constructed landscape and show it as a liveable place[5].

[4] Urban landscape consists of six elements which include 1) Landform; 2) Water; 3) Vegetation; 4) Paved surfaces; 5) Street furniture; 6) Structures (Ahmed, 2004). However, when 'community' is mentioned in the context of physical planning, usually the idea of a 'sense of community' is meant in a literal way, and indicates an idealised neighbourhood form (Talen, 2000).

[5] The word "liveable" is defined as "suitable for living in, on or with" (Merriam-Webster's Collegiate Dictionary, 2010). However, liveability also represents the basic qualities that must exist for a residential place to be successful (Smith et al., 1997).

In this sense the emphasis on both landscape and community refers to the enhanced liveability of the MPE. Different forms of liveability have been identified by (van Dorst, 2010:112), including both apparent and perceived liveability. The first refers to the extent to which the built environment is aligned to the adoptive repertoire of people and is demonstrated by how long and how happily they live there or want to live there. The second refers to people's appreciation of their built environment and emphasise the importance of a good interaction between both. The recognised influx of residents to the new desert MPEs opens up the question of the relationship between residential mobility and liveability. This is particularly relevant here where liveability is defined as a statement of satisfaction with the built-environment (Allen, 2010; Chazal, 2010).

It is well established that residential satisfaction is a trigger factor affecting residential mobility (Amérigo and Aragonés, 1997). However, the classic view of relocation behaviour indicates that residential mobility is usually prompted by the inappropriateness of a current dwelling and changing life course events, such as demographic and employment issues (Rossi, 1955). Such views, existing in earlier studies, have remained in place as most of the literature still emphasises the role of the household and dwelling characteristics in residential mobility; much less attention has been paid to the wider built-environment (Rabe and Taylor, 2010; van Ham and Feijten, 2008; Clark et al., 2006) and the role of landscape is no exception to this insufficient attention paid to the role of the built-environment in residential mobility.

For many observers, landscape practices in the desert MPEs represent the very antithesis of local culture and nature. This is because most analyses have focused on specific issues, reflecting different theoretical and ideological concerns, which often lead to interpretations which lack holistic perspective, and seldom hit the core of the MPE phenomenon; the *land.* Land is a dominating concern in the suburban lifestyle of Hani and Yahia, disclosing some remarkable parallels with more rural settings, yet

producing genuine amenities for them rather than mere substance; it makes their MPEs liveable. This can be seen as a characteristic expression of the modern sensibility towards nostalgia (Cosgrove, 2006). This reconstitution of nostalgia becomes evident where landscape, especially in its green representations, is being used excessively as the defining feature of the desert MPEs, just like the village green to the traditional rural village.

There are number of reasons for rejecting the idea of landscape as the defining feature of the desert MPEs. These include the fact that they are always engineered spaces, often alien to the surrounding natural environment, require vast outlays of resources for maintenance and are largely disconnected from the local climate, topography and traditions (Cosgrove, 2006). Such explanations are usually incomplete as they barely consider anything beyond the physical features and almost ignore people's needs. In contrast, this study argues that relating resident satisfaction analytically with the admired outcomes of some current landscape practices is essential in enhancing the liveability of MPEs.

The significance of infrastructures in constituting and facilitating urban living is widely recognised, because the availability of services is critical to the functioning of the built-environment, as well as affecting people's wellbeing and satisfaction (Ennis, 2003). Therefore, the provision of infrastructures as a form of service is central to this study[6]. In recent decades, explorations of some contemporary discourses on landscape focused on infrastructures as important generators of the built-environment.

[6] The word 'Infrastructures' is used here to refer to the elements necessary to provide the foundations of a functioning urban environment; building on Ennis' (2003) widely used framework, these include; 1) Physical Infrastructure: Streets, water, sewerage, power, communication and Public transport; 2) Economic Infrastructure: Places for business and Jobs; 3) Housing Infrastructure: Owner-occupied, private rented or affordable; 4) Educational Infrastructure: Schools, Colleges and Universities; 5) Health Infrastructure: Hospitals and medical centres; 6) Community Infrastructure: Shopping, recreation facilities, cultural facilities, policing, ambulance and fire stations; 7) Environmental Infrastructure: Environmental quality and ecological stability.

But more recently some commentators have called for a redefinition of the conventional meaning of modern infrastructure stating that the landscape has been historically suppressed, and reformulating it as a sophisticated, instrumental system of essential resources, services, and agents which generate and support urban activities (Belanger, 2009). However, this study argues that landscape practices in the desert MPEs need to be carefully examined first and thereafter a new holistic conception reconstructed that is rooted in their changing yet challenging physical and cultural settings.

1.1.2 Research Question: Aims and Objectives

This study explores the link between the development of liveable communities in the MPEs and their landscape characteristics; the research question can be expressed as:

What is the role of landscape in the creation of liveable communities in the desert master-planned estates?

To answer this question, the study will explore a series of related themes around community, liveability, urbanisation and landscape. A conceptual framework is developed out of this exploration of a broad interdisciplinary literature and is then examined empirically.

The examination focuses on 1) the strategies in use to attract residents to relocate to the MPEs; 2) the factors that satisfy residential needs and 3) the interaction between both. At the core of this examination is the fundamental role of the different stakeholders, including those who apply urban policy, those who develop the MPEs and those who live there; these can be articulated as the research aims and objectives:

Table 1.1 Research objectives and their corresponding chapters

Aims	Objectives	Chapter
1- To investigate the strategies for attracting people to relocate to the MPEs.	1a- To describe the role of the urban policies in the rise of the various forms of the MPEs. 1b-To explore the key promotional approaches used by the developers of the MPEs. 1c- To identify the various development strategies used in the development of the MPEs.	**Five**
2- To explore the factors in residents' satisfaction in the MPEs.	2a- To investigate the motives behind residents' relocation to MPEs. 2b- To identify residents' aspirations for improving the condition of their MPEs.	**Six**
3- To understand the interaction between strategies to attract people to MPEs and residents' satisfaction.	3a- To understand the meaning of community in MPEs. 3b- To interpret the different agendas involved in the landscape practices in the MPEs.	**Seven**

1.1.3 Significance of the Study

The outcomes of this study confirm that well planned and developed landscape characteristics in the desert MPEs can be a useful tool in enhancing their liveability. Therefore, landscape needs to be given a significance equivalent to that of infrastructures in the development of urban environments. It is hoped that this research will inform 'landscape literature' by proposing an alternative concept to Green Infrastructure for use in less developed and arid regions. The intention is to formulate an inclusive planning concept which may aid planners, developers and decision makers in delivering more liveable communities in the new desert MPEs.

This study proposes that the concept of 'Landscape Infrastructure' be integral in the desert urbanisation process and therefore expands the call of Mossop (2006:179) to *"think of landscape as an infrastructure which underlies other urban systems".* The proposed concept of Landscape Infrastructure challenges the taken-for-granted way of considering landscape in the desert MPEs as something nice to have rather than as something essential. Therefore, it is hoped that this research can inform practices and policies by proposing a planning approach whereby 'Landscape Infrastructure' becomes an integral component of the development process and help to shape

decisions concerning planning concepts and post-implementation management strategies.

It is hoped furthermore to inform the 'literature on master-planned estates' by probing further than the foremost perspective of refusing the idea of landscape as the defining element of new MPEs in the arid zone and viewing it as a threat to sustainable development. This perspective is incomplete in that it hardly considers anything beyond the fact that this landscape consists of engineered spaces which are alien to its physical contexts and require vast financial outlays to maintain. This study argues that some outcomes of this idea when related to residential mobility, satisfaction and context are believed to be important in supporting liveability perceived as either short term, part of or in conflict with the overall goal of sustainability. Therefore, it is necessary to solve this conflict without rejecting the entire idea.

1.2 Research Strategy

This research is concerned with liveability in the new MPEs. Therefore, it combines an analysis of social processes with an examination of the physical context by exploring the fundamental role of different stakeholders in making MPEs into liveable places. Although the investigation is apparently macro in scope, the focus of the study is achieved by a micro level analysis of the role of landscape characteristics in enhancing liveability. The research settings, the methodological approach, the research process and the structure of the document will now be discussed.

1.2.1 The Research Settings

Urban policy initiatives involving the spread of MPEs as a mode of urbanisation mean that Cairo is experiencing a radical transformation of the harsh desert around the City. However, this transformation is currently marked by two phenomena; the first is the influx of segments of different Cairene social strata[7] to the new desert MPEs, made more visible by the de-densification of the urban core of the city and the rise in habitation level of different MPEs to the east and the west[8] (Singerman and Amar, 2006); the second is a growing practice in which landscape holds a central significance in creating liveable communities in these new MPEs (Imam, 2006; Kuppinger, 2004; Asfour, 1999).

New-Cairo city, the new 'master-planned' extension to the east was selected as the case study of this research for two reasons; the first is because the new city is currently experiencing popularity as a relocation destination within the Cairo Region; and the second is because as a relatively young suburban extension, there are few studies about it. The study started by identifying various forms of MPE. Six have been identified: Cooperative, Improved-cooperative, Self-built, Controlled, Gated and Golf MPEs. Accordingly six MPEs have been selected to ensure the investigation is exposed to the full range of these forms. The selected MPEs are: Eskan El-Gehaz, Eskan El-Shabab, El-hay El-Khames, Al-Rehab City, Arabella Park and Mirage City. This range of MPEs involved private and public sector developers, as this was considered essential for understanding the various strategies for attracting people to relocate. Another reason for selecting these MPEs was the fact that they are developed for

[7] Cairo is divided into adjacent and often overlapping social spaces; lower, intermediate and upper strata (Denis,1996; Bayat and Denis, 2000; Stewart, 1999; Fahmi and Sutton, 2008).

[8] The housing equality distribution does not match with Raymond's (2007) estimate that the lower stratum forms about 56% of Cairo's population and shares only 12% of the aggregate income, while the middle forms 39% with 34% of the income, while only 5% of the population forms the upper stratum with about 54% of the income. However, this issue of inequality goes beyond the scope of this study but is addressed widely by Amin (2004, 2006).

different social strata; this was important in exploring the factors affecting residential satisfaction for different groups.

1.2.2 Methodological Approach

Both inductive and deductive means of reasoning have been adopted in this research. The incentive to explore the link between landscape and liveability in the MPEs has inductively initiated the search for related conceptions. This led to the development of a conceptual framework which needed to be examined deductively by empirical work. The study draws on a qualitative approach using a variety of complementary data collection methods. With this approach it was possible to understand the interaction between the various strategies for attracting people to the desert MPEs and residential satisfaction by considering the role of different stakeholders. The use of complementary methods involved instrumental, critical and interpretive approaches as these appeared to be the most common in studying landscape (Corner, 1991). The use of semi-structured interviews, visual surveys and document collection helped to codify patterns in the different stakeholders' actions. Furthermore, this approach helped to challenge the taken for granted attitudes towards the link between landscape and liveability, as well as helping to gather firsthand information for a meaningful interpretation.

Semi-structured interviews were conducted with different stakeholders, including residents, developers, officials, scholars, practitioners and key individuals. Visual survey and observation activities were used to gain information on the characteristics of built and natural environments, and photos and videos collated to show how these environments are used and cared for. The visual survey and observation methods were used in conjunction with interview outcomes and document information to sketch a complete picture of the studied MPEs. Despite the research process being cyclic rather than linear, (Trochim, 2006), it can be seen in a series of overlapping and interrelating steps (Table 1.2). Central to this process is the

testing of the research methods and settings by a one month pilot study. This helped in assessing and identifying logistical problems, leading to a re-working of the research methodology and data collection strategies. Consequently, a three month field work study in Cairo was designed to collect the core data for this research.

Table 1.2 The research process

Step	Community	Durations
1	Literature review and argument of appraisal	October 2005 – onwards
2	Pilot study.	August - September 2006
3	Re-working the research strategies.	October 2006 – March 2007
4	The main field-work.	August 2007 – November 2007
5	Data analysis.	January 2008 – February 2009
6	The research outcomes and the way forward.	April2009 - Onwards

1.2.3 Structure of the Thesis

The thesis is structured around eight chapters following a traditional pattern. Following this introductory chapter, the second chapter, **Community and Landscape: Themes and Theories,** intends to develop a conceptual framework for understanding the landscape-liveability relationship in the MPEs. For this reason the chapter explores a series of related themes Starting with the idea of creating communities in the MPEs, it examines the notion of liveability and discusses urban expansion activity in relation to infrastructures, urban form and residential mobility. It then introduces the idea of utilising the landscape as a framework for human-environment relations and discusses this through the contextualisation norm of landscape, questioning the relation between landscape and infrastructure. Finally it concludes by developing the conceptual framework which provides a guide for the thesis.

The methodological approaches used to test the developed conceptual framework are explained in chapter three, **Research Design and Methodology.** First it discusses the reason for using a qualitative approach. It moves on to justify the selection of the research context and the position of the researcher in the field. Reports on the pilot study and main fieldwork activities are provided through a detailed description of the data collection methods used. The chapter presents the process of data analysis

and shows the way the data collected were used to complement achieving the study's aims and objectives.

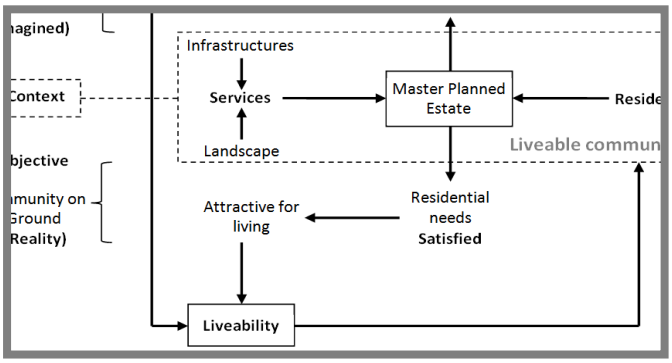
The interpretation of the data has to be closely related to context; therefore chapter four, **Urbanisation in Egypt: Constraints and Problems,** describes the influence of the characteristics of the Egyptian landscape on urbanisation activities. It also discusses how contemporary Cairo is shaped in the light of the change in urban polices which led to the rise of the MPE phenomenon. Through a brief urban history of the city, the chapter therefore, shows the direct and indirect connections between urbanisation activities and landscape characteristics. Furthermore, it demonstrates how economic development led to a deteriorated urban environment. The chapter concludes by highlighting the change in urban policy as an attempt to improve urban quality and liveability by upgrading the existing urban fabric of the cities through urban regeneration and in the process driving the population into desert MPEs.

The strategies in use to encourage resident relocation to the desert MPEs are investigated in chapter 5, **The Challenge of Peopling the Desert.** First it examines the role of urban policy in the rise of the different forms of MPE. This is achieved through analysis of the physical settings of New-Cairo, including its infrastructures and landscape. After identifying six forms of MPE the chapter moves on to explore the promotional approaches used by the various developers. Finally it identifies the different development processes used in the development of the MPEs.

Factors affecting residents' satisfaction in the six MPEs identified in chapter 5 are explored in chapter 6, **The Peopled Desert: Fulfilling Residential Needs.** This is achieved through analysis of the motives behind residential mobility to those MPEs, and through residents' aspirations to improve them. Outcomes of this analysis are grouped into three types of residential need. After describing the residents' characteristics, the chapter discusses residential satisfaction in the MPEs with respect to environmental, socio-cultural and economic factors.

Chapter 7, **Liveability: between Community and Landscape,** takes the analysis in chapters 5 & 6 a step further by linking both the strategies to attract people to the MPEs and the resultant residential satisfaction by focusing on the ideas of community and landscape. The chapter discuss the contemporary meaning of community in the MPEs from the perspective of both the developers and the residents. It concludes by presenting the different landscape practice agendas, which demonstrate that, despite conflicting interests, such practices influence the level of liveability in the MPEs. Therefore, landscape needs to be given a high significance in the development of MPEs and to be considered as infrastructure.

This theme is continued in the final chapter, **Landscape as Infrastructure: a Concluding Discussion.** Drawing on the evidence presented throughout the study, the context role in the formation of MPEs and the need to consider landscape as infrastructure is highlighted. It links the proposed concept of Landscape Infrastructure to the main positions that have been articulated within landscape theories and goes on to discuss the implications of landscape infrastructure for MPE developers and urban policy makers. The chapter concludes by highlighting further analytical dimensions of the dynamics of MPE development and practices in Egypt and suggests areas for further investigations.



Chapter 2

Community and Landscape:

Themes and Theories

Chapter Two

2.1 Introduction

The introductory chapter introduced the phenomenon of desert master-planned estates with their emphasis on improved landscape character for the purpose of creating liveable communities. Furthermore it also highlighted the accompanying phenomenon of residents' influx to relocate to those MPEs. The core of this study is to establish the link between the development of liveable communities in the desert MPEs and their landscape characteristics. Therefore, the main objective of this chapter is to develop a conceptual framework for understanding the landscape/liveability relationship in the MPEs.

For this reason, the idea of liveable communities in relation to MPEs as a form of mass urbanisation and residential mobility will be explored. Then the chapter will move on to investigate landscape meanings in the context of the arid-zone. The relevance of the landscape as a framework of a human/environment relationship will be than explored. The chapter will conclude by recapitulating the direction of the study in the light of the ideas that led to the development of the conceptual framework of the liveability/landscape relationship in the desert MPEs. Discussions in this chapter are built upon a comprehensive literature review of issues relevant to community, liveability, urbanisation and landscape from various disciplines including; planning, sociology, psychology and landscape.

2.2 Master Planned Estates: the Community Idea

> Words have meanings, some words, however, also have a 'feel'. The word 'community' is one of them. It feels good, whatever the word 'community' may mean, it is good 'to have a community', to be in a community'. The meanings and feelings the words convey are not of course independent of each other. 'Community' feels good because of the meanings the word 'community' conveys – all of them promising pleasures, and more often than not the kinds of pleasures we would like to experience but seem to miss.
> **Bauman (2001:1)**

Master-planned communities, master-planned residential development or preferably the master-planned estate (MPE) are large-scale integrated housing developments, produced and controlled by a single developer, which include the provision of infrastructures, and are predominantly located on the growth frontier of cities (McGuirk and Dowling, 2007). The phenomenon of the MPE is the latest manifestation of utopian place-making derived from Howard's Garden-City movement of the late 19th century (Gwyther, 2005)[2]. MPEs are becoming increasingly important as a part of the urban residential environment and as an increasingly popular means of housing provision all over the world (McGuirk and Dowling, 2007). A master-plan is a mechanism of planning control over an entire project site, underpinned by a particular vision for the completed development (Gwyther, 2005).

These holistically planned residential environments usually incorporate a uniform aesthetic landscape design and a wide range of communal amenities, and are increasingly being offered as readymade communities (Walters and Rosenblatt, 2008). Therefore, the MPE concept is underpinned by utopian expectations that the form of the development and its outdoors design features can produce a community (Gwyther, 2005). Developers of MPEs appear to be seeking to offer more than simply housing or land alone, and are now promoting developments that emphasise the idea of community, which indicates a shift from traditional house-building to a more comprehensive concept of place-making (Goodman and Douglas, 2008). It is a call for an ideal community that resonates in the collective imagination, recalling a nostalgic view of small town or village settings and appeals to a communitarian sense of neighbourliness and wholesome family and environmental values (Walters and Rosenblatt, 2008).

[2] The word Utopia was introduced in the Western European vocabulary during the Renaissance. But as with so many other important words, it originates from ancient Greek: ou, 'non' and topos, 'place', i.e., the non-place, the place that does not exist. But in everyday consciousness, Utopia often has another meaning, which is more like the Greek eu-topos - eu meaning good, perfect, desirable, because Utopia is often thought of as the dream of the perfect place (Reiner, 1963).

Although often criticised in the relevant literature, direct critique of the phenomenon of the MPE is beyond the scope of this study. Interestingly, recent investigations have started to highlight some advantages of this form of urban development in that it enables orderly growth, private funding for infrastructures, certainty for developers and economies of scale, and that sometimes it also creates an opportunity to ensure better planned and integrated residential environments with a greater degree of social coherence (Goodman and Douglas, 2008). However, the scope of this study is to engage critically with the idea of creating communities in the MPEs by relying on the design features and in particular the landscape. In this section the idea of physical determinism and its relationship to the idea of creating community will be explored, questioning the limitation involved in crossing the gap between the physical and psychological meaning of community.

2.2.1 Physical Determinism and Community

Planners and urbanists have a long history of striving to create communities through physical intervention. In his book 'The Place of the Ideal Community in Urban Planning' (1963), Reiner tried to analyse and document examples in an organised fashion as the concept developed within the first half of the 20th Century and the last quarter of the 19th Century. He selected a group of proposed ideal communities and identified the variety and types of methodological propositions involved in their development. These are: 1) the form of the urban area; 2) the circulation pattern; 3) the establishment of an optimum population; 4) the consideration of optimum density (see Table 2.1 for examples of these ideas for ideal communities[3]).

[3] For the context of proposals, summary of ideas, content analysis and a comprehensive evaluation, see Reiner (1963).

Table 2.1 Models of ideal communities up to the 1950s

Ideal community ideas	Urbanist	Year	Bibliography
Garden Cities of Tomorrow	Ebenezer Howard	1898	(Howard, 1902; 1898)
Road Town	Edgar Chambless	1910	(Chambless, 1910)
Regional Planning Theory	Arthur Comey	1923	(Comey, 1923)
The City of Tomorrow	Le Corbusier	1924	(Le-Corbusier, 1929)
The Metropolis of Tomorrow	Hugh Ferriss	1929	(Ferriss, 1929)
The Neighbourhood Unit	Clarence Perry	1929	(Perry, 1939)
Design of Residential Areas	Thomas Adams	1934	(Adams, 1934)
Rush City Reformed	Richard Neutra	1934	(Neutra, 1954)
Broad Acre City	Frank Lloyd Wright	1932	(Wright, 1932; 1931)
A Program for City Reconstruction	Walter Gropius and Martin Wagner	1944	(Gropius, 1945)
Human Scale in City Planning	Jose Luis Sert	1944	(Sert, 1944)
New City Patterns	Spencer Sanders and Arthur Rabuck	1946	(Sanders and Rabuck, 1946)

Critics have also questioned whether these ideas are physical design concepts or concepts generating desired social outcomes. However, central to the controversy,here is the theory of physical determinism (Lawhon, 2009). Physical determinism is, as explained by Lang (1987:101), *"...the belief that human behaviour is determined by the nature of the geographic [and physical] environment".* Many of the principles tackled in these examples have been resurrected in the past few decades, but are finely based on an understanding of human nature and needs (Katz, 1994; Langdon, 1994; Calthorpe, 1989; Hayden, 1984; Krier, 1984). Understanding how the built environment might determine behaviour is important too. Lang (1987) suggested that environmental effects on behaviour take place along a continuum from: 1) a free will approach (no environmental effect), to 2) a possibilistic approach (environment provides possibilities for behaviour, provided the person makes a choice to participate), to 3) a probabilistic approach (dealing with probabilities that a particular reaction will occur), to 4) a deterministic approach (a desired behaviour is determined by the design environment).

Patricios (2002) condenses Lang's categorization into a range of three mechanisms (Figure 2.1). At one end of the continuum is an 'opportunistic' rationalisation. This suggests that physical planning presents opportunities for creating a community; in another words, physical planning does not cause such an outcome; it merely provides the opportunity. At the other end of the continuum is a 'deterministic'

approach which suggests that physical planning determines social outcomes, resulting in some desired form of social progress.

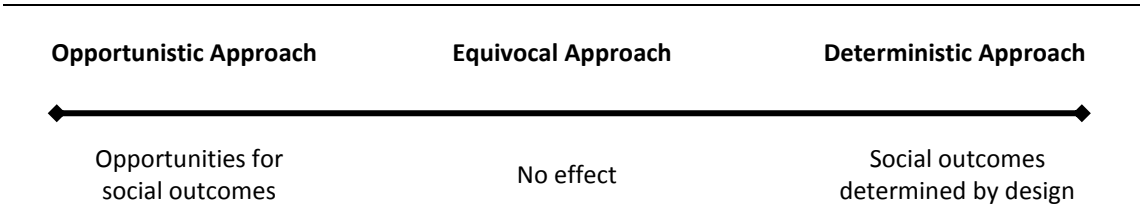


Figure 2.1 Effects of physical planning on urban quality
Source: Patricios (2002:71)

Physical determinism in the realm of planning practice provokes an age-old dispute, which needs to be revisited, given the current course of interest in creating community by physical planning (Talen, 1999). The claim of planners and developers that they are engaged in creating communities has been questioned by some commentators such as Talen (2000:127):

> [P]lanning practitioners are involved in the notion of community, whether explicitly articulated or not, is to state the obvious. Because, at the same time, much of planning practice is related to things physical, [the questions here are] what is the proper relationship between community and physical design? Can a sense of community feasibly be promoted through physical or environmental intervention?

2.2.2 Creating Community by Physical Planning

Planners usually approach their intention to create communities implicitly, at the same time that different types of physical plans are being formulated on the basis of explicit social purposes. Talen (2000) found that the usage of the community concept in current planning practices contained a dualistic notion of community, on one hand, “community as process”, in which collective problem solving is strengthened, and on the other, “community as end product” or artefact, in which physical planning and built environment are enlisted to create desired social outcomes. Furthermore, she noted that notions of community or sense of community are often inked to the idea of the provision of appropriate environments. But she warned of

the lack of specific methods in planning practice to link physical planning and the notion of community.

The concept of community is a complex and at times contested notion. When discussing the creation of communities in the MPEs, it is important to understand what is meant by the term 'community', that is whether it refers to just the physical form or to a broader active social characteristic. Norton (1961:60) argued that the *"meaning of community is one of the basic unresolved questions [...]. In the absence of a thorough understanding of community and in the absence of a modern dynamic meaning of community, we are building a physical living environment in which the individual is losing his identity"*. Furthermore, the complexity of the 'community' notion was articulated by Mason (2000:19): *"The concept of community often seems to be used to represent a valued achievement. It is complex because it involves a number of different elements: for example, shared values, participation in a shared way of life, identification with the group and mutual recognition"*.

Mason argued that the notion of community is basically vague, in both theory and common usage. He emphasised that the phrase is used to distinguish two very different types of relationship. On the one hand, it is used to refer to groups whose members share similar values and lifestyles, identify with the group and its practices, and acknowledge each other as members. He calls this the "ordinary concept" of community. On the other hand, community is also used in a manner that restricts its application to groups whose members are equally concerned and do not exploit one another. He calls this "the moralised concept of community". When the term 'community' is mentioned in the context of physical planning, usually a 'sense of community' is meant in a literal way, and result in plans of an idealised neighbourhood form (Talen, 2000). The following discussion will explore the factors involved in a sense of community and its relation to the physical environment.

2.2.3 Sense of Community

Factors which might form a 'sense of community' have varied across the literature. McMillan and Chavis (1986) integrated the work of several different commentators and developed a comprehensive definition and theory of sense of community. Four major elements are identified: 1) membership, 2) mutual influence, 3) fulfilment of needs and 4) shared emotional connections. While there is no lack of tools to examine sense of community, in general the literature has not focused on the physical qualities of communities, but rather on the psychological attributes (Hill, 1996; Nasar and Julian, 1995). However others called for more clarification of this notion as it relates to physical planning in particular (Talen, 1999). Kim and Kaplan (2004) developed a framework bridging the gap between the physical and psychological attributes that contribute to sense of community. Their framework identifies four domains: 1) community attachment, 2) community identity, 3) social interaction and 4) pedestrianism (Figure 2.2).

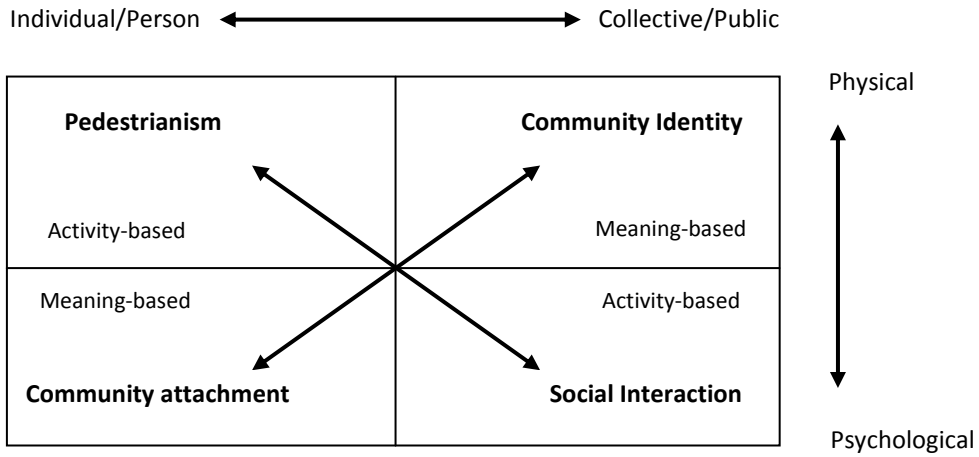


Figure 2.2 Domains of sense of community and their relationships
Source: Kim and Kaplan (2004:319)

Kim and Kaplan (2004) therefore, argued that by feeling at home, having bonds with others, connection with the place and access for local exploration, residents gain a stronger sense of community. They added that pedestrianism and community attachment are based on individual experience and perception of a sense of

community. In contrast, community identity and social interaction are related to collective and social perspectives. They found that while pedestrianism and community identity rely on physical composition, community attachment and social interactions have a greater psychological composition. In addition, they discovered that pedestrianism and social interaction are activity based; by contrast, community identity and community attachment are meaning based. Kim and Kaplan's sense of community domains have received considerable attention in the literature. For a summary of these concepts and sub-concepts see Table 2.2).

Table 2.2 Sense of community components

Domain	Sub-domain	Bibliography
Community attachment (Bonding with community)	Community satisfaction	(Mesch and Manor, 1998; Hummon, 1992; Cook, 1988; St. John et al., 1986; Fried, 1982; Glynn, 1981)
	Sense of connectedness	(Giuliani, 1991; Sampson, 1988)
	Sense of ownership	(Hummon, 1992; Appleyard and Lintell, 1972)
	Long-term integration	(Hummon, 1992; Sampson, 1988; Smith, 1985; Guest and Lee, 1983; Goudy, 1982; Kasarda and Janowitz, 1974)
Community identity (Identifying *with* community)	Uniqueness	(Twigger-Ross and Uzzell, 1996; Woolever, 1992)
	Continuity	(Lalli, 1992; Giuliani, 1991; Suttles, 1984; Alexander et al., 1977; Mumford, 1961)
	Significance	(Devine-Wright and Lyons, 1997; Lalli, 1992; Korpela, 1989; Trancik, 1986; Lynch, 1981; Alexander et al., 1977; Lynch, 1960)
	Compatibility	(Twigger-Ross and Uzzell, 1996; Leibkind, 1992; Hummon, 1990; Kaplan, 1984)
	Cohesiveness	(Barrett-Lennard, 1994; Weening et al., 1990; Buckner, 1988; Galster and Hesser, 1981; Alexander et al., 1977)
Social interaction (Being involved in community)	Neighbouring	(Buckner, 1988; Glynn, 1986)
	Casual social encounters	(Oldenburg, 1989; Fleming et al., 1985)
	Community participation	(Rothenbuhler et al., 1996; Cook, 1983)
	Social support	(Pretty et al., 1996; Schwirian and Schwirian, 1993; Keane, 1991; Fleming et al., 1985)
Pedestrianism (Knowing community)	Walkability	(Keller, 1978; Alexander et al., 1977)
	Pedestrian propinquity	(Brower, 1996; Berry, 1985)
	Public transportation	(Bernick and Cervero, 1997)
	Street side activity	(Gehl, 1996; Goldsteen and Elliott, 1994)

It is notable from the above table that sense of community has a number of identified aspects, both psychological and physical on both individual and collective levels. Various studies validate the idea of linking both physical planning and the

notion of community, and support the idea that physical planning can act as a promoting mechanism for a sense of community, for example, the quality of such urban amenities as shopping, worship and recreation (Ahlbrandt, 1984) and the physical boundaries of the community (McMillan and Chavis, 1986). Some studies found that these factors may act only as the facilitator and not the cause of sense of community (Brown and Werner, 1985). Again, most of the studies validating the idea of linking physical planning and community, point to the possible effect of planning on social development in particular contexts and groups. These not inevitable, and do not imply a direct link to the more multifaceted and multidimensional concept of community. However, there is scepticism about the inherent value of creating community in the first place. Therefore, the limitation and criticism of the very idea of creating community will be discussed in the following section.

2.2.4 Community: Limitations and Criticisms

The definition of community as a place still exists, but has been supplanted to a certain extent by the notion of community of interest or of "portable personal communities", largely detached from any specific setting, as Crump put it (cited in (Talen, 2000:176). Therefore, commentators in the field of community research have consistently revealed the existence of placeless communities and promoted the notion of community as liberated from any specific locale. This is increasingly clear, living as we are in the age of expanded cyber-spaces and cyber-communities.

Even before the internet revolution the non-territorial basis of the idea of community is frequently expressed in the literature. Social class and commonality of values (Gans, 1962), socioeconomic status, age and gender (Campbell and Lee., 1992), stage of life cycle (Haggerty, 1982), demographic characteristics, population, subjective feeling about the environment (Verbrugge and Taylor, 1980), are but a few examples of a non-territorially based notion of community. The ability of planners to create communities as an end product is baulked by the fact that many

factors either inhibit territorial interaction or act as a necessary prerequisite for interaction to occur, and by the trend towards 'community liberated' in which a sense of community is an extra-spatial phenomenon (Talen, 2000). In connecting physical planning to some aspects of the idea of community, some practical limitations might face planners, as expressed by Talen (2000:177):

> [T]hey [the planners] must consider three practical limitations [in linking physical planning and community]. First, most of the research documenting the effect of environment on neighbourhood social structure deals with its effect on social interaction, not on the psychological sense of community. Although interaction can lead to neighbourhood attachment and sense of community, the evidence stops short of linking physical design to these deeper social structures. Second, much of the research in the environmental behaviour tradition has focused on site design as opposed to the layout of whole neighbourhoods and communities, and the latter is more likely to be the purview of planners. Finally, most research identifies indirect or interaction variable effects, a level of complexity that planners may not be able to readily take into account.

This is well expressed by Evans (1994:106) when he argued that the quest for community is similar to *"chasing rainbows, constituting a chimerical notion which cannot and should not be the object of public policy"*. Some commentators went further by criticising the view that the notion of community can used as measure of planning success (Audirac et al., 1992). Furthermore, some have argued that building communities through physical planning has been historically linked to the promotion of social homogeneity and exclusion (Silver, 1985). Banerjee and Baer (1984), for example criticised the rigidity of so called ideal communities based on the social engineering of a particular type of balanced built environment. It might be concluded here, using Talen's (2000:178) words, *"Focusing on the creation of community by physical planning can, in short, breed the worst kind of social exclusion and cultural elitism".*

It is clear now that the idea of fostering a sense of community in the residential environment by physical intervention has deep roots in the history of urban planning, yet it has also faced deep scepticism. It is important to explore the idea of liveability that emerged onto the scene of urban planning discussions; it is directly

connected to the idea of sense of community in residential environments but in a more pragmatic sense. The idea of liveability of a community refers to the relative ease with which residents can meet their human needs; from the biological, like food, shelter and health care, to the psychological, like protection, to the sociological like feeling a part of a group and a community (Lennard and Lennard, 1995). The concept of 'liveability' will be explored in the following section.

2.3 Liveability: Neo-Utopian Thinking

As discussed in the previous section, the idea of generating desired social outcomes by physical design has been questioned by critics. However, urban planners and designers try, again and again, to create local Utopias. This dream is reflected in the, academic and popular literature on the desire to enhance the liveability of the built environment and to create more liveable communities, which has increased exponentially in recent years[4]. Interest in the topic has grown enormously, but, just as clearly, the obstacles to actually bringing about 'liveability' are huge. It is necessary to define the subject more precisely in order to help planners turn theory into practice. This is well expressed by van-Kamp et al. (2003:6) in their account:

> The concepts of urban environmental quality and related terms such as liveability, quality of life and sustainability enjoy great public popularity and form a central issue in research programmes, policy making, and urban development, or at least they do so in terms of the appearance of these terms in the respective literatures. However, the manifestation of the context in which environmental quality is used in research and policymaking is seldom uniform. Concepts as liveability, living quality, living environment, quality of place, residential perception and satisfaction, evaluation of the residential living environment, quality of life and sustainability do overlap, and are often used as synonyms.

[4] The word 'liveable' is often used as an adjective and means; comfortable, suitable, bearable, habitable and endurable to live in, with and by (Merriam-Webster's Collegiate Dictionary, 2010).

The term ‘liveability’ was first coined in the 1970s by American academics and planners seeking to combat the effects of urban sprawl such as social alienation and a lost sense of community (Shaw, 2004). Both Kevin Lynch in ‘The image of the City’ (1960) and Jane Jacobs in ‘The Death and Life of Great American Cities’(1961), observed the physical characteristics of the a city's built environment which were important to the people who lived there. In showing that urban environments should be designed for people, with walkable streets, welcoming public spaces, and lively neighbourhoods, they contributed to the development of the concept of liveability.

The concept of ‘place legibility’ was one of Lynch's innovations. This refers to the ease with which people understand the layout of a place. Lynch was able to separate out different features of a city, and see what in particular makes it so vibrant, liveable, and attractive to people. He found that in the process of understanding a city layout, people first create a mental map. These mental representations, as with the actual city, contain many unique elements, which are defined by Lynch as a network of paths, edges, districts, nodes, and landmarks. For Jacobs, successful cities are constructed from street life where people of all sorts come and go at all hours, work, play, and gossip on the sidewalks and shape the informal relationships that foster trust. She claimed that busy streets are safe streets and empty streets are dangerous and warned against single-purpose zoning. She described mixed-use development as the foremost strategy in rebuilding a city neighbourhood.

Liveability means many things to many groups. Epley and Menon (2008) for example, consider it as the quality of life in a specific area or as one measure of the level of attractiveness. Urban quality of life has been approached from two basic points of view; the first sees the construct as a single, unitary entity, while the second considers it as a composition of discrete domains (Cummins, 1996). The variation in understanding of liveability happens because the study of urban environmental quality has not been the sole domain of any particular field (Brown, 2003). The multi-

disciplinarity that has emerged in studies of urban environmental quality is a result of the multi-dimensionality of environmental problems (O'Riordan, 1995)[5].

Because the liveability concept derives from the relation between people and their environment it is useful to discuss it through the lens of human ecology. 'Ecology' is designated as a science that deals with the interrelationships between organisms and their surroundings (Lawrence, 2003). Similarly to general ecology, human ecology refers to the study of the dynamics and interrelationships between human populations and the physical, biotic, cultural and social characteristics of their environment and the biosphere (Lawrence, 2001). The interrelations between organisms and their surroundings influence the volume and quality of available local resources, the discharge of waste products and the creation of new resources. In addition, organisms are components of ecological systems and, therefore, they influence the living conditions of other species (Lawrence, 2003).

Camagni et al. (1998) developed a model which explained the interaction between the physical, social and economic aspects. This model is in agreement with the broader literature which accepts that the physical, economic and social domains form the elements of community (Table 2.3). These elements are systematically and commonly used when commentators try to give content to concepts of liveability and urban quality of life (van-Kamp et al., 2003).

[5] In their extensive literature review of urban environmental quality, van-Kamp et al. (2003) demonstrated that the notions of liveability, quality of life and sustainability overlap and are used sometimes as synonyms. These concepts draw additionally from a diverse range of academic disciplines (sociology, geography, psychology, environmental sciences, health sciences and economics) and are potentially of interest in an equally diverse range of professional areas (architecture, planning, landscape, engineering, public policy).

Table 2.3 Positive and negative external effects in the interactions between the different environments

Interaction	Positive external effects	Negative external effects
Between economic and physical environments	-Efficient energy use. -Efficient use of non-renewable natural resources. -Economics of scale in the use of urban environment amenities.	-Depletion of natural resources. -Intensive energy use. -Water and air pollution. -Depletion of green areas. -Traffic congestion and noise.
Between economic and social environments	-Accessibility to housing. -Accessibility to social amenities. -Accessibility to social contacts. - Accessibility to education. -Accessibility to health services.	-Forced suburbanisation due to high urban rents. -Social frictions on the labour market. -New poverties.
Between social and physical environments	-Green areas. -Residential facilities in green areas. -Urban environmental amenities.	-Urban health problems. -Depletion of historic buildings. -Loss of cultural heritage.

Source: Based on Camagni et al. (1998)

Shafer et al. (2000) used the same three domains (physical, social and economic) to conceptualise quality of life. In their model interaction between the domains is explicitly defined, giving a picture of relationships between concepts of liveability, quality of life and sustainability. In this approach liveability is considered to be the product of the interaction between physical and social domains, and sustainability as the product of the interaction between the physical and economic domains (Figure 2.3). Mitchell (2000), while concluding that there is no agreement on quality of life in either terminology or construction method, did try to use different components, including; health, physical environment, natural resources, personal development and security, but he did not include economic issues (Figure 2.4).

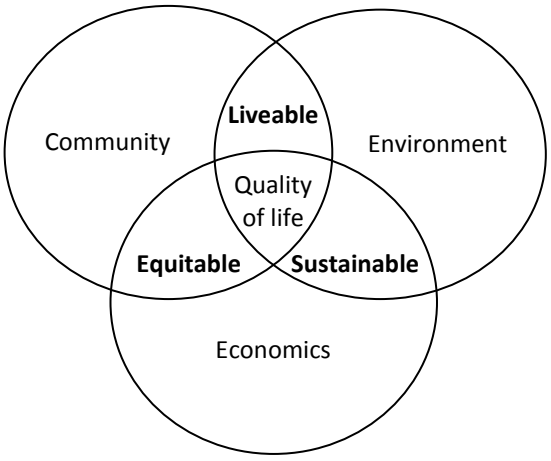


Figure 2.3 Factors that contribute to quality of life
Source: Based on Shafer et al. (2000:166)

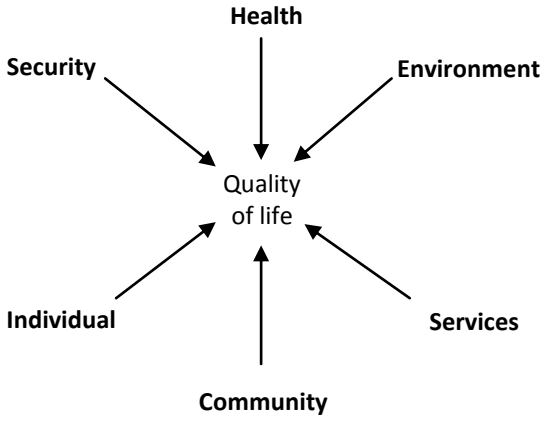


Figure 2.4 Quality of life components
Source: Based on Mitchell (2000:79)

Moreover, within the human ecological approach to liveability studies, Newman (1999) built a model in which liveability explicitly relates to social, economic and physical aspects. This model sets out to show how this basic metabolism concept has been extended to include the dynamics and liveability of settlements. In this model he specified the physical and biological basis of the community, as well as its human basis. The physical and biological processes of converting resources into useful products and wastes are like the human body's metabolic processes or those of an ecosystem (Figure 2.5).

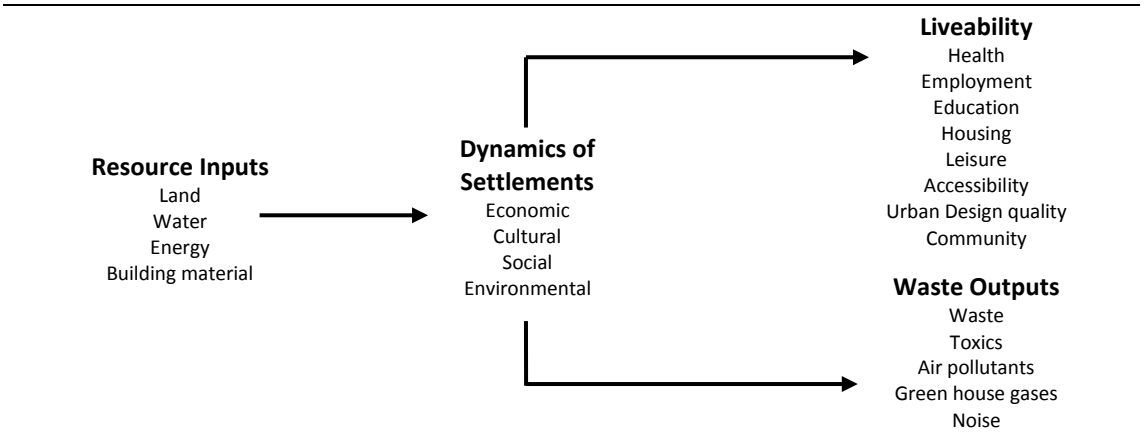


Figure 2.5 Extended metabolism model of human settlements
Source: Newman (1999:220)

In order to understand what is meant by liveability and liveable communities, an attempt is made here to demarcate urban quality related concepts. These concepts find their origins in the various research and policymaking traditions. Concepts in this respect are narrowed to the concepts of liveability, quality of life, ideal community and urban satisfaction. Definitions are not the main interest here, but their implications are. Most of the literature gives only implicit definitions of concepts, therefore, some representative definitions of urban environmental quality concepts are presented in Table 2.4.

Table 2.4 Urban environment quality explanations in the literature

Definitions	
Urban Liveability	
Liveability represents the basic qualities that must exist for a residential environment to be successful.	(Smith et al., 1997)
Quality of Life	
Quality of life refers to the more or less 'good' or 'satisfactory' character of people's urban life.	(Szalai, 1980)
Ideal Community	
The Ideal community is deduced from basic assumptions about the good life.	(Reiner, 1963)
Urban Satisfaction	
Urban satisfaction refers to residents' overall evaluation of their residential environment. Physical attributes of the environment are filtered through perception and evaluation to affect satisfaction.	(Amérigo and Aragonés, 1997)

The underlying theories and hypotheses these definitions can offer are extremely important in any discussion of the relevant domains of creating liveable communities. In this section the idea of merging the concepts of 'liveability' and 'community' into one concept, 'liveable community', will be explored in an attempt to understand why they are often linked in the relevant literature and to work out how to assess the liveability of the residential environment.

2.3.1 Liveability: The Political Dimension

Recent statements and guidelines from governmental agencies around the world suggest that the issue of creating more liveable communities and related concepts is moving up the political agenda. An example of this is expressed by Bigio and Dahiya (2004:VII):

> The quality of urban environment and its linkages with regional and global sustainability are essential public goods, and as such, deserve as much attention as possible from national governments, and support from the international community. Urban environmental management, however, is also the business of local governments, which promotes citizens' health and its rights to a clean, liveable environment, and of the private sector, which can increase the efficiency and effectiveness of service delivery.

Although different agencies have different views, it is possible to map out a pattern. For example, in the early 1970s when the liveability concept had become the central focus of Greater Vancouver's Regional District planning, and a key word in regional

planning, nobody really knew what it meant. The embedding of liveability in the planning agenda in Canada was expressed by Harry Lash (1972), who was the director of planning in Greater Vancouver Regional District from1969-1975 (WEDC, 2010):

> When liveability became the key word for our regional planning, we knew we would have to find effective ways to deal with many problems…Producing a plan and regulations would not be enough. We had to deal with long-term future liveability, but also with people's ongoing satisfaction, their day-to-day experience of living in the region. Tomorrow's liveability needed as much attention as the attainment of a better future. The proof of the planning would be in building liveable communities.

The Canadian liveability agenda, however, focuses on four strategies (Table 2.5).

Table 2.5 Liveability agenda: Canada 1972

Strategy	Approach
Protect the Green Zone	- Area of the green zone - Area of the agricultural land reserve
Build Complete Communities	- Number and proportion of total and new dwellings in municipal and regional town centres - Proportion of office floor space
Achieve a Compact Metropolitan Region	- Population growth share of annual population growth, for the growth concentration area and the Region
Increase Transportation Choice	- Vehicle ownership per household - Total and per capita transit ridership AND transit capacity

Source: (WEDC, 2010)

Another example is the response to the evolving needs and aspirations of the community, development and other interest groups within Western Australia by the Western Australian Planning Commission, which sought to facilitate the creation of high quality developments on the fringe and large urban infill developments. The urban design qualities noted in *Responsive Environments in* 1993 and the *Australian Model Code for Residential Developments* in 1995 formed the basis for a draft version of *Liveable Neighbourhoods*. The result is a model for urban development that is reflective of society's economic and social needs. The Australian liveability agenda is called 'liveable neighbourhoods initiative' and focuses on eleven aims (Table 2.6).

Table 2.6 Liveability agenda: Australia 1995

Strategy	Approach
Walkable neighbourhoods	To provide urban structure of walkable neighbourhoods clustering to form towns of compatibly mixed uses in order to reduce car dependence for access to employment, retail and community facilities
Inclusivity approach	To ensure that walkable neighbourhoods and access to services and facilities are designed for all abilities.
Sence of community	To foster a sense of community and strong local identity in neighbourhoods and towns
Interconected network of access	To provide for access generally by way of an interconnected network of streets which facilitate safe, efficient and pleasant walking, cycling and driving.
Boosting surveillance	To ensure active street-land use interfaces, with building frontages to streets to improve personal safety through increased surveillance and activity.
Efficiency of public transport systems	To facilitate new development which supports the efficiency of public transport systems where available, and provides safe, direct access to the system for residents.
Boosting mixed use urban development	To facilitate mixed use urban development which provides for a wide range of living, employment and leisure opportunities; which is capable of adapting over time as the community changes; and which reflects appropriate community standards.
Diversity and local services	To provide a variety of lot sizes and housing types to cater for the diverse housing needs of the community at a density that can ultimately support the provision of local services.
Conservation and contextualisation	To ensure the avoidance of key environmental areas and the incorporation of significant cultural and environmental features.
Openspace and urban water managment	To provide for a more comprehensive approach to the design of open space and urban water management.
Cost-effectiveness and resource-efficiency	To ensure cost-effective and resource-efficient development to promote affordable housing.

Source: (Planning, 2010)

In the late 1990s the Clinton-Gore 'Liveability Agenda: Building Liveable Communities For The 21st Century' emerged to help communities across the USA grow in ways that would ensure a high quality of life and strong, sustainable growth. The importance of the liveable community initiative was expressed by Vice-President Gore (1998) (Smartgrowth, 2010):

> It is an initiative that will help us build more liveable communities in which to raise our families ... places where young and old can walk, bike, and play together; places where we not only protect historic old neighbourhoods, but where farms, green spaces, and forests can add life and beauty to the newest of suburbs; places where we can work competitively, and still spend less time in traffic and more time ... that most precious of commodities for the families we really are ... with our children, our spouses, our friends.
> **This Speech was by Al Gore at the Brookings Institution in 2 September 1998.**

The so-called 'Clinton-Gore liveability agenda' aimed to help citizens and communities and was based around five strategies (Table 2.7).

Table 2.7 Liveability agenda: USA 1998

Strategy	Approach
Preserve green spaces	Preserve green spaces that promote clean air and clean water, sustain wildlife, and provide families with places to walk, play and relax.
Trafic problems	Ease traffic congestion by improving road planning, strengthening existing transportation systems, and expanding use of alternative transportation.
Sence of comunity	Restore a sense of community by fostering citizen and private sector involvement in local planning, including the placement of schools and other public facilities.
Neighboring collaboration	Promote collaboration among neighbouring communities, cities, suburbs or rural areas, to develop regional growth strategies and address common issues like crime.
Rigional Compatitivness	Enhance economic competitiveness by nurturing a high quality of life that attracts well-trained workers and cutting-edge industries.

Source: (Smartgrowth, 2010)

In April 2001, Tony Blair gave a speech highlighting the importance of what he called 'Liveability in the UK'. The speech marked a long overdue recognition of the importance of the public realm, streets and public spaces, in community life. Dirty, dangerous and traffic dominated streets were seen to undermine the social, economic and cultural life of communities (Number-10, 2010).

> Liveability means streets where parents feel safe to let their children walk to school. Where people want to use the parks, where graffiti vandalism, litter and dereliction are not tolerated. Where the environment in which we live fosters rather than alienates a sense of local community and mutual responsibility.
> **Speech was Tony Blair at Groundwork seminar, Fairfield Hall, Croydon, in 24 April 2001.**

The UK liveability agenda, often called as 'Living places: cleaner, safer, greener', was promoted to help in enhancing liveability by employing six strategies (Table 2.8).

Table 2.8 Liveability agenda: UK 2001

Strategy	Approach
Creating attractive parks, play areas and public spaces.	- Driving up expected standards. - Creating positive and proactive planning. - Moving towards a more strategic role for local authorities.
Improving the physical fabric and infrastructure of places.	- Alongside the mainstream resources available to support the delivery of local services. - However, the improvements will only work if they are sustainable and linked with cultural changes in terms of organising services and setting challenging standards.
Making places cleaner and maintaining them better.	- To assess cleanliness and the quality of the local environment providing local areas with data to identify priority areas and to improve performance. - Giving practitioners the powers and tools they need to make a difference by streamlining and strengthening legislation and promoting take up and good practice.
Making places safer and tackling anti-social behaviour	-The Respect Action Plan sets out a cross-government programme to tackle persistent anti-social behaviour. - In doing so it reinforces the relationship between the behaviour of individuals within communities and how it can be influenced by the quality of the local physical environment and the perception of that environment.
Engaging and empowering local people and communities.	- This priority focuses on neighbourhood empowerment, which aims to give communities more say about how services are run. - Working that will engage communities in setting priorities and actions to transform local environments and empower them through greater local accountability.
Catering for children and young people and tackling inequalities.	-This priority focuses on supporting activities for young people, enabling them to make positive decisions, and listening to and engaging young people so that they can become involved in the improvement of their own local areas.

Source: After (Communities, 2010)

The National Organisation of Urban Harmony (NOUH) in Egypt was established in 2001 by presidential decree. A special section in the new Building and Planning Law published in 2009 is devoted to urban harmony initiatives. It embraces activities that aim to improve the urban liveability of Egyptian cities, villages and new communities; this is well expressed by Abdel- Salam in an interview by Al-Aref (2004):

> The aim of NOUH is not only to make the streets pretty, but to integrate people into the process by making them appreciate the aesthetics of their surroundings. This will be achieved through media campaigns explaining to people the importance of bringing a halt to the visual chaos that has spread throughout the city streets and buildings; and to explain why this is happening. Residents of areas due for a renovation will be encouraged to take part in the process. The aim is to improve people's quality of life in urban environments.
>
> **Farouk Abdel- Salam was the first under-secretary of state at the Ministry of Culture in 2004**

The Egyptian liveability agenda, or what is called the 'Urban Harmony agenda', aims to restore Egyptian urban liveability by applying seven strategies (Table 2.9).

Table 2.9 Liveability agenda: Egypt 2001

Strategy	Approach
Visual quality	Restoring urban visual quality of the all areas and eliminating actual ugliness.
Creating a database of architecture hiretage	Preparing a database comprising all buildings with special architectural features and setting the necessary rules to preserve this patrimony.
Urban control	Setting the norms that guarantee the occurrence of no alteration to the current architectural image and prohibiting the addition of any annexes to the currently existing buildings that may deform the whole image.
Setting guidelines for urban landscape	Setting the bases of dealing with public spaces such as gardens, streets, pavements, lighting and colours. These rules must also respect the movement of pedestrians and disabled citizens.
Controling Street signs	Setting the conditions tackling the form of signs and signs appearing in streets, squares and on buildings' facades.
Restoring open spaces.	Restoring squares within an urban & visual framework. This must conform with the specific features of different regions and must preserve the original old form of every square
Urban harmony laws	Discussing draft laws and pointing out every remark that helps to achieve urban harmony.

Source: (NOUH (National Organisation for Urban Harmony), 2010)

From discussions in the political agendas and from the different initiatives which attempt to enhance the urban liveability of built environments, it is clear that a link has been made between improving the physical settings and achieving a better sense of community. It could be summarised here that liveability agendas encompass the characteristics that influence people in choosing to live in a particular urban environment. These characteristics include participation, social inclusion, infrastructures and services quality, as well as built and natural environment quality.

However, there is a strong sense in the liveability agendas toward building communities through implementing these initiatives; this is perhaps one reason for explaining the appearance of the term 'liveable communities' in referring to responsive urban environments. When talking about responsive urban environments in the literature and planning practice, concepts of liveability and sustainability often overlap and frequently are used simultaneously and interchangeably (van-Kamp et

al., 2003). This is because there is a general absence of discussion about the nature of the relationship between the two concepts[6].

2.3.2 Liveable communities vs. Sustainable Cities

In the last two decades, much has been written about the concept of sustainability of urban environments and how it might be achieved on national and international levels. Yet, as discussed earlier, more recent literature about the liveability concept emerged on a more local level and connected to people's immediate needs and demands. However, there might be a great risk in discussing each concept in its own right; this is because little attention is paid to whether or not they are mutually reinforcing or potentially in conflict. And this is despite the fact that, both concepts have notions of quality of life, wellbeing and life satisfaction in common and more generally, both are about the person-environment relationship. However, reviewing examples of different approaches to tackling liveability related issues raised some important questions; is liveability the short term and local expression of sustainable development? Is liveability part of sustainable development process? Or does it clash with the sustainable development agenda?

It might be possible to relate liveability and sustainability in terms of scale. Van Kamp et al. (2003) argued that the goal of sustainability is how person-environment interrelate in the future, while liveability focuses on how person-environment interrelate now. Two models have been developed by Lyndhurst (2004), whereby sustainability focuses on, global issues over a long period of time, while liveability is its local expression here and now. Liveability can be seen in Lyndhurst's models as securing a sustainable end consistent with the 'think globally, act locally' mantra of Local Agenda 21 (Figure 2.6). Thus, it is not surprising that the politically driven agendas of liveability are seen as important means of engaging people in a way that

[6] One exception is a report prepared by Brook Lyndhurst (2004) for the ODPM.

sustainable development cannot do. Another model developed by Lyndhurst (2004) positions liveability as part of a bigger picture. In other words, it is seen as one contributory element to sustainability (Figure 2.7). Thus, liveability here can be considered as a necessary but not sufficient element of sustainable development. The relation can be illustrated as a gear, in which liveability agendas around the world, as outlined earlier, contribute to local environment and natural capital in a predominant way (Figure 2.8).

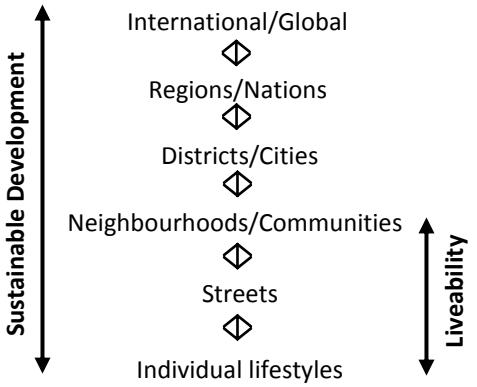


Figure 2.6 Scales of liveability and sustainability
Source: Based on Lyndhurst (2004:9)

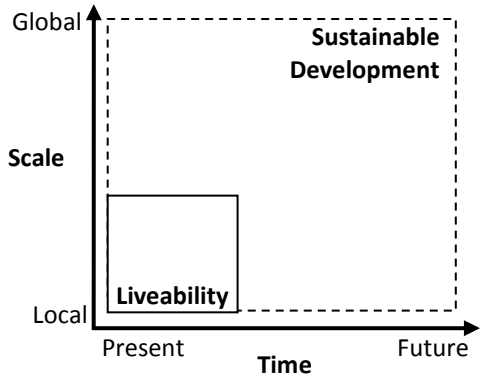


Figure 2.7 Liveability the here and now
Source: Based on Lyndhurst (2004:9)

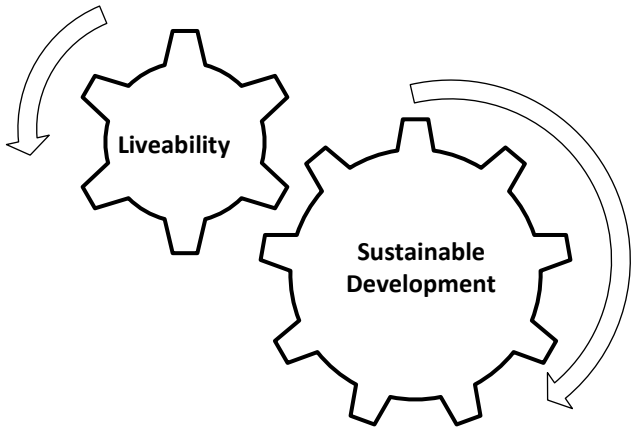


Figure 2.8 Viewing liveability and sustainability as a gear

Nevertheless, there are concerns that liveability agendas might clash with sustainability goals. Lyndhurst (2004), for example, raised three reasons for these concerns. First, liveability can be discussed as predominantly an 'end of pipe' consideration, which attempts to deal with a specific problem without necessarily tackling the underlying causes, by focusing more on the immediate results. Second, liveability does not necessarily address bad habits; sometimes the price of having greater liveability means sidestepping some hard behavioural choices to the detriment of sustainability. Third, liveability might teach some bad lessons, as it might create an illusion in the minds of both the public and the initiators that the right things are being done. This would be the case for example if liveability were delivered by unsustainable means.

Table 2.10 key differences between liveability and sustainability

Liveability	Sustainabiltiy
The good life	Carrying capacities
Immediate	Long term
Local	National/global
About the environment	For the environment
Individual/community needs	Collective/societal goals

Source: (Lyndhurst, 2004:13)

Liveability could be defined here as a statement of desires related to the satisfaction of an individual or set of individuals with the urban environment in a particular location, with sustainability being the capacity to deliver these desires over time (Allen, 2010; Chazal, 2010). This explains why the level of liveability is an effective variable in assessing satisfaction in both life and residential satisfaction research and vice-versa; it is noted that this satisfaction results from a process of appraisal, perception, evaluation and coping or adapting behaviour (van-Kamp et al., 2003). The relationship between residential satisfaction and behaviour will be explored next in order to understand how to assess the liveability of residential environments.

2.3.3 Assessing Liveability: Satisfaction and Behaviour

The connection between satisfaction and quality of life, and hence urban liveability, is expressed well by Amerigo and Argones (1997:47), when they stressed that *"residential satisfaction has been studied as an important criterion in descriptions of quality of life of inhabitants of a determinate residential environment, and also a trigger factor affecting residential mobility".* However, Weidemann and Anderson (1985) argued that incorporating consideration of residential satisfaction could be established in a series of theoretical frameworks, which may be termed comprehensive models of residential satisfaction, in which this construct is considered as a principle variable of residential quality and, simultaneously, as a variable capable of predicting certain actions.

Along the same lines Amerigo and Argones (1997) developed a conceptual framework in which to examine the way individuals interact with their environments (Figure 2.9). According to Amerigo and Argones, the objective attributes of the residential environment once evaluated, become subjective, giving rise to a certain degree of satisfaction. Thus, the subjective attributes are influenced by personal characteristics.

These characteristics would include a normative element whereby individuals compare their real and ideal residential environments. The result of this comparison or evaluation *"is a positive affective state which the individual experiences towards his/her residential environment and which will cause him/her to behave in certain ways intended to maintain or increase congruence with that environment"* (Amérigo and Aragonés, 1997:48).

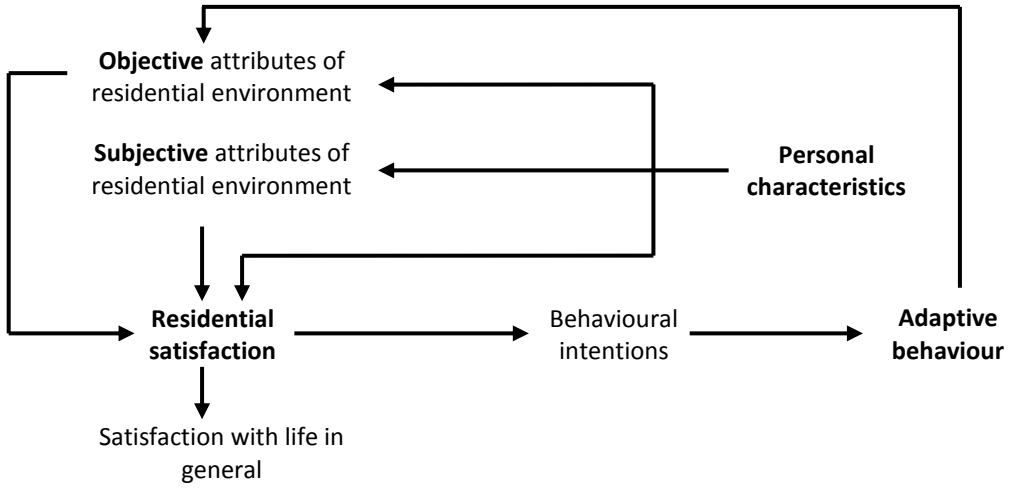


Figure 2.9 A systemic model of residential satisfaction
Source: Amerigo and Argones (1997:48)

Factors related to physical or material aspects of satisfaction are considered as objective while those related to perceptions of satisfaction are considered as subjective; within the scope of the objective definition of urban liveability lie two sub-classifications of variables, those related to consumption and those related to available resources (Epley and Menon, 2008)[7]. Pacione (2003) argued that urban liveability is a relative rather than an absolute term whose precise meaning depends on place, time and purpose of assessment. This view contends that liveability is the result of the interaction of both environmental and person characteristics. Therefore, Pacione stressed that in order to obtain a proper understanding of urban environmental quality it is necessary to employ both objective and subjective evaluations. In other words, we must consider both 'the city on the ground and the city in the mind' (Figure 2.10).

[7] A differentiation between the individual/internal or subjective definition of liveability indicators and the environmental/external or objective definition of Liveability indicators has been drawn by Hellburn (1982). Paim (1995) compared objective and subjective definitions of liveability, yet others tried to link them (see McCrea et al., 2006).

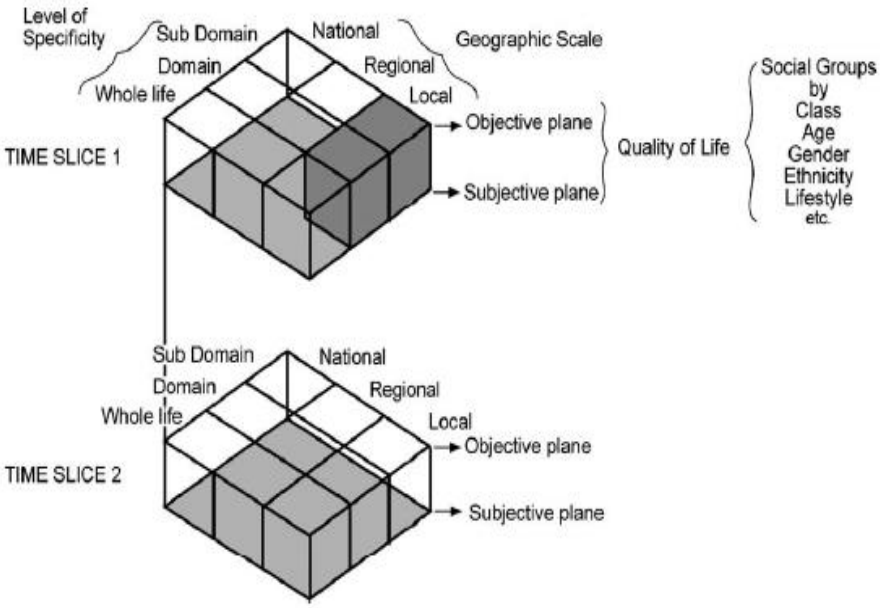


Figure 2.10 Urban quality indicators type, scale and specificity
Source: Pacione (2003:20)

By definition, urban quality is context dependent being related to specific social, cultural, economic settings, and times (Mitchell, 2000). However, van Kamp et al. (2003) noted that three theories are useful with respect to the context dependency of urban quality; a) comparison theory; b) liveability theory; c) a folkloric approach. For them, perception of urban quality is a result of a comparison of situations, a comparison between the actual and the desired situation and a comparison with the situation of others. The comparison theory is often contrasted with liveability theory, which assumes that perceived quality is dependent on objective qualities. The folkloric approach assumes that satisfaction is a product of attitude or general character rather than of the actual characteristics.

A number of structural models have been developed to describe how individuals join the different domains of satisfactions into a broad feeling of well-being or ill-being. Pacione (2003) proposed a model in which satisfaction with life in general is a weighted sum of satisfaction with different domains of life, and in turn, these domain satisfactions are weighted sums of specific satisfiers and dis-satisfiers. Pacione's model suggests that individuals 'add up' their joys and sorrows to arrive at a feeling about general wellbeing. The process in this model appears to occur in such

a way that joys in a single aspect of life may be capable of paying for sorrows in other aspects. A more complicated model is Maslow's (1954). In this well known "hierarchy of needs" model, certain kinds of needs are more fundamental than others; until these are reasonably satisfied other considerations have little effect on overall satisfaction and behaviour.

It is widely accepted that environment-behaviour transactions form a dynamic process and influence satisfaction (van-Kamp et al., 2003; Pacione, 1990). Of relevance here is Aitken and Bjorklund's (1988) model that identifies four modes of environment-behaviour transaction; a) when the relation is synchronised, the result is little or no stress; b) when the environmental events are extraordinary and faced with fixed person behaviour, there is likely to be personal behavioural stress; c) sometimes, personal behavioural events alter usual forms and the environment remains unchanged, the result is again stress; d) and when an extraordinary environmental event is met by an extraordinary personal behavioural event, the result is a form of synchronisation,(Figure 2.11). In this model, within the timeframe of four transactional domains, there are three possible transformations in each domain.

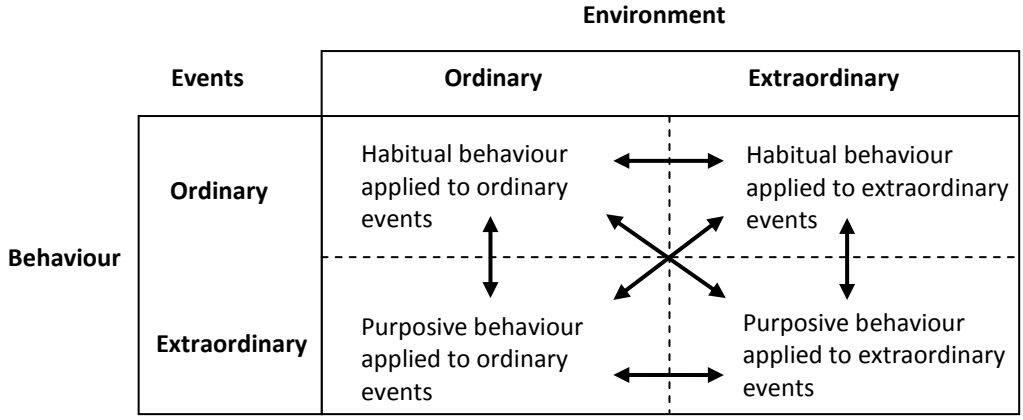


Figure 2.11 Modes of person behaviour/environment transaction and transformation
Source: Aitken and Bjorklund (1988:59)

However, Aitken and Bjorklund (1988) developed another model complementary to the previous one, and based on the person-environment interface (i.e. type of

feedback). In this model negative feedback seeks stability, or sometimes maintenance of the original equilibrium level; positive feedback seeks change and the adoption of a new equilibrium level (Figure 2.12).

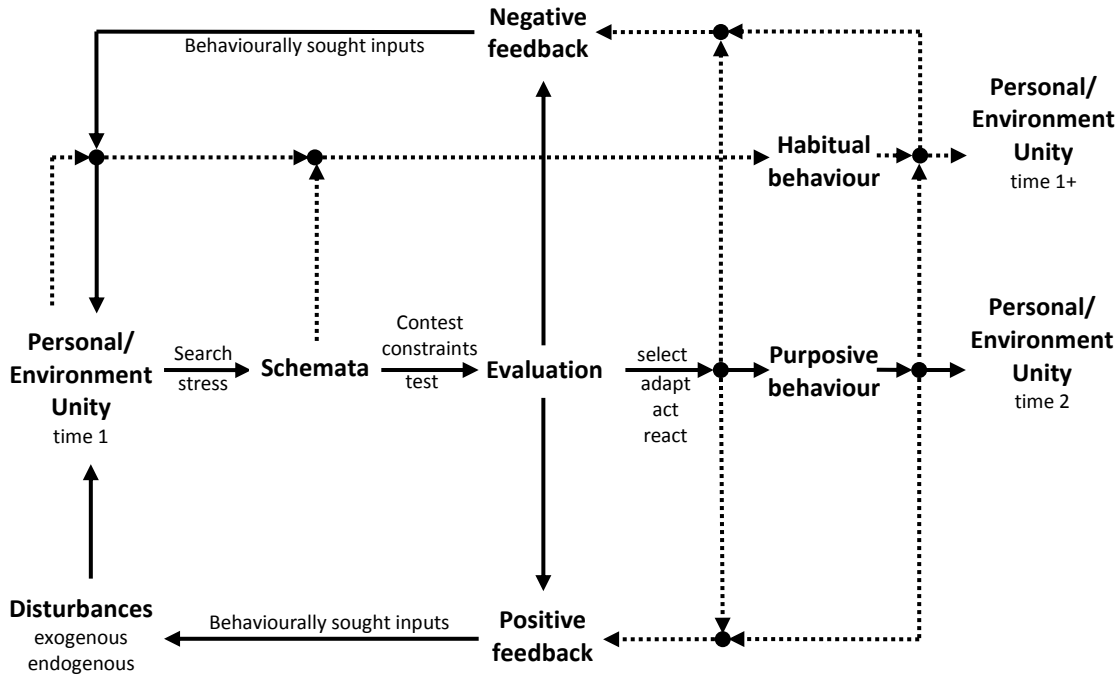


Figure 2.12 Human behaviour at the person/environment interface
Source: Aitken and Bjorklund (1988:61)

A similar model has been advanced by Pacione (2009), based on five major theoretical perspectives of environment-behaviour transaction; a) human ecology (Wirth, 1938); b) subcultures (Fischer, 1984); c) environmental load (Milgram, 1970); d) behavioural constraints (Lefcourt, 1976); e) behaviour settings (Barker, 1968). In Pacione's model, positive collective after-effects would embrace a level of learning about how to handle the next occurrence of undesirable environmental stimulation. If the handling strategies are inadequate, however, stress will continue. In this model, experience feedback influences perception of the environment for future events and contributes to individual differences which in turn affect future experiences (Figure 2.13).

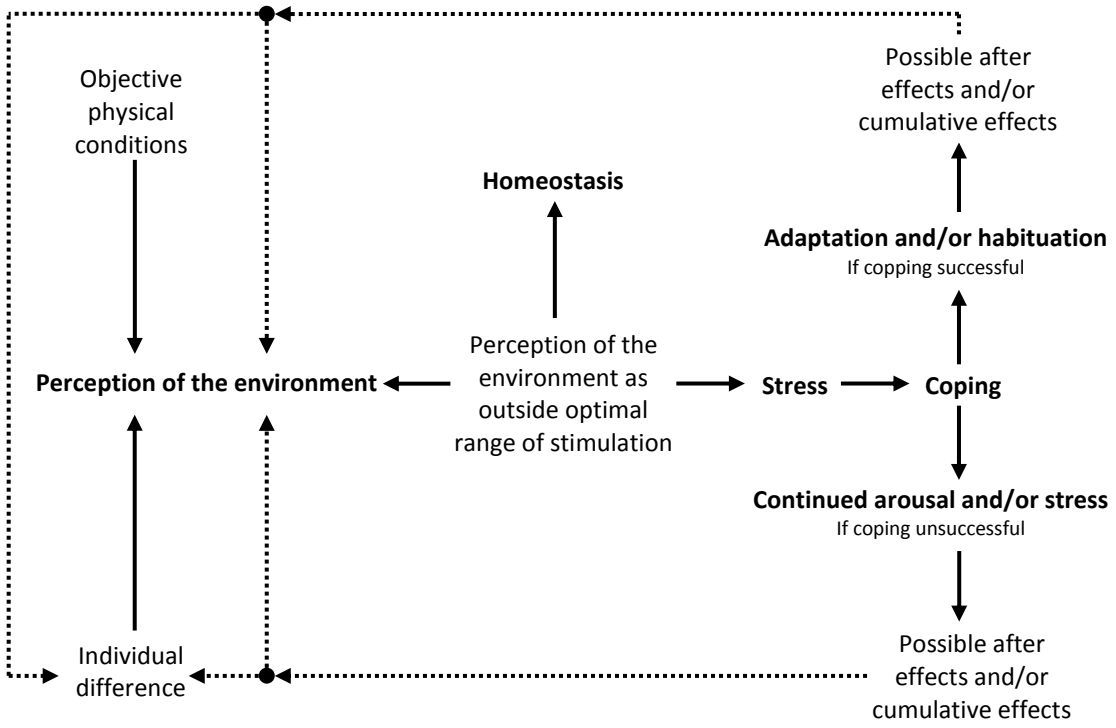


Figure 2.13 The stress model of urban impact
Source: Pacione (2009:401)

Different forms of liveability that have been identified by van Dorst (2010:112) including apparent liveability, perceived liveability and assumed liveability. Apparent liveability refers to the extent to which a living environment is aligned to the adoptive repertoire of a species and can be demonstrated by how long and how happily people live there or want to live there. Perceived liveability refers to individuals' appreciation, or lack thereof, of their living environments and emphasises the importance of a good interrelation between people and their environments which results from daily interaction with this environment. Assumed liveability is the extent to which the environment meets the assumed conditions for apparent liveability.

These models of an environment-behaviour relationship, although not directly related to assessing liveability, are helpful and will be used to construct the conceptual framework later in this chapter. From the discussion it is clear that a liveable community is a residential urban environment that meets its residents'

needs by the experience of a high level of satisfaction; however the idea of attaching liveability to community is unclear and needs further understanding. Therefore as Pacione (1990) argued, urban liveability is a relative rather than an absolute term whose precise meaning depends on place, time and purpose of assessment. This view contends that liveability is the result of interaction of environmental and person characteristics. Therefore urban forms and services play an intrinsic role in residential behaviour and perception of liveability. In the coming section the relationship between urban form, services and residential mobility will be examined.

2.4 Urbanisation: Services and Residential Mobility

As discussed earlier, urban liveability is closely connected to environmental quality. One of the major driving forces of environmental quality is urbanisation activities, nevertheless these processes are neither uniform nor constant (Turner et al., 1990). Catalán et al. (2008) suggested that these urbanisation activities must be approached by taking into account the specific geographic, cultural and historic contexts in which cities are shaped from particular urban forms. Urban growth is increasing faster than urban population; between 2000 and 2030, the world's urban population is expected to increase by 72%, while urbanisation could increase by 175% (Angel et al., 2005). Considering that by 2008 half the world's population were living in urban areas, the land occupied by urbanisation is not large in itself. Recent estimates based on satellite imagery indicate that all urban areas (built up and open spaces) cover less than 3% of the Earth's land mass (Martine, 2007). Conversely, Martine (2007) pointed to the fact that although the total area used by urbanisation is relatively small, urbanisation itself has significant social, cultural, economic and environmental implications.

The literature on urban form reflects the lack of agreement about the definition and delimitation of the two popular urban patterns; compact and dispersed urbanisation forms (Catalán et al., 2008). Both have their origins in the opposition against the urban reality of particular historical moments (Neuman, 2005). Urban dispersion resulted from the struggle against the compactness of cities, which were foci of congestion, pollution and disease (Bruegmann, 2005). For many years urban planners did not complain of low-density urbanisation, but of high-density ones. In recent decades, on the contrary, calls for compact urbanisation have arisen as a way of addressing the problems associated with dispersed urbanisation and the capacity to provide people with necessary services (Catalán et al., 2008). Therefore, there is a link in the literature between urban form and the ability to provide services and infrastructure. Before examining this relationship and its effect on residential mobility, the infrastructures and services needed for a functioning urban environment will be discussed first.

2.4.1 Infrastructures: The Functioning Urban Environment

The definition found in the Collins English Dictionary (2006:303) for infrastructure is: *"Basic facilities, services, and equipment needed for a country or organisation to function properly"*. Therefore, infrastructure is generally seen to comprise those essential service that support life and interactions of a community. This is well articulated by Ennis (2003:1) in his account: *"The availability of infrastructure services is critical to the functioning of the modern urban environment. The presence, the absence and the quality of infrastructure services affects the well-being of residents [...] In order to fulfil this purpose, infrastructure services need to be widely available".* Therefore, infrastructures and services in this sense can be used interchangeably.

The first stage of the process of analysing the infrastructure or services provision and its contributions to liveability is to identify the wide range of infrastructure types in

order to identify later its scale of operation. Most frequently a distinction is made between 'green' and 'grey', or 'hard' and 'soft' infrastructures. The difficulty here is that what is not easily identifiable as 'green infrastructure' becomes 'grey infrastructure' by default and that what is not 'hard infrastructure' becomes 'soft infrastructure'. While such approaches are useful, there is need for a firmer classification of infrastructure which can be applied in different situations and can also be used for analytical reasons to provide a clearer understanding of the 'type' and 'scale' of the infrastructures needed for a functioning urban environment.

The urban environment requires a mixture of services in order to function effectively (Renard, 2003). For the purposes of this study the classification here is based on that of Ennis and of Healey et al (Ennis, 2003; Healey et al., 1995). The urban environment in this classification consists of layers of infrastructures or services including physical, economic, housing, educational, health, community and environmental infrastructures. All of these contain a number of categories in their turn (), although there may be disagreement regarding the allocation of particular categories to specific layers. The aim here is to use a generic yet flexible classification to make discussions of the essential infrastructures and services needed to create 'liveable' communities rather more meaningful.

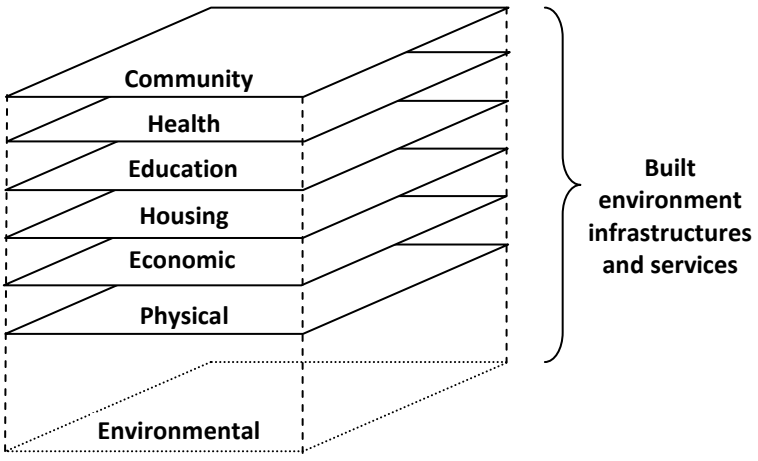


Figure 2.14 The urban environment as layers of infrastructures

Physical Infrastructures are the most well known services and are often taken for granted in both developed and less developed regions. These services include roads (motorways or local streets), water (drinking and irrigation), sewerage (sewers and recycling), power (electricity and natural gas), communication (landlines, internet and mobile) and public transport (buses and railways). The irony is that for the public, physical infrastructure is simply there and available; turning on the tap, flicking the light switch, dialling a number or moving around do not invite any consideration of how these networks came to be (Graham and Marvin, 2001). Economic Infrastructures are concerned with providing places and opportunities for generating personal income. Typically governments are responsible for securing employment, but this is not the case any longer as the private sector is more and more involved in jobs provision.

The greatest proportion of the urban environment is occupied by housing of all types, the housing infrastructures. These include owner-occupied, private rented or affordable housing. Educational infrastructures fill the need for such services to ensure that everyone has the opportunity to secure an education which enables him or her to function effectively in the labour market. These services include schools, colleges and universities. Health infrastructures, given concerns that the urban environment is a healthy one, provide hospitals and medical centres to ensure this objective (Ennis, 2003).

Community infrastructures provide the services that are often considered necessary for the day to day needs of residents of a particular urban environment (Ennis, 2003). These include shopping facilities (ranging from corner shops to shopping streets and malls), recreation facilities (sports venues, theatres, cinemas, restaurants, cafés, parks and open spaces), cultural facilities (libraries, museums and galleries), social facilities (community centres, leisure centres and day nurseries), public security and safety (policing, ambulance and fire stations). Environmental infrastructures often relate to the general environmental quality within and

surrounding the urban environment, but more generally cover the need to deal with the environmental impacts of other infrastructures. Therefore, it is the only infrastructure which requires preservation not provision.

Every infrastructure or service have a superstructure (Ennis, 2003)[8]; the question now is what form the urban environment superstructure takes. In this study, the MPEs provide empty spaces which are given significance by people choosing to relocate there, hence there is no liveability in a space without people: people's actions make a place either liveable or not. In turn the layers of infrastructures and services discussed previously are created by ideas and concepts which 'theoretically' emerge to fulfil people's needs, and therefore, these 'needs' form the superstructure of the urban environment. However, the provision of infrastructures and services has been questioned in terms of its relationship to urban growth, density and form. The debate around urban density and form will be discussed next.

2.4.2 Dispersion or Densification

As discussed earlier, the phenomenon of MPEs usually occurs on the growth frontier of cities so helping to cause a form of urban sprawl. Urban sprawl, resulting from a combination of different forms of urban expansion, has become a remarkable characteristic of urban development worldwide in the last decades (Leichencko and Solecki, 2005). For simplicity, Martine (2007) classified it as residential suburbanisation and peri-urbanisation. In North America and after World War II which saw the start of the current trend towards urban sprawl, these types of suburban growth symbolised the "American Dream" (Hogan and Ojima, 2008). The aspiration for a return to rural living closer to nature was a driver in the search for a

[8] Ennis (2003: 10) argued that to understand the nature of the superstructure it is necessary to understand the purposes of infrastructures, which is to provide a basis for human activity. Individuals make use of infrastructures to create opportunities to advance their desire to enjoy the good life. Therefore, the superstructure is the social and cultural action which is made possible by the existing infrastructure.

better quality of life (Martine, 2007). The intensive use of the automobile was both a cause and a consequence of this pattern of urbanisation in North America, although the original model of urban sprawl was associated with lifestyle and preferences in particular cultural settings. These values associated with American consumption patterns have apparently been reproduced in other regions, backed by social, cultural and economic changes, and the result is an uncontrolled spread of cities outward (Hogan and Ojima, 2008).

In Europe, where traditionally compact urbanisation was the norm for many decades, there are signs that sprawl and suburbanisation are increasing (Bae and Richardson, 2004). In the last three decades of the last century, urbanisation in France increased five times in the time that it took the population of these areas to double (Pumain, 2004). This trend in expansion is more recent in Mediterranean Europe, the model of compact cities is being replaced by a more American style suburban form (Munoz, 2003). For example in Spain, Barcelona has seen a significant increase in suburbanisation, the process of discontinuous growth in concentric rings accompanied by a pattern of isolated islands (Catalán et al., 2008; Munoz, 2003). Nevertheless, suburbanisation in less developed countries is more complex; until recently the persistent poverty, inequality and the relative precariousness of transportation infrastructure has discouraged even wealthier segments of society from moving to the suburbs in large numbers (Martine, 2007). However, it is well recognised that the original American suburbanisation pattern is now spreading quickly around cities in less developed countries. In other words, the markets and the globalisation of consumption are leading to the reproduction of urban forms which replicate those found in the USA (Martine, 2007).

In less developed countries, urban sprawl is dynamic, diverse and most of the time disordered and occurs in the shape of both ‘organised’ suburbanisation and ‘less-organised’ peri-urbanisation (Allen, 2003). Peri-urbanisation often lacks clear regulations and administrative authority over land use, and suffers the worst

consequences of urban growth, such as pollution, social problems, poverty, and yet in contrast to suburbia accommodates a variety of economic activities (Simon et al., 2004). Martine (2007) noted that peri-urbanisation is generally fuelled by land speculation, nurtured by the prospect of rapid urban growth. Another contributor to peri-urbanisation is change in the structure and location of economic activities, supported by the development of communication and transportation networks (Martine, 2007). Peri-urbanisation draws a rural migrant workforce and changes their economic activities from agriculture to manufacturing and services (Leaf, 2002). Peri-urban areas usually offer more affordable and more accessible housing for the urban poor, but housing which is often more insecure and subject to demolition, not to mention lacking in basic infrastructure. These forms of urbanisation compete with agriculture for space in the time that both might be displaced by other economic uses (Bunnell et al., 2002).

McGranahan et al. (2001) noted that since peri-urbanisation is beyond the legal and administrative boundaries of cities, the capacity of authorities to regulate these areas is particularly weak. This leads to an unplanned, informal and illegal urbanisation with frequent struggles over land use, with environmental degradation usually the result. The lack of regulation of these urbanisation forms can endanger the residents' health and quality of life, because they may be exposed to hazardous substances in the air and water and in the food they grow (Songsore and McGranahan, 1998). At the same time suburbanisation is a result of increasingly affluent householders and investors experiencing location choices in a global, free and liberal market, supported by the availability of acceptable means of accessibility (i.e. transportation and infrastructure), as well as relatively cheap private transport (Howley et al., 2009).

In less developed countries the norm is for cities to have a greater population than in developed countries but to occupy less space (Angel et al., 2005). Yet over the last decade in both developed and less developed countries, the average density of cities

has been declining quickly, at an annual rate of 1.7% for less developed countries and 2.2% in developed countries (Hogan and Ojima, 2008). Consequently, the issue of dispersion versus densification is much debated among planners; disagreement arises over the sources of sprawl, over methodological issues and over conflicts in values (Martine, 2007). Recently, in most developed countries, planning policies have increasingly favoured a compact form of urbanisation to overcome environmental problems (Howley et al., 2009). In the last two decades or so, much of the interest in liveable and sustainable urbanisation relates to the relentless increase in dependency on the car as the preferred mode of travel, and the negative environmental impacts that dispersed forms of urbanisation might create (Jenks et al., 2000; Banister, 1997; Newman and Kenworthy, 1989).

Heath (2001) recorded that this discourse encapsulates three important issues confronting planning; a) how to deal with the demand for housing; b) how to revitalise cities; c) how to create more sustainable and liveable communities. Thus within this context, urban consolidation is widely espoused as a counter strategy to urban dispersion (Roo and Miller, 2000). The compact form of urbanisation has been supported by the thought that it might contribute to overall liveability and sustainability. This includes conservation of the countryside (Gillham, 2002), reducing carbon emissions (Haughton and Hunter, 2003), supporting walking and cycling and the use of public transport (Banister, 1997), the efficiency of infrastructure provision (Burton, 2003), as well as, the regeneration of the inner urban core (Mills and Lubuele, 1997).

Nevertheless, as evidenced by the rapid suburban sprawl in both developed and less developed countries, individual residential preferences and aspirations appear to be at variance with these planning policy agendas (Howley et al., 2009). Therefore, many commentators question whether the process of urban sprawl can be reversed (Senior et al., 2004; Heath, 2001; Breheny, 1997). Breheny (1995), argued that urbanisation densification have to be subjected to three questions; a) veracity; b)

feasibility; c) acceptability. He added that the acceptability of urban compactness to the public is the issue given least attention, although it might prove to be a turning point for the whole issue.

Urbanisation commentators have provided a range of explanations for what appears to be the public's ever-increasing preference for lower-density and suburban living. These include rising incomes for some segments of the public, affordable transport costs and advances in communications (Anas and Small, 1998), the decentralisation of employment opportunities (Cross, 1990), land-use controls and governmental spending on enhancing transport infrastructure (Duany et al., 2000), in addition to the discrepancy between the greater quality of life perceived in inner-city living and more suburban settings (Barcus, 2004; Senior et al., 2004). Paradoxically, Howley et al. (2009), noted that significant increases in world oil prices coupled with higher taxation on cars means that the falling transport costs mentioned by some commentators are no longer a direct explanation for the phenomena of mass suburbanisation activity which is coupled more with mass residential mobility.

2.4.3 Residential Mobility: Preferences and Aspirations

In the time that suburbanisation activity seems to has rooted in cultural aspirations and been promoted by planning policies, these process have also come into question (Martine, 2007). White (1981) recorded that residential preferences and aspirations can be seen as residents' attitudes towards their mobility to the suburbs, and noted three concerns on residential preferences; a) the variability of preferences; b) the type of content expected in these preferences; c) the extent to which these preferences relate to human behaviour. Howley et al. (2009), for example, questioned the accuracy of relying on public preferences and aspirations as a predictor of spatial behaviour and residential mobility to the suburbs. Up to the 1970s economic constraints were a greater determining factor behind residential mobility than residential perceptions (Clark, 1976). Dillman (1979) explained why

economics determined perceptions; the public were often unable to exercise their residential preferences for suburban living, due to employment centralisation. He added, that individuals were frequently challenged to choose between either an attractive social and natural environment or economic well-being; consequently, most people were pushed to live near urban cores.

However, increasingly in recent decades, non-economic motivations for relocation are held to explain mobility (Barcus, 2004). Lee et al. (1994) stated that individual perception of a particular urban environment is becoming an important determinant in whether they move or stay. Similarly, Clark et al. (2006) changed what Clark himself stated 30 years earlier, and declared that people are currently giving more weight to the social and environmental quality perceived in a particular community in their decision to relocate. Yet, Howley et al. (2009) noted that economic factors are still a constraint in residential mobility to a certain extent, but that this is likely to be much less of an issue than previously. Hence, they added that, although traditionally mobility was associated with maximising economic well-being, social and environmental well-being are now the most important factors because these are now much more accessible.

It is worth noting here that the substantial improvements in transport and income in recent decades, not only in developed countries but also in some less developed ones, facilitated greater possibilities of satisfying residential needs than ever before (Howley et al., 2009). Therefore, people are now more willing and able to commute long distances for employment and services in order to satisfy their residential needs (Barcus, 2004). The classic view of relocation behaviour indicates that residential mobility is usually prompted by the inappropriateness of current dwellings and changes in life course events, including demographic and employment issues (see (Rossi, 1955). Most of the literature still emphasises the role of the household and of dwelling characteristics (Rabe and Taylor, 2010; van Ham and Feijten, 2008). Not much is known about the way the physical characteristics of the built environment influence

residential mobility (Clark et al., 2006). This opens up the question of landscape in the MPEs and its connection with residential mobility. In an attempt to answer this question, landscape as a human-environment framework will be explored in the coming section.

2.5 Landscape: The Human-Environment Framework

> 'Landscape' is a connecting term...Much of its appeal to ecologists, architects, planners and others concerned with society and the design of environments lies in landscape's capacity to combine incommensurate or even dialectically opposed elements: 'process and form', 'nature and culture', 'land and life'. Landscape conveys the idea that their combination is – or should be – balanced and harmonious, and that harmony is visible [physically]. Balance and harmony carry positive moral weight, so that a disordered or formless landscape seems something of contradiction. Scenic values thus come to act as a moral barometer of successful community: human, natural or in combination.
> **Cosgrove (2006:52)**

As introduced in the first chapter, an improved character of landscape is offered in the new desert MPEs as the component of the development that makes liveable communities. Although there are many studies that have approached the phenomena of MPEs in the Middle East, very few have examined its landscape practices. When these practices have been studied they represent the very antithesis of landscape as a local integration of community life, culture, nature for many commentators (Fahmi and Sutton, 2008; Kuppinger, 2004; Asfour, 1999; Abdelhalim, 1996).

However, there are number of explanations for rejecting the idea of landscape as defining these MPEs; the fact that they are always engineered spaces, often alien to surrounding natural environment, require vast outlays of resources for maintenance, are largely disconnected from local climate, topography and tradition and are a threat to the overall sustainable development (Cosgrove, 2006). Few studies tried to understand the relation between the outcomes of current landscape practices in desert MPEs and a deep examination of the context in which they are situated; still

less do they relate it to residential mobility and satisfaction processes. In their vision for sustainability, Hall and Ward (1998) stressed the importance of the provision of high-quality landscape in the public realm and its critical role in the overall quality of life and sustainability of the built environment. Much has been written about the significance of landscape in the built environment (Stephenson, 2008).

To understand the relation between the landscape character of the desert MPE and the formation of a liveable community, it is useful to view landscape as the framework of human-environment relations. This raises such questions as; why landscape? Why put this weight of complex relations onto landscape, both as a 'concept' and as a 'built form'? Mitchell asked similar questions and tried to provide answers in his account, *"[l]andscape is important because it really is everything we see when we go outside. But it also is everything that we do not see. Landscape in other words, is a way into, a foundation for the exploration of all that there is – the social totality within which we live"* (2008:47). This section explores the contemporary meanings of the term landscape and its character in the Middle Eastern context. In addition it reviews the relationship between landscape change and sustainability as well as the influential impact of landscape on human needs. The section closes by establishing the theoretical context to the study of landscape practices in the MPEs.

2.5.1 Landscape: Contextualising the Term

Landscape could be a territory or the entire physical environment; the first is two-dimensional and the second is three-dimensional. In both cases it is definable through its social, visual and ecological aspects. Thus, landscape is a mixture of everything present and spatially distributed over the earth's surface and sometimes extended above and below the surface (Kaplan, 2009). Roe argued that *"[t]he term is now used in a wider sense to mean a tract of land shaped over time by geological*

processes and by human occupation and agency and by human imagination" (2007:3).

The contemporary usage of the term landscape originally emerged from the Germanic word *Landschaft* but with a totally transformed meaning, marked by the shift from a legal and territorial idea of landscape to a scenic and pictorial one (Cosgrove, 2004). The English language word 'landscape' is used as a noun, adjective and verb, as explained by Roe: "*As a noun...refer to a tract of earth's surface but expanded to include natural-cultural relations...It is used as an adjective to qualify the shape or scene of almost anything...It is used as a verb 'to landscape'... to signify the practice of designing, making, using and managing landscapes and places*" (2007:3). Through all these applications, landscape retains a firm pictorial association, although this no longer confined to the framed view or to aesthetic pleasure (Cosgrove, 2006), but incorporates a more visceral and experiential reference (Olwig, 2002).

However, as yet there is no specific word for landscape in Arabic so the English word is widely used, although the phrase *Tanseque -almawake'e* is often used in Arabic to refer to landscape, meaning literally site-organizing. This absence is not attributed to linguistic shortcomings, but is more likely to be due to a contextual configuration of the Middle East (Makhzoumi, 2002). Various translations of 'landscape' into Arabic can be found like; *land scenery* (Baalbaki and Baalbaki, 1997), *natural scenery* (Theodory, 1996) and *view of the countryside* (Saadeh, 1996). The translations used by the landscape professions such as landscape planning, landscape architecture rarely appear in Arabic (Wahba, 2000), or when found, it is only the aesthetic and scenic role of the professions which is continuously emphasized (Karmi, 1987). This raises the question of how the physical form of landscape comes close to ideals of liveable community in the MPEs in the Middle East.

This has been minutely examined by Olwig (2002:16-17): the Germanic Landschaft and its cognates in Scandinavian languages was applied originally to specific places.

These have always been relatively impoverished regions, marginal to the interests of monarchs and aristocrats whose wealth and power depended on the control, ownership, and taxation of more fertile and accessible territories. Their designation as *Landschaften* denoted a particular notion of polity rather than a territory of a particular size, and the customary law, determined by those living and working in an area, extended over and defined the territorial limits of the 'land'. Custom and culture defined a 'land', not physical geographical characteristics; it was a social entity that found physical expression in the area under its influence. Therefore, the unity of fellowship and rights within the community and the space over which fellowship and rights held sway constituted the Landschaft (Cosgrove, 2006).

The localised combination of community, custom and land might be expected to give rise to visibly apparent morphological distinctions between individual *landschaften* and its cognates (Cosgrove, 2004). However, these practices were dominated by production, whether agricultural, artisan or industrial, whereas today they are dominated by consumption (Cosgrove, 2006). In this respect, the root sense of Landschaft finds parallels in most languages, although the precise legal situation may vary from that of Landschaft; the English word 'countryside', the French 'paysage', the Italian 'paesaggio' and the Spanish 'paisaje' are similarly social and flexible, denoting a collective relationship with land more than a specifically bounded territory (Cosgrove, 2006). However in Arabic the parallel is the word 'Ard' which means 'land'.

Barakat (1993), argued that years of colonial domination and recent integration into global systems have contributed to the change of traditional social structures and cultural values in the Middle East. Thus, Makhzoumi (2002) noted that the transitional nature of contemporary Middle Eastern society is echoed by transformations in physical landscape in the urban environment. She added that the increase of population in the 21st century is changing the regional landscape by replacing traditional, vernacular patterns, both rural and urban, with homogeneous,

contemporary ones. So what are the contemporary urban landscape components? Swanwick et al. (2003:97-98) suggest that urban areas are made up of the built environment and the external environment between buildings:

> The external environment is defined as consisting firstly of 'green space', which is land that consists predominantly of unsealed, permeable, 'soft' surfaces such as soil, grass, shrubs and trees. Urban green space is therefore an umbrella term for all areas of land covered by this definition of green space, whether or not they are publicly accessible or publicly managed. It includes...all areas of parks, play areas and other green spaces specifically intended for recreational use, as well as other green spaces with other origins. The external environment also includes what can be termed 'grey space', which is land that consists predominantly of sealed, impermeable, 'hard' surfaces such as concrete, paving or tarmac. Grey space can be further subdivided into functional spaces, which serve a particular practical purpose, such as roads, pavements, car parks and other hard surfaced areas associated with different types of built development, and civic spaces, which are publicly accessible areas designed primarily for public enjoyment, including town squares, plazas, pedestrianised streets and esplanades.

Open space is defined as a vital component of the urban landscape which contributes to its amenity, either visually or by virtue of providing access. Thus it combines urban green spaces and civic spaces (Handley et al., 2007; Swanwick et al., 2003), (Figure 2.15).

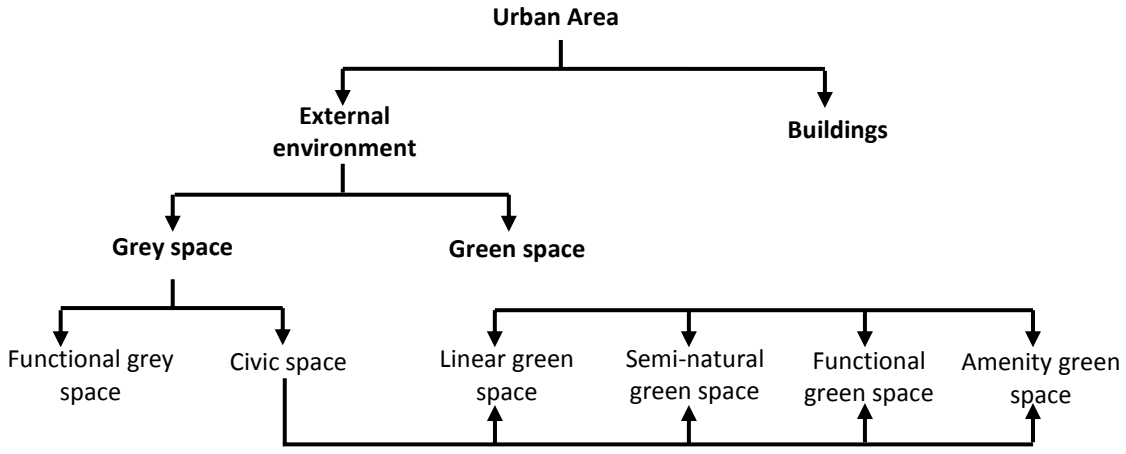


Figure 2.15 A classification for urban landscape
Source: Swanwick et al. (2003:97)

Direct usage of the above summary of urban landscape components, although useful, may superimpose ideas that are alien to the context of the Middle East. Therefore, it is important to contextualise the landscape concept to situate the

Middle Eastern geographic, environmental, socio-cultural and political settings. To cross the language barrier of landscape, the multi-layered meaning of the word should first be deconstructed and thereafter, reconstructed into a new, holistic conception that is rooted in the changing yet challenging physical and cultural framework of the Middle East region (Makhzoumi, 2002).

Building on Motloch (2001) and Simonds (1998), Ahmed (2004) suggested that because it concerns the arid zone and an area largely under massive urban development, the 'landscape term' when used in the Middle Easter context usually refers to urban landscape and consists of six different elements, including: 1) Landform: Terrain shape and view points; 2) Water: Natural like rivers or artificial like canals, lakes and piped; 3) Vegetation: Street trees and greens, green areas, parks, gardens; 4) Paved surfaces: Streets, sidewalks, pedestrians paths; 5) Street furniture: Street marking, lighting, traffic signs, bus stops, phone /post boxes, litter bins, bollards, benches and; 6) Structures: light structures like kiosks and fences or heavy structures like buildings, walls and archways.

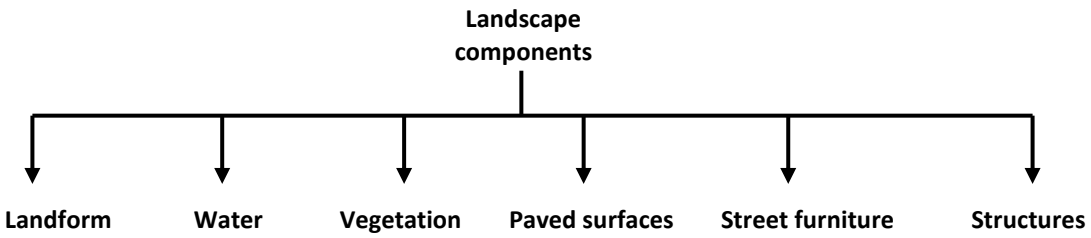


Figure 2.16 Landscape components in the Middle East

When referring to landscape in the MPEs, a combination of these elements is meant. The question now is why landscape in the Middle East has a different meaning.

2.5.2 Influence of the Context: Landscape Character

Wood and Handley (2001) argued that landscape character is a reflection of exchanges between different elements, such as natural, cultural, social and

economic systems. Therefore, landscape patterns embrace multi-layers that are woven together by the interaction of its elements (Bell, 1999). Complex human-environment interactions are conceptualised in a complementary manner (Tress et al., 2003), which is why landscape is conceived as a nexus of community, justice, nature and environmental equity (Mels, 2003). Antrop (2005) highlighted the international concern over the vanishing of traditional landscapes.

The struggle against aridity in the Middle East has influenced social and political organisation and shaped religious and cultural values. This was a result of the duality of the Middle Eastern landscape character; on one hand, the ordered, inhabited space of settlements and cultivated land and, on the other, the desert (Makhzoumi, 2002). Dutton (1992), noted that aridity has similarly influenced the management of landscapes under Islamic Law. There are two categories of land according to Islamic Law, *Ard-Amar* (developed), and *Ard-Mawat* (dead or undeveloped) (Makhzoumi, 2002). Thus, *Ihya-al-mawat* (making life flourish in dead lands), has always been a central value in Middle Eastern culture (Llwellyn, 1992).

Of relevance here is Warnock and Brown's (1998) landscape strategy model, echoed by Wood and Handley (2001), and elaborated by Selman (2006) They all draw attention to the importance of character and condition in dealing with landscapes. These are undermined by 'dysfunctions', where land uses are introduced that are unsuitable to that landscape's functionality, and 'obsolescence', where the economic forces that have given the landscape its character are losing their viability. This model shows that restoration may be required in areas where damage has occurred to landscape, while in areas of strong character and functionality, a conservation strategy might be appropriate (Figure 2.17). Following this model in the Middle East , landscape character in its natural sense is usually weak, and therefore needs reinforcement, and its functional obsolescence is usually high, and therefore needs creation.

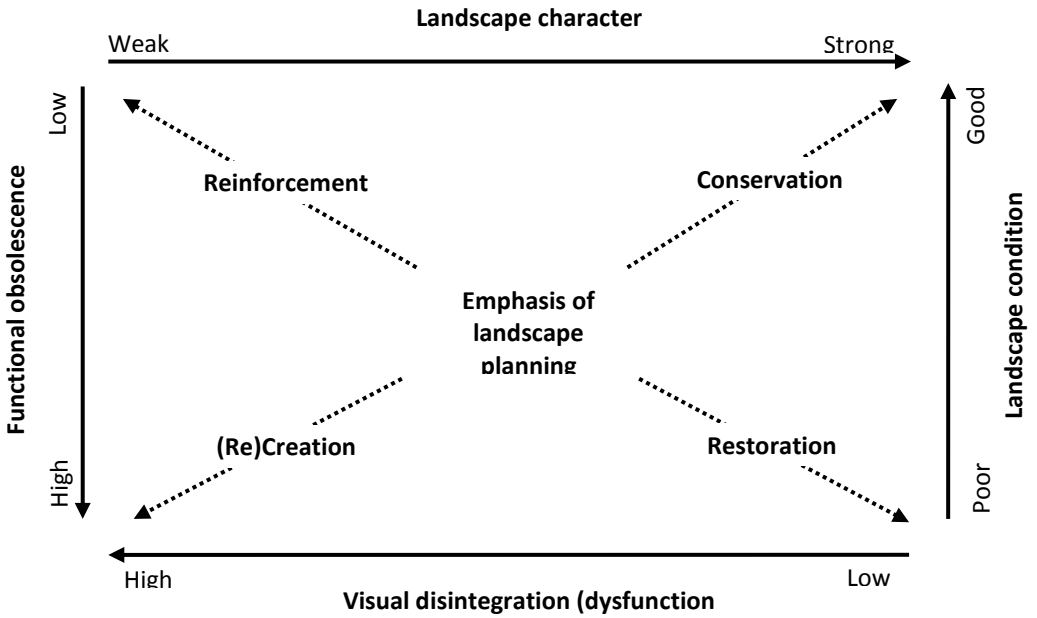


Figure 2.17 Relating landscape strategy to landscape status and trends
Source: Selman (2006:38)

As mentioned earlier, landscape in the Middle East is related to the urban landscape and therefore it is a constructed one. Makhzoumi (2002) explained that in such a hostile environment comfort, security and beauty are embodied by landscapes that are human-modified or created. Thus, the focus of landscape appreciation is a cultural one, in which nature has been tamed, ordered and controlled. Landscape in the Middle East experience is one that is appreciated bit by bit, through movement in space and time and engagement of all the senses (Makhzoumi, 2002). 'Experiential landscape' is a term used by Thwaites and Simkins (2007) to conceptualise a holistic relationship of outdoor open spaces and a range of human experience. They see this type of landscape as *"...the realm usually encountered subconsciously, the ordinary setting of daily routine and the incidental spaces and features people encounter which through regular use come to mean something"* (Thwaites and Simkins, 2007:xi). It is notable now that landscape character in the urban environments of the Middle East is a modified, ordered, tamed and controlled according to human needs, and therefore it is always changing. This raises the question of the relation between landscape change and sustainability.

2.5.3 Landscape Change and Sustainability

As discussed earlier landscape in its contemporary meaning is a concept that combines all the inherited, dynamic and functional relationships between every component of the land surface (Kaplan, 2009). Landscape dynamics refer to a process of landscape evolution, tracing human-environment relationships (Wood and Handley, 2001). Therefore, such interpretation makes landscape an expression of ecological, economic, social and cultural changes which include the acquisition of dynamic values by multi-faceted values (Brunetta and Voghera, 2008). Consequently, landscapes always change because of these dynamic interactions and alterations, and therefore they are the result of consecutive reorganisations of land in order to adapt its use and spatial structure to changing societal demands (Antrop, 2005). Dawson's (1983) systems perspective of landscape change is helpful here in understanding the nature of landscape dynamics (Figure 2.18).

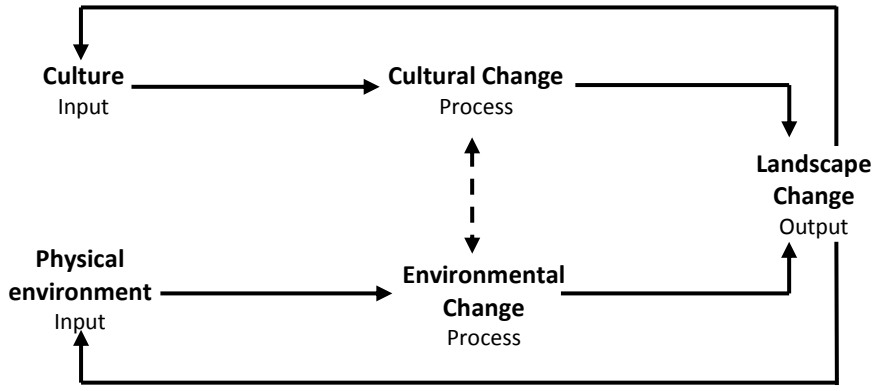


Figure 2.18 A systems view of landscape change
Source: Dawson (1983:12)

By accepting that landscape character in the Middle East is created and changed through human action and experience inscribed in place through time and conceived mainly visually and experientially, then landscape analysis must follow from the perceived forms and communicated meanings to the fulfilment of their multifunctional roles as sustainable milieu of human livelihood. These processes, as Terkenli (2001) suggested, must not be seen as strictly one-dimensional, but as

multidirectional with a continuous mutual feedback from one element of the cycle to the other (Figure 2.19).

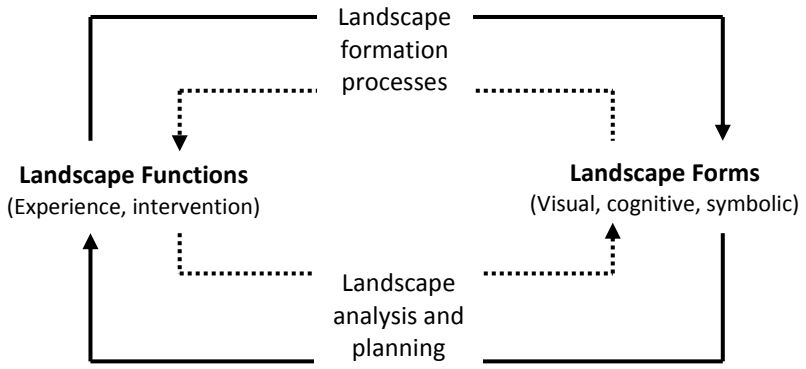


Figure 2.19 Landscape formation and analysis
Source: Terkenli (2001:201)

Landscape is a concept of manifold meanings. Summarising Terkenli (2001), Selman (2006) argued that it holds three types of flow: energy, material and information. The first two are related to the physical environment, and the third to people's perceptions, usage and values. Therefore, landscape is referred to either as a physical entity produced by nature, or as a social construction charged with cultural associations (Selman, 2006).

By deconstructing the concept of landscape, Terkenli (2001) developed a model for landscape aspects and methods of analysis. She argued that landscape has three interlocking facets, visual, cognitive and experiential. In this model landscape aspects may be alternately theorised as form (the visual), meaning (the cognitive) and function (biophysical and human experiences) (Figure 2.20).

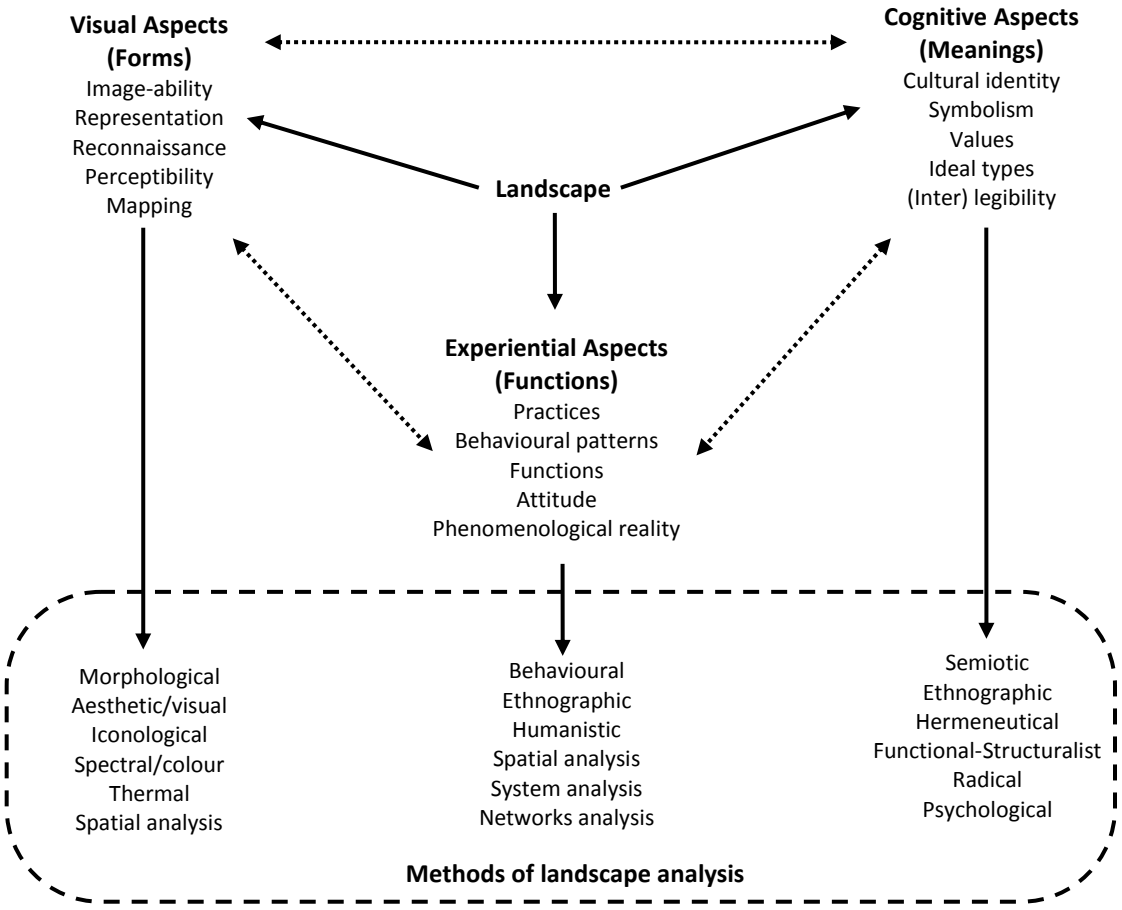


Figure 2.20 Landscape aspects and methods of analysis
Source: Terkenli (2001:200)

In the recent decades, much of the research on landscape has focused increasingly on the human-dominated environment and its complex place based problems, including the effects and impacts of urbanisation on landscape sustainability (Musacchio, 2009). Wu (2010) argued that this urbanisation has often been held responsible for our world's environmental problems and bringing it into conflict with landscape sustainability. Yet in the recent surge of interest in landscape sustainability, he added, some have started to think that urbanisation is perhaps the key to sustainability, while others still regard it as an "*oxymoron"*. Musacchio (2009) emphasised that research on landscape sustainability is breaking new ground about how people's value, behaviours and actions influence the structure, function and change of designed urban landscape. Therefore, less weight is placed on the negative

implications of people as agents of disturbance and more on potentially positive connotations, to be appreciated, influenced, managed and monitored (Musacchio, 2009).

However, no accepted definition of urban landscape sustainability exists as the term has been received with a healthy level of uncertainty (Musacchio, 2009). This is because sustainability is both a fluid goal in itself and influenced by different groups' agendas (Forman, 2008). The origins of landscape sustainability can be traced to the influential report, 'Our Common Future' in 1987, and its well known emphasise on balancing the so called three 'Es' of sustainability; environment, economic, equity (Musacchio, 2009). This definition has guided the landscape sustainability paradigm for some time, although Brauch (2008) for example, emphasised that this is not longer adequate and there was need for a broader, holistic and integrated approach which addressed the relationships between human wellbeing and urban environment. Meyer (2008) stated that more attention needs to be paid to the aesthetic, experiential and ethical issues in the attempt to include the holistic bases of landscape. Therefore, Musacchio (2009) argued that aesthetics, experience and ethics are the fourth, fifth and sixth Es of landscape sustainability.

In order to increase landscape sustainability, people change the landscape with the rationale of improving its functionality and creating additional value (Termorshuizen and Opdam, 2009). Haines-Young (2005) argued that knowledge which has an impact on landscape development processes, should allow physical structure and functions of landscape to be linked to the economic, socio-cultural and ecological values demanded by its user. Termorshuizen and Opdam (2009) stressed that these desired values can be linked to intended changes in landscape structure and function. This is particularly true in widely practiced decentralised planning policies, where change is becoming the domain decision of groups of actors on regional and local scales (Azerrad and Nilon, 2006; Brody et al., 2004; Haughton and Counsell, 2004; Friedmann, 1993).

Many commentators on landscape sustainability suggest that landscape ecology is a very important foundation of its development (Potschin and Haines-Young, 2006; Wu, 2006). Yet, Termorshuizen and Opdam (2009) for example, argue that for landscape ecology to attain a fundamental position in sustainable landscape development, it has to widen the scope of its pattern-process approach by integrating people's perceptions and values. They added that this would allow landscape ecological knowledge to link landscape with the values demanded by its users in order to develop landscape structures that functionally support the provision of demanded values (Figure 2.21).

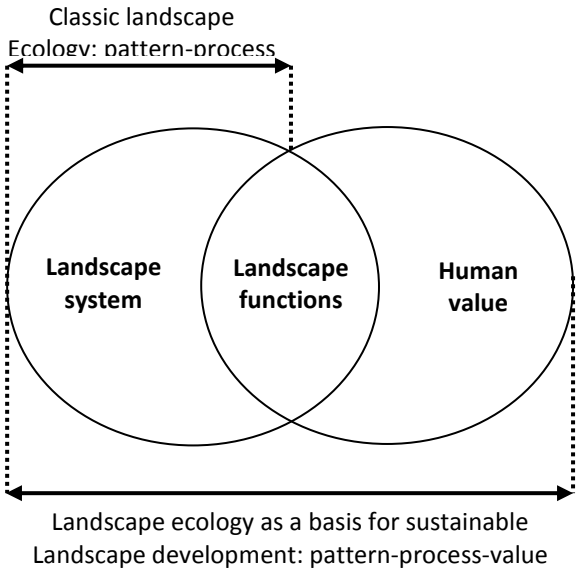


Figure 2.21 Extending landscape pattern-process by incorporating perceptions of value
Source: Termorshuizen and Opdam (2009:1040)

From these discussions it is evident that further attention needs to be paid when arguing that landscape practices in the desert MPEs are a threat to sustainability. As shown, landscape practices need to be related to economic, socio-cultural and ecological values by the residents of these MPEs, as this knowledge might allow the development of landscape structures which functionally support its sustainability. This is because landscape change should not be seen as a threat to suitability, but rather as an agent encouraging it with the rationale of improving its functionality to support demanded values. In residential environments the demanded values are

centred on fulfilling human needs. In the next section the relation between urban landscape and its impact on fulfilling human needs in urban environments will be explored.

2.5.4 Landscape and Human Needs

Urban landscapes play a key role in the fulfilment of the human needs in urban areas as they contribute to the overall urban quality of life (Baycan-Levent and Nijkamp, 2009). In their extensive review of people's needs in the urban landscape, Matsuoka and Kaplan (2008) explored the wide spectrum of human needs addressed by 90 studies covering the last two decades and from all over the world. They found that these needs can be categorised into six groups; a) the need to contact with nature; b) aesthetic preference; c) recreation and play; d) social interaction; e) citizen participation in design process; and f) scene of community[9]. Baycan-Levent and Nijkamp (2009), highlighted that many studies acknowledged the contribution of urban landscapes to urban quality of life, including its social, cultural, economic, ecological and planning dimensions.

The significance of contact with the natural environment in urban landscapes and the fulfilment of people's needs is shown across different studies[10]. Thus, the natural environment was found to be the most important factor contributing to residents' satisfaction with their built environment (Crow et al., 2006). Similarly, the gloomy effects of non-residential land uses on residents' satisfaction were reduced by a well designed urban landscape (Ellis et al., 2006; Sullivan and Lovell, 2006). Many studies

[9] They noticed that most of these studies offered strong support for the role of urban landscape in human wellbeing. They observed that similarities exist concerning these six categories across diverse cultures and contexts.

[10] These include all forms of the natural presence within urban settings, for example, urban parks (Jim and Chen, 2006; Özgüner and Kendle, 2006; Chiesura, 2004; Oguz, 2000), urban greenways (Shafer et al., 2000; Gobster, 1995), urban stream corridors (Asakawa et al., 2004), urban forests (Kaplan and Austin, 2004; Roovers et al.,2002; Coles and Bussey, 2000; Simson, 2000), hospital grounds (Sherman et al., 2005; Barnhart et al., 1998), school playgrounds (Herrington and Studtmann, 1998), roof-gardens (Yuen and Hien, 2005), streetscapes (Mok et al., 2006; Antupit et al., 1996).

provided strong support for the idea that well planned and designed urban landscapes fulfil residents' aesthetic preferences, involving a range of issues, including scenic beauty, cleanliness, pleasant sounds (Matsuoka and Kaplan, 2008). Furthermore, improving social interactions through improved urban landscape was well recorded across the literature, as for example, improvements in social interactions among young people studied by (Owens, 1997), interactions between different racial and ethnic groups (Gobster, 1998) and between neighbourhood residents as a whole (see (Saleh, 1999; Owens, 1993).

The recognition of the importance of including people in the planning and the design process is experiencing great popularity; and interestingly as Matsuoka and Kaplan (2008) noted this recognition is now practised in both democratic and less-democratic countries[11]. There is agreement that enhancing the physical environment, including the urban landscape character, can increase a sense of community (Stewart et al., 2004; Lucy and Phillips, 1997; Hull et al., 1994). However it is worth noting here that improved urban landscapes can inpact on a diversity of human needs including fostering active lifestyles, and can provide real benefits to health (Naderi and Raman, 2005). Urban landscape can be a beneficial form of recreation while relaxing, walking, jogging or cycling (Korpela et al., 2001). It might mitigate mental fatigue, relief from stress and reduce violent behaviour in urban areas (Cackowski and Nasar, 2003; Kaplan, 2001). Well designed urban landscapes, provide safe play areas for children and have proved to contribute to their development (Swanwick et al., 2003).

The economic benefits of improved urban landscape are largely indirect, but are clearly reported by a number of studies in the literature. These benefits manifest

[11] Studies carried out in Brazil by (Frischenbruder and Pellegrino, 2006), Canada (Quayle, 1995), Germany (Kuhn, 2003), Italy (Toccolini et al., 2006), Japan (Yokohari et al., 2006), Jordan (Abu-Ghazzeh, 1996), Saudi Arabia (Al-Hathloul and Mughal, 1999), Singapore (Tan, 2006), Switzerland (Buckecker et al., 2003), The Netherlands (Chiesura, 2004), The United Kingdom (Fordham et al., 1991), and The United States (Sancar, 1993), show that public participation is increasingly seen as paramount to urban landscape planning that consider relevant human needs of a particular context.

themselves through a rise in property values, attraction to business and tourism activities as a result of better environmental quality (Jim and Chen, 2006; Beer et al., 2003; De Sousa, 2003; Morancho, 2003; Swanwick et al., 2003; Lange and Schaeffer, 2001; Rodenburg et al., 2001; Luttik, 2000; Tyrvainen, 1997). The ecological influence of urban landscapes on fulfilling human needs and comfort is also widely studied, for example by observing pollutants and the release of oxygen (Hough, 1984), by its ability to improve urban micro climate in terms of the moderation of humidity, temperature and rainfall (Kottmeier et al., 2007; Gomez et al., 2004; Morancho, 2003). In general, well planned urban landscapes can contribute to the maintenance of healthy urban environments by providing clean air, water and soil, (see (De Groot, 1994). Handley et al. (2007) summarised the analysis of the Urban Green Spaces Taskforce (2002) on the benefits commonly attributed to good quality urban landscape and its contribution to the three pillars of sustainability; economic, social and environmental (Table 2.11).

Table 2.11 The benefits commonly attributed to urban landscape

Benefit	Good quality urban landscape can
Economic	• Add value to the surrounding property, both commercial and residential, consequently increasing tax yield to maintain public services. • Contribute to attracting tourists. • Encourage employment and inward investment to an area. • Help to create a favourable image of a place.
Equity/Social	• Provide places for quiet contemplation and reflection, for relaxation, informal recreation, peace, space and beauty. • Provide opportunities to improve health and personal fitness and take part in a wide range of outdoor sport and activity. • Provide safe areas to meet, talk and play, for free association of friends and strangers, for families and between generations. • Provide cultural links with the past, a sense of place and identity. • Provide opportunities for community events, voluntary and charitable fundraising. • Provide an educational resource – an outdoor classroom stimulating ideas on art, design, the environment and natural sciences.
Environmental	• Provide habitats for wildlife, aiding biodiversity. • Help to stabilise urban temperatures and humidity. • Absorb pollutants in air and ground water. • Provide opportunities for the recycling of organic materials. • Slow storm water runoff and reduce drainage infrastructure. • Provide a sense of the seasons and links with the natural world within the urban environment.

Source: Based on Handley et al. (2007)

It is clear that urban landscape can be highly influential in satisfying human needs in both urban and non-urban environments. Landscape practices in the MPEs can be related to these benefits; however more attention needs to be paid to the assumptions concerning the reasons behind these practices. Therefore, careful analysis of these practices is required in order to understand the intentions of the MPE developers in their choice of landscape practices. Ways of reading the landscape will be investigated in the following discussions.

2.5.5 Reading Landscape

Motloch (2001:8) stated that *"[t]o design more responsively in any culture, we can begin by reading that culture autobiography – its landscape".* But why does the landscape look the way it does and what clues does the landscape itself present of its own making? These questions have been answered by Lewis (1979) when he suggested seven axioms for understanding and reading landscapes. His axioms are basic and self-evident, although he argued that what now seemed self evident was not obvious for him for many years beforehand (Table 2.12).

However, almost 30 years later, Mitchell (2008) argued the need for closer attention to the nature of the struggle in and over the landscape in this capitalist era. This requires a different means of analysis from that advocated by Lewis, and therefore, Mitchell presented a new set of axioms for understanding and reading landscapes. He disagreed with Lewis that the landscape is 'self-evident' and exists in 'obscurity', because he perceives the landscape itself as anything but self-evident, and that the landscape itself obscures.

Table 2.12 Lewis's axioms for reading landscape

Axiom	Ideas behind it
Landscape as clue to culture	Landscape provides strong evidence of the kind of people we are. As a result, if landscapes looked different it was because there were significantly different cultures at work. If they were growing more similar, it was because cultures were growing more similar.
Cultural unity and landscape equality	All items in the landscape express meaning and most express about the same amount of meaning. Thus, we need to pay attention even to what at first glance might seem ordinary, unimportant or just plain haphazard and ugly.
Common things	Landscape is difficult to study by only conventional academic means. Therefore, scholars need to turn to non-academic literature. Because the issues that affect decisions are made by others than professional designers by observing these non-academic literature, such as trade journals, commercial advertisements, and travel literature. Therefore we need to train ourselves to pay attention to the visual evidence.
Historic matters	Because our behaviour is usually conditioned by the past and understanding past decisions can prevent us from "reinventing the wheel". Moreover, many artefacts are relics of conditions that have since changed, hence, knowledge of history will prevent misinterpreting these as expressions of active forces.
Location matters	To understand the meaning of landscape elements, we have to study theses elements in relation to their geographic and context. Thus, to a large degree cultures dictate that certain activities should occur in certain places and only those places, therefore, context matters.
Physical environment control	Understanding of the ecological forces that have created a region is essential to understanding the meaning of that landscape. This axiom speaks for a regional attitude toward landscape design, but this regionalism is not as it is implied in architecture, the reference to an established or relic tradition by some design detail but rather a systemic and integrative response to the multiplicity of forces that interact to create a given landscape.
Landscape obscurity	While all items in landscape carry meanings, they don't convey these meanings in a clear and objective manner. Rather, each meaning is subject to many interpretations, and each is linked with the others with a multiplicity of others statements.

Source: (Lewis, 1979)

To begin to see 'how' and 'why' landscapes exist and to uncover their real basis, Mitchell turns away from a focus on meaning towards one on production. His new axioms of landscape *"are designed to codify a theoretical and methodological basis for doing so and to form an analytical and normative basis, by providing a historical materialist methodological foundation for what landscape is and does"* (2008:33) (Table 2.13).

Table 2.13 Mitchell's new axioms for reading landscape

New axiom	Ideas behind it
Landscape is produced	Landscape is a physical intervention into the world and thus is not so much our unwitting autobiography. This intervention might be social more than individual one, and might be shaped, transformed, even thwarted by any number of contrary social processes. The key stake is always the relations of production.
Landscape functionality	As produced spaces, landscapes have a role in social life, as they exist for a reason. In capitalist societies, the first, if not always obviously foremost, function of landscape is either to directly realise value or to establish the conditions under which value can be realised.
Landscape is not local	Although context matters, but the argument that landscape make little cultural sense if they are studied outside their context is incomplete. Although, it is true that landscapes make little sense culturally if they are only studied in relation to their nearby surroundings, is often irrelevant to the complex processes, practices and decisions that make a landscape.
History does matter	The representation of history in landscape is not somehow immanent in the landscape itself; rather it is a product of struggles over meanings. Thus history matters because landscape as historical representation is obviously an expression of power.
Landscape is power	As argued landscape is an expression of power, an expression of who has the power to define the meanings that are to be read into and out of the landscape, and to determine just what will exist in and as the landscape. To read a landscape requires fluency in the language of social power.
Landscape is the spatial social justice	As a concretisation of social relations, landscape literally marks out the spatial extent and limits of social justice. The spatial form of the landscape is both the result of the kind of society we live in. The true degree of spatial equality, environmental equity, affirmative possibilities for difference, degrees of autonomy, are all there in the landscape.

Source: (Mitchell, 2008)

It is noted that it is in fact not possible to directly read the landscape in any fulfilling sense, but it is possible to analyse it, search how it is made, They are designed to explore its function, understand its history and therefore to find out what it says regarding the status of a just world in the here and now (Mitchell, 2008). In so doing, it will be possible to learn how to intervene effectively in the landscape. The processing axioms are the basic tools with which to interpret the landscape (Motloch, 2001). Hence, people's experience of landscape can be interpreted in various ways (Antonson et al., 2009). Meinig (1979) argued that landscapes comprise both what we see and our perception of what we see at the same time. Landscape is interpreted by the mind, therefore, the reader of the landscape is integral to its meaning, and the same landscape may mean different things to different people. He listed ten possible aspects of a landscape as; 1) nature, 2) habitat, 3) artefact, 4) system, 5) problem, 6) wealth, 7) ideology, 8) history, 9) place, and 10) aesthetic. The

importance of Meinig's ten versions of the same scene, as Motloch (2001) points out ,is that it presents a comprehensive overview of the range of landscape interpretations that people are prone to perceive (Table 2.14).

Table 2.14 Meinig's ten versions of the same scene

Landscape	Possible aspects of a scene
As nature	This nostalgic romantic view, holds nature dominant and humans subordinate. This viewpoint separates people and nature, and rather establishes a confrontational relationship between both, with people as aggressors and despoilers of nature.
As habitat	This is a synergistic view of people integrating with a managed nature. In this view landscape is seen as a home for humankind. People interact with nature; accept its basic organisation, structure and behaviour; and modify it so as to transfer its materials into resources that sustain and improve quality of life.
As artefact	This anthropomorphic view sees the landscape as an entity created by people. People in this interpretation have conquered nature and reshaped it to their purposes, and uses it as an expression of self. Humankind is ecologically dominant and superior to nature.
As system	In this holistic view the landscape as a system consisting of interdependent subsystems, with elements seen as expressions of understanding systems and their underlying processes. Landscape wellness is considered essential to human wellness, and human wellness is expressive of healthy environmental systems.
As problem	In this interpretation landscape including its natural and human-made elements, as a situation needing intervention and correction. Landscape here is interpreted as functional, infrastructural, behavioural or aesthetic problem-solving tool.
As wealth	This interpretation is based upon the ownership of land. The primary value of landscape is its economic value. This abstract, geographic view translates the landscape into economic units. It considers physical land characteristics, market influences, external conditions that influence value, to accommodate the support systems necessary to service the site and promote development.
As ideology	Here landscape is seen as symbol of the values, ideas, aspirations hopes and dreams of a culture. In this view, landscape is the physical expression of the culture, thus, changing the landscape changes the culture and changing cultures changes the landscape.
As history	In this view landscape is the complex documentation of history of natural and human activities in particular location. The landscape here is interpreted as the record of physical gestures of many generations, and ecological processes.
As place	This phenomenological view sees the landscape as sensual experience. This interpretation concentrates on the feel, flavour and ambiance of place; the richness of mental constructs and associations; and the ability of the place to be remembered over time. Here landscape is seen experientially.
As aesthetic	in this view places primary emphasis on the artistic quality of landscape features and the landscape as visual scene. The landscape is seen as object, and the scene is detached from human behaviour. Landscapes are endowed with high viewing value. Whether they function properly or have high cultural meaning is of little importance to this viewpoint.

Source: (Meinig, 1979)

These different interpretations are all useful in achieving a holistic concept of landscape, embracing any landscape in multi-dimensional ways in order to address social, cultural, economic and ecological aspects more rationally (Kaplan, 2009). The interpretation of landscape is a complex process and is usually a combination of these views, because the interpreter usually espouses and is influenced by more than one view at a time (Motloch, 2001). Therefore, it is important to interpret landscape practices in the MPEs in a meaningful way in order to position the outcomes within the current theoretical assumptions in landscape research.

2.5.6 Landscape Theoretical Assumptions

In the 1950s and early 1960s much attention in studying landscape focused on developing theories of process (Eckbo, 1950; Sasaki, 1950). In the late 1960s and 1970s the focus in studying landscape was related to the environmental movement, but then its attention shifted to the development of ecological design and planning, and to engaging a wider range of participants in the design process in what was called community design (see (Hester, 1975; Halprin, 1969; McHarg, 1969; McHarg, 1967). The 1980s was the decade of renewed search for meaning in ecological design and related fields such as land and the environmental arts (Olin, 1988; Jellicoe and Jellicoe, 1987).

Throughout the 1990s the emphasis was on the aesthetics of ecological design, issues of landscape as a language and the exploration of representation in landscape, regionalism and infrastructure (Potteiger and Purinton, 1998; Spirn, 1998; Corner, 1992; Hunt, 1992). However, more recently attention has shifted to the multifunctional landscape concept, which includes both the aesthetic aspect and the human services it provides (see (Stephenson, 2008; Bastian et al., 2006; Potschin and Haines-Young, 2006; Musacchio and Wu, 2004; Fry, 2001; Tress et al., 2001).

Much of the theoretical debate in landscape revolves around how best to resolve several fundamental tensions (Swaffield, 2002). Wylie (2007) sees these tensions as between; a) proximity and distance, b) observation and inhabitation, c) eye and land, and d) culture and nature[12]. However, Swaffield (2002) see these them as between; a) different ways of knowing and the theoretical frameworks upon which landscape draws, b) knowledge and representation of the general and the particular of both abstract space and lived space, c) multiple scales of site, city, region and global systems. These tensions have been adopted both implicitly and explicitly by commentators in the landscape field when trying to understand how these relationships could be influencing our understanding of landscape.

Critical and active mediation between site, place and region is required for landscape integrity (Swaffield, 2002). Although, landscape may be located between the individual and infinity, or what Jellicoe and Jellicoe (1987) called at a "middle distance", it is also "multi-scalar" (Swaffield, 2002). Selman (2006:25) argued that this multi-scalar characteristic *"requires us to address the complete mesh of inter-locking units rather than elite selections often on the basis of administrative convenience".* However, it has been repeatedly equated with geographical scope, although Selman (2006) stated that there are additional tensions of what he calls "landscape scale". For him scale is related to three dimensions; spatial, temporal and modification (Figure 2.22).

[12] Wylie (2007) documented how these tensions have proved enduringly creative and productive in interpreting and studying landscape. He questioned the very meaning of the word landscape; is it the world we are living in? Is it the scene we are looking at from afar? Does it describe the mutual embeddedness and interconnectivity of self, body, knowledge and land-landscape as the world we live in? Is it better conceived in artistic terms, as a specific cultural and historic genre?

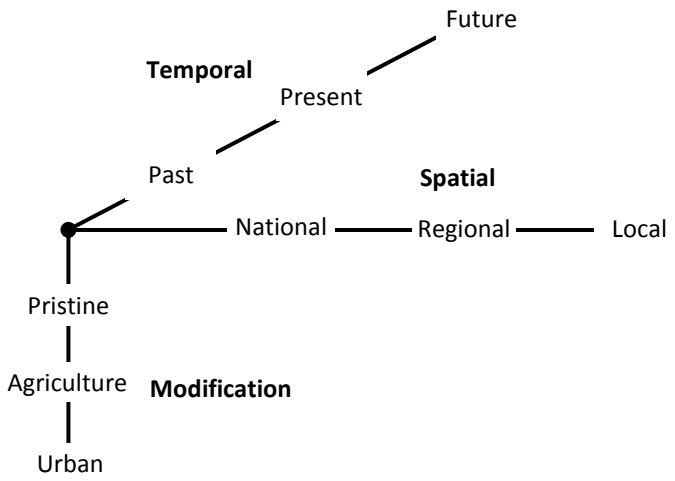


Figure 2.22 Three dimensions of landscape scale
Source: Selman (2006:26)

The paradox here, as Forman (1995a) noted, concerns our ability to act better at the local scale, while the probability of long-term sustainability is greater at regional and national levels. Thus, several commentators argued that local landscape planning should be undertaken within a regional context (see (Woodward, 1997; Hough, 1992; Harkness, 1990). The interest in landscape's regional context is not new, yet it has enjoyed a recent distinct reappearance (Swaffield, 2002). Robertson (1990) pointed out that renewed attention to the regional context is one of the effects of the increasing rate of globalisation of economies and technologies during the late part of the 20th century. This renewed interest in regional context results from the consideration of regions as centres of strategic investment, and socio-cultural and socio-political tensions and resistance (Frampton, 1983)[13].

The region gains additional influence in landscape studies due to its expression of ecological process (Forman, 1995b). Hough (1992), argued that the differences between one place and another have arisen, an in historical perspective, not from efforts to create long-term plans, but from vernacular responses to particular problems of daily life. Therefore, he stressed that the new tensions shaping the

[13] Jellicoe and Jellicoe (1995) suggested a search for a single big idea of humanity; others argued against this universal vision in favour of a contextualisation one (see (Mayer, 1997; Relph, 1993).

landscape are no longer small and local in scope but are great in scale and consequence. As a result landscape as a discipline dedicated to fitting humans to their environment is faced with solving problems and tensions that have not traditionally been on the agenda in the formation of vernacular places.

Landscape theory may be instrumental, interpretive or critical in different degrees in different contexts. Swaffield (2002) explained that each of these derives from rich and complex traditions of knowledge, and each is strongly debated in other disciplines. Corner (1991; 1990) highlighted the contrast between three fundamentally different roles of landscape theory. On one hand, he argued that landscape theory can generalise and codify knowledge as a basis for practical action; therefore, in this sense it is instrumental. On the other hand, he argued that landscape theory can have a more critical role, which resists and challenges *taken-for-granted* ways of thinking and puts forward alternatives; in this sense it is critical[14].

The nature of landscape theoretical intervention has been continually debated (Corner, 1999; LaGro, 1999; Benson, 1998; Selman, 1998; Corner, 1991; Meyer, 1991; Corner, 1990), on top of repeated calls for a landscape conceptual critique (Meyer, 1997; McAvin, 1991). Landscape theoretical intervention usually involves some degree of generalisation (Corner, 1999; Eckbo, 1950), yet landscape conceptual critiques regularly focus on the particular while requiring theoretical foundations (McAvin, 1991). Thus Swaffield (2006) suggested that both landscape theoretical intervention and conceptual critique are, and should be, mutually dependent. Whereas imagination and representation of landscape are both included in the discipline's theoretical intervention and conceptual critique (Corner, 1999;

[14] Another potential role of landscape theory lies between these two positions. Corner referred to the hermeneutic tradition of interpretation; interpretive theory is well recognised as form of knowledge that does not attempt to predict and control the world in the same way as instrumental landscape theory, yet neither is it as disruptive as critical landscape theory. Instead, an interpretive theory helps us better understand a situation, without necessarily changing it.

1992), neither imagination nor representation is adequate, nor an end in itself (Swaffield, 2006)[15].

There is general agreement that landscapes are social constructions (Corner, 1999; Cosgrove, 1998; Greider and Garkovich, 1994). Swaffield (2006) argued that considering landscapes in this way is the reason that knowledge of landscapes, material or imagined, is mediated through collective human experience, emerges from the engagement of people with the material world, and is codified within social settings. Howett (1987) pointed out the hermeneutic duality involved in landscape studies; on one hand, we make landscapes by manipulating the biophysical world and imbuing it with meanings, and on the other, know these landscapes through socially mediated processes of critique and theoretical generalisation[16].

2.5.7 Landscape as Infrastructure

Traditionally landscapes were the tools and services that sustained human life in a particular area. But these have been replaced by centrally controlled systems that extract the resources needed for existence, like food, water and power, and transport them over great distances (Strang, 1996). Thus, in the recent decade, explorations of some contemporary discourses in landscape theory have focused on infrastructures as an important concept, both generative and a component of urban landscape. Over the course of the twentieth century, increasing standardisation of infrastructural systems has been seen, considered and evaluated solely on technical criteria and exempted from functioning socially, aesthetically, or ecologically (Mossop, 2006). However, some have called for a redefinition of the conventional

[15] Therefore, Jellicoe and Jellicoe (1995) argued that both, theories and critiques in landscape must reflect cultural ideals, aesthetic codes and social interaction with spatial realities of sites in order to create landscapes that expand and respond to our humanity.

[16] Therefore, social constructionism has the potential to act as a bridge between objectivist and subjectivist paradigms in landscape, in other words a bridge between facts and imaginations, this is because many landscape phenomena fall into this middle ground, where they are unmistakably real in that they having a material presence, and equally undoubtedly known in culturally specific ways (Swaffield, 2006).

meaning of modern infrastructures amplifying the landscape as an instrumental system of essential resources, services, and agents which generate and support urban activities (Belanger, 2009; Mossop, 2006).

On the same line of thinking, the concept of green infrastructure has emerged in the past decade to emphasise the importance of open green space as part of interconnected systems that are developed, protected and managed for the ecological benefits they provide (Benedict and McMahon, 2006). "*Green infrastructure is an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations. [It] is the ecological framework needed for...sustainability"* (Benedict and McMahon, 2002:12).

It is well established that the elements of a complete green infrastructure could contribute to ecosystem health in various ways (Tzoulas et al., 2007). An ecosystem can be considered as healthy when it is free from stress and degradation, and maintains its organisation, productivity and habitability over time (Brussard et al., 1998)[17]. There is a link between ecosystem health and the provision of 'ecosystem services'; these services refer to the delivery of goods and benefits that humans obtain from ecosystem functions (De Groot et al., 2002). A healthy ecosystem in relation to the built environment is its liveability, as discussed earlier in this chapter.

The delivery of green infrastructure projects has raised its profile in the USA and the UK because of the recent advances in its thinking and planning (Mell and Roe, 2007). Comparison with other green planning ideas, the development of green infrastructure has expanded quickly (Benedict and McMahon, 2006). This expansion

[17] The concept of healthy ecosystem is not widely accepted (Calow, 1992), and has been criticised for creating a metaphor as ecosystem as organism (Rapport et al., 1998),and for focusing on equilibrium theories (de Leo and Levin, 1997),and for not appreciating that ecosystems are open, loosely defined assemblages (Levin, 1992). However, others see it as an organising framework for protecting and sustaining environmental quality and human well-being.

has emphasised the values of landscape connectivity and multi-functionality (Mell and Roe, 2010). Although, the evidence supporting the ecological, social and economic benefits of green infrastructure is still being gathered, there is evidence that green infrastructure can help to meet long-term sustainability (Mell, 2009).

Despite this recognition of green infrastructures imperatives, its association with green spaces and its components of waterways, gardens, woodlands, green corridors, street trees and open countryside make it indefinable in the arid zone of the Middle East. Therefore, there is a need to formulate a concept that can be applied to less developed arid zones in a way which encompasses the multi-functionality and connectivity value of landscape as the green infrastructure concept tries to do. This concept should be based on the meaning of the term landscape in the Middle East context as discussed earlier in this chapter.

To formulate this concept it is useful to build on the recent multifunctional view of landscape and its ability to provide services. Termorshuizen and Opdam (2009), present a model incorporating both physical and perceptual aspects of landscape (Figure 2.23). In their model, landscapes are spatial human-ecological systems that deliver a wide range of functions which are, or can be, valued by humans for economic, socio-cultural and ecological reasons. The landscape functionality here is a result of the interaction between physical structures, the bases for natural processes and human actions. They argue that if landscapes change as result of gaining added value, the 'services concept' would be appropriate in linking physical landscape and human values.

In Termorshuizen and Opdam's model 'functions' can be translated into 'services' when they are valued by people; functions might continue to exist in the absence of people, whereas services exist because people use and value the landscape. They give a very good example to explain this; plant roots fulfil the function of soil retention, and people value this because it serves to prevent erosion. The core idea here is that landscape character affects landscape functionality. The contribution of

landscape to sustainable development is the understanding of character-functioning relationships and linking these to valuation of landscape services (Haines-Young, 2005).

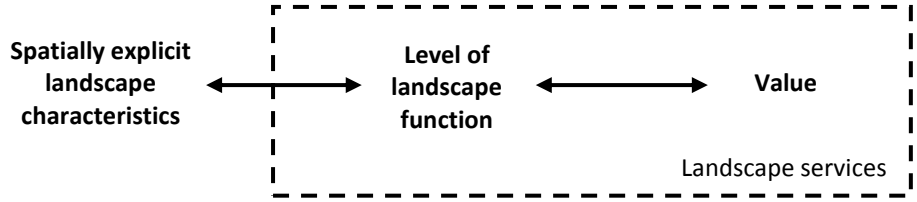


Figure 2.23 The structure-function-value chain of landscape
Source: Termorshuizen and Opdam (2009:1041)

The character-functioning relationship might be largely critical in multifunctional and fragmented landscapes that are intensively used by humans, where the provision of services depends not so much on the features of individual or small patches, but rather on the spatial interaction between theses patches and between these patches and human elements, such as residential green areas and roads, causing synergies and tradeoffs between services in a the form of a network (Termorshuizen and Opdam, 2009)[18]. 'Services' themselves are essential for the existence and convenience of humanity (De Groot et al., 2002). In this case, as landscape provides 'services' valued by people, it could be considered as infrastructure, As discussed earlier, infrastructure is generally seen to comprise those services that support life and satisfy human needs in urban environments, and as also established earlier, satisfying human needs boosts the liveability of urban environments. In the following section a conceptual framework is proposed which includes landscape as an essential service that boosts liveability in MPEs.

[18] It is argued that each landscape should be linked directly or indirectly to other landscapes in a network of hierarchical relationship, see for example (Lyle and Woodward, 1999; Spirn, 1998; Lyle, 1985).

2.6 From Theories to Conceptual Framework

After reviewing key debates by commentators from a wide range of disciplinary backgrounds who have approached community, liveability, urbanisation and landscape from different perspectives, it was possible to build up a picture of the complexity surrounding these issues. The challenge here is to draw on these understandings to produce a conceptual framework for the landscape-liveability relationship in the MPEs. It is clear that simple frameworks are unable to cope with the complexity and challenges of the issues under investigation, thus, the need for a comprehensive approach is imperative.

Building on many of the ideas reviewed earlier, it is possible to construct a framework which expands the environment-behaviour frameworks of (Pacione, 2009; Amérigo and Aragonés, 1997; Aitken and Bjorklund, 1988)[19]. The conceptual framework's key elements are the residents and services satisfying residential needs that constitute the MPEs. Of crucial importance is the context in which this takes place and which in turn impacts on the understanding of landscape-liveability relationship. The framework represents these elements and its interrelations (Figure 2.24).

[19] In point 2.3.3 the relationship between satisfaction and liveability has been established.

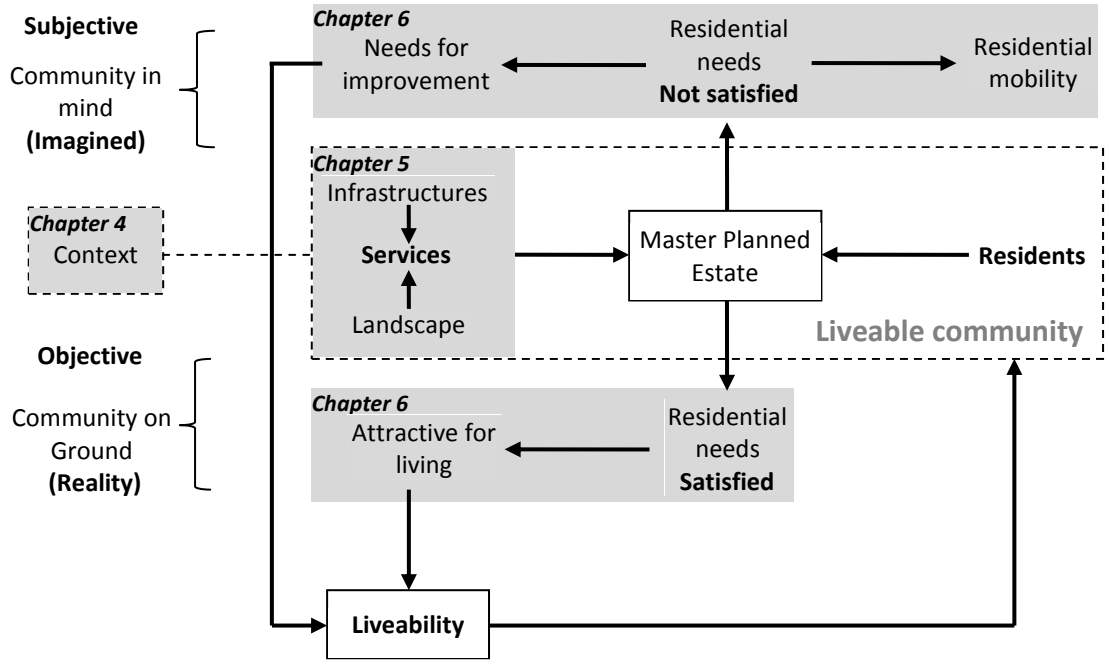


Figure 2.24 Conceptual framework for landscape- liveability relationship in desert Master Planned Estates

'Services' are defined as the essential elements that support the existence and convenience of residents (De Groot et al., 2002). Services provided in the desert MPEs include infrastructures and landscape[20]. The definition of perceived liveability is the level of appreciation/satisfaction of individuals for their living environment and emphasises the importance of a good interaction between people and their environment (van Dorst, 2010). Therefore, it can be said that there is a lack of liveability in a new housing estate as long as nobody lives there, and if the estate lacks essential services. Therefore a combination of residents and services in the MPE could determine the degree of its liveability.

'Liveability' can be assessed by the degree of satisfaction in the fulfilment of residential needs. If residential needs are satisfied, the MPE is attractive for living

[20] In point 2.3.1 the built environment has been conceptualised as layers of services produced by infrastructure functions. In point 2.5.7 the idea that functions of landscape elements when valued by people turn into services has also been established. Infrastructure services include; physical, economic, housing, educational, health, community and environmental infrastructures. Landscape services include; land, water, vegetation, paved surfaces, street furniture and structures.

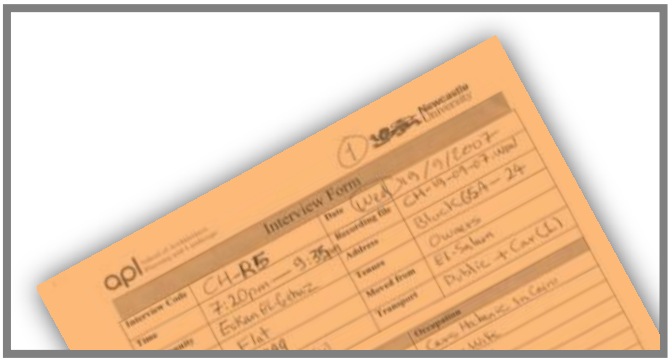
and attains a greater liveability in a way equivalent to Pacione's (2009) stress model of urban impact. But if residential needs are not satisfied, the MPE needs improvement to enhance its liveability. If the improvements are insufficient or inapplicable, a loop of residential mobility is triggered. 'Residential needs' are a mixture of environmental, social, cultural and economic needs. Liveability here is assessed in relocation settings, therefore, it is important to recognise that there can be several reasons behind residential mobility, it is fundamental to this framework that decisions to relocate to the desert MPEs happen largely by choice, relatively without any constraints and closely related to the context. 'Context' as used here is equivalent to Kellett and Napier's (1995) 'existential context', and embraces the natural, cultural, social and economic settings of the MPEs and its residents on national, regional and local scales. This conceptual framework will be used to comprehend the research objectives in an attempt to answer the research questions.

2.7 Conclusions

To establish the link between the development of liveable communities in the desert MPEs and their landscape characteristics, this chapter brought together issues relevant to community, liveability, urbanisation and landscape. This was achieved through an extensive literature review from a variety disciplines including planning, sociology, psychology and landscape. The different approaches have been organised into four sets. The first focused on the idea of creating communities by physical planning. Although it has a long history, this utopian place-making idea has been repeatedly questioned. However, when the term 'community' is mentioned in the context of physical planning, usually it is 'sense of community' that is meant. Linking physical settings and the achievement of a better sense of community led to the raising of the concept of 'liveability'.

The second set focused on liveability, the contemporary manifestation of creating local utopias by creating communities. Confusingly liveability, being highly politicised, is often used simultaneously with sustainability. This should by no means be the case; liveability is a statement of desires related to satisfaction with the urban environment, and sustainability is the capacity to deliver these desires over time. Assessing liveability therefore involves setting the link between satisfaction and behaviour. In this study behaviour is related to residential mobility into the newly built desert MPEs. Consequently, the third set of discussions focused on the intrinsic role of infrastructures in shaping urbanisation activities and residential mobility trends. This included conceptualisation of the built environment as layers of infrastructures and services created by ideas which emerge to satisfy human needs. The provision of infrastructures and services has a direct link with the issue of dispersion and densification of the urban form, which in its turn shapes residential mobility patterns.

Finally the chapter questioned the issue of grasping the landscape character of the desert MPEs in an attempt to create liveable communities by asking: why landscape? Why put this weight of complex relations onto landscape? By contextualising the idea of landscape in the Middle East, it is apparent that it is highly modified, ordered, tamed and controlled according to human needs. Therefore it is consistently changing and needs to be related to people's economic, social-cultural and ecological values. Landscape provides services for people in the urban environment and beyond. Therefore landscape could be considered as infrastructure, which is generally seen to comprise those services that support life and satisfy human needs. Linking these bodies of knowledge led to the development of a conceptual framework which attempts to plot the relationship between the creation of a liveable community in the MPE and the satisfaction of residents' needs using its landscape characteristics. The following chapter describes how this conceptual framework will be examined to test the validity of the proposed relationship.



Chapter 3

Research Design and Methodology

Chapter Three

3.1 Introduction

In the previous chapter a conceptual framework was developed for understanding landscape-liveability relationship in the desert MPEs. This chapter explores the relevant methodological approaches to test the developed conceptual framework. The aim is to discuss and justify the manner in which the research was approached and carried out. This chapter discusses the criteria by which the research was designed, and describes the methodological tools used to collect and analyse the required data during the fieldwork. Discussion in this chapter is built around a detailed report of the fieldwork and the experiences gained from it, and at the same time linking it to the relevant literature on methodology.

3.2 Research Design

Questions of what will be done, why, how and when, have to be answered clearly, because they underpin the framework of the research (Walliman, 2005). This framework is the research methodology that is vital to *"ensure that the evidence obtained enables us to answer the initial questions as unambiguously as possible"* (De Vaus, 2001:9). The selection of an appropriate research design can identify the framework within which the required data can be collected and analysed, and which will signify the credibility, validity and reliability of the study findings (Denscombe, 2007). Crotty (2003:3) suggested four questions on how to conduct research; "*What methods do we propose to use? What methodology governs our choice and use of methods? What theoretical perspective lies behind the methodology? What epistemology informs this theoretical perspective?"* Moreover, selection of the research approach depends on three considerations which draw upon the research scenario: the research problem, the personal experience of the researcher and finally the report type (Creswell, 2003). Based on Crotty's (2003) research design model,

Creswell suggested three elements of inquiry: Knowledge claims[2], Strategies of inquiry[3] and methods.

The process of research design should come after clear identification of the evidence needed to answer the research question and accurately describe a phenomenon (De Vaus, 2001). Therefore, research design is *"the logical sequence that connects the empirical data to the study's initial research questions and ultimately to its conclusions"* (Yin, 2003:20). This section discusses the research design by means of the case studies and the reason behind the selection of the methodological approach. In addition, it identifies the key aspect involved in the MPE phenomenon and examines how the researcher prepared for fieldwork activities.

3.2.1 Qualitative Approach

The research adopted both inductive and deductive reasoning. As Trochim explains (2006); deductive reasoning works from the general to the specific, while inductive reasoning works the other way round, moving from specific observations to broader generalizations and theories. As an architect with landscape training, the researcher had the opportunity to observe and trace the development pattern of the MPEs around Cairo for ten years before commencing this study[4]. The MPEs are marked by the influx of different segments of Cairene social strata and a growing awareness, put into practice by their developers, that landscape is significant in creating liveable communities within them (Imam, 2006; Kuppinger, 2004; Asfour, 1999). Questioning

2 Stating a knowledge claim means that researchers start a project with certain assumptions about how they will learn and what they will learn during their inquiry (Creswell, 2003). These claims might be called paradigms (Lincoln &Guba, 2003; Mertens, 1998); philosophical assumptions, epistemologies, and anthologies (Crotty, 2003); or broadly conceived research methodologies, as Neuman (2006) put it (i.e. postpositivism, constructivism, advocacy/participatory and paragmatism).

3 Strategies of inquiry means operating at a more applied level; Creswell (2003) called it traditions of inquiry and Mertens (1998) saw it as methodologies that provide specific direction for procedures in a research design (i.e. experimental, survey, ethnographies, case studies, grounded theory, etc.).

[4] There are no landscape departments in Egyptian universities, hence the researcher is officially an architect but trained in landscape through his first degree graduation project and his Masters degree.

the reasons behind the emphasis on landscape and community in the development of the MPES was the main motive for undertaking this research. Inductively, this initiated the search for related theories in an attempt to assemble a conceptual framework to investigate the phenomenon (Chapter 2). This conceptual framework was tested afterwards deductively by the empirical work (Chapters 5 & 6, 7), aiming for further conceptualisation in Chapter 8. The logical approach adopted in this study is summarised in Figure 3.1.

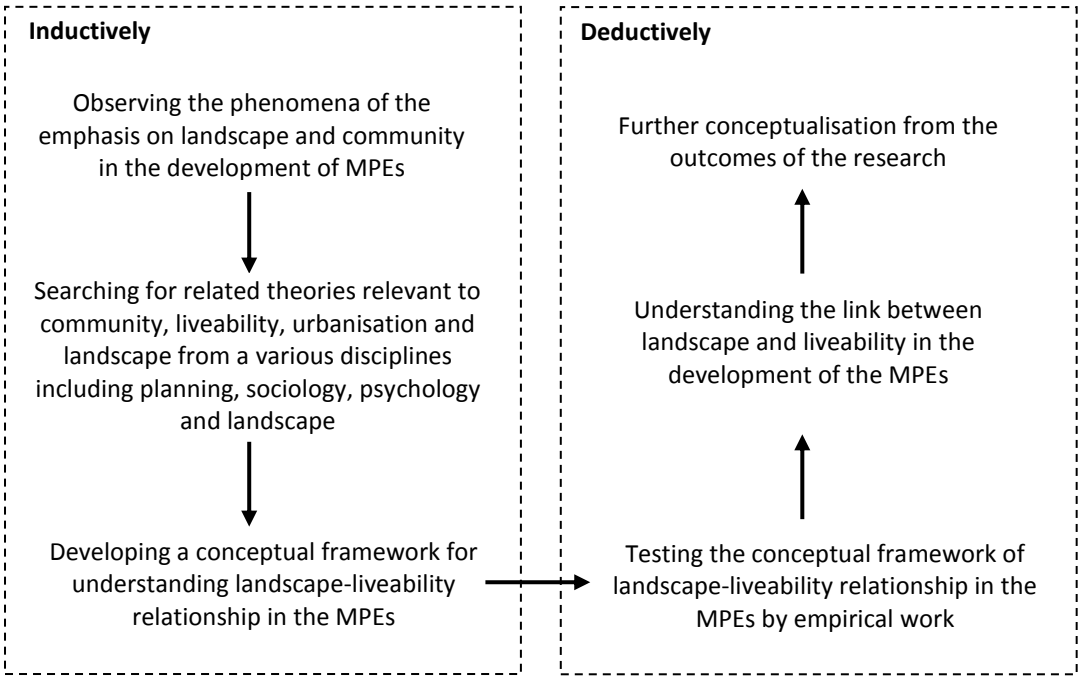


Figure 3.1 A classification for urban landscape

This study adopts a qualitative approach, a decision taken after carrying out the pilot study. Prior to the pilot study, the research started with a positivist mode of inquiry, believing that the relationship between landscape and liveability in the MPEs could be described largely by reference to quantitatively measured variables. Such an approach has already been used effectively with a preset frame of reference seeking to interpret liveability on a city or regional basis (Epley and Menon, 2008; Southworth, 2003). However, after the pilot study the research shifted towards a more constructivist style of investigation. This was as a result of the belief that there

is no true or valid interpretation, but that various forms of interpretations exist (Crotty, 2003). The aim was to allow the phenomenon to present itself instead of imposing preconceived ideas on it (Wylie, 2007). Therefore, the study involves a phenomenological approach which is particularly effective in bringing to the fore the experiences and perceptions of individuals from their own perspectives (Husserl, 2003)[5].

This research was framed on the assumption of the fundamental role of different stakeholders involved in making the MPEs into liveable places, and this suggested the appropriateness of qualitative approach. Methodological choices are a matter of determining which research method is best suited to capturing a particular 'data slice' (Gaber, 1993). This assumes that each method has a *"different line of action toward reality-and hence each will reveal different aspects of it, much as a kaleidoscope, depending on the angle at which it is held, will reveal different colours and configurations of objects to the viewer"* (Denzin, 2009:253).

The focus in this study is related to particular phenomena in a particular setting. Thus, the case study strategy is particularly useful here to investigate a specific setting in order to answer specific research questions (Gillham, 2000). Choosing the case-study approach is a strategic decision related to the scale and scope of the investigation (Denscombe, 2007). Case studies are tailor-made for exploring new processes or behaviours or ones that are little understood (Hartley, 1994; Leonard-Barton, 1990)[6]. Furthermore, Gummesson (2000:86) argues that a significant benefit of case study research is that *"The detailed observations entailed in the case study method enable us to study many different aspects, examine them in relation to each other, and view the process within its total environment"*.

[5] Pure phenomenological research seeks essentially to describe rather than explain and to start from a perspective free from hypotheses (Husserl, 1970).

[6] Researchers have argued that some information can be complicated or even impossible to tackle by means other than qualitative approaches such as the case study, see for example Sykes (1990).

Yin (2003:59) epitomises the contextual nature of the case-study in his definition of it as a pragmatic examination that *"investigates a contemporary phenomenon within its real-life context and addresses a situation in which the boundaries between phenomenon and context are not clearly evident"*. When adopting the case-study as the research strategic approach, a conceptual framework has to be developed first to guide data collection and data analysis (Glaser and Strauss, 1999; Strauss and Corbin, 1998). For this reason, the conceptual framework in this research was developed before going into the field; however use of a conceptual framework does not contradict the phenomenological approach[7]. The logic in case study selection, involves theoretical intervention, where the goal is to choose cases that are likely to extend the emergent theory, to fill theoretical categories and to provide examples for polar patterns (Meyer, 2001).

3.2.2 Selection of Case Study

Research into the relationship between landscape and the achievement of liveable communities in MPEs could theoretically be carried out in a number of places in Egypt. Considerations of appropriateness must be associated with the issue of viability of data collection and access to explicit settings. Thus, the selection was quickly narrowed down to two main possibilities; the new suburban extensions to the west of Cairo (i.e. 6th of October City) and the extensions to the east (i.e. New-Cairo City). Faced with equally suitable alternatives, the selection is likely to include consideration of convenience, given limited time and resources (Denscombe, 2007).

New-Cairo was selected because it is currently experiencing popularity as a relocation destination within the Cairo Region and because it is a relatively young master-planned extension. Hence it is relatively under-studied, but has the

[7] Hartley (1994) argues that without a conceptual framework, the researcher is in severe danger of providing description without meaning. Furthermore, Gummesson (2000) articulates that a lack of pre-understanding will cause the researcher to waste considerable time gathering basic information.

advantage of possessing a wealth of information on the patterns in the new MPEs around Cairo. However, the selection of particular MPEs as sub-case studies from a number of possibilities needs to be justified[8]. The logic in case study selection involves theoretical intervention where the goal is to choose cases that are likely to extend the emergent theory or to provide examples for polar patterns (Meyer, 2001). Therefore, following the pilot study the selection of MPEs was revised according to a number of key criteria that ensure the investigation's exposure to the full range of new MPE forms in Egypt[9]. The criteria of selection were; 1) developed by both public and private sectors; 2) developed for different social groups; 2) representing most of the MPE typologies in New-Cairo. Accordingly six MPEs were identified as sub-cases for this study (Table 3.1).

Table 3.1 The master planned estates selection criteria

MPE	Developer	Residents social group	MPE typology
Eskan El-Gehaz	Public sector	Low	Cooperative
Eskan El-Shabab	Public sector	Low	Improved-cooperative
El-hay El-Khames	Public sector	Middle/high	Self-built
Al-Rehab City	Private sector	Middle/high	Controlled
Arabella Park	Private sector	High	Gated
Mirage City	Private sector	High	Golf

3.2.3 The Key Aspects of the Research

This research explores the link between landscape and liveability in the desert MPEs. Therefore, the study combines physical context with social process. The conceptual framework of landscape-liveability relationship developed in the previous chapter, shows that the key elements of this relationship could be addressed through; 1) the level of residential satisfaction of people who live there, 2) services that are provided

[8] Denscombe (2007) pointed out some issues that could be considered as the grounds on which this can be justified. *Typical instance*, the most common justification to be offered for the selection of a particular case is that it is *typical*. *Extreme instance*, a case might be selected on the grounds that it provides something of *contrast* with the norm. *Test-site for theory*, the logic of choosing a particular case study can be based on *relevance* of the case for previous theory.

[9] Creswell (2003) recorded that understanding particular phenomena means the necessity to identify a culture-sharing group to study how they develop shared pattern of behaviour.

by developers including both landscape and infrastructures, and 3) a context that embraces the natural, social and economic settings of the MPEs on national, regional and local scales.

In most cases MPEs are developed as readymade products and in Egypt the phenomenon is widely encouraged by urban policies. Therefore, the conceptual framework suggests that the relationship between landscape and liveability has to be considered through a macro-micro analytical approach. At the macro level the study investigates the strategies for attracting individual relocation to the MPEs. This is achieved by addressing the salient factors that led to the rise of the MPE phenomenon in Egypt. Furthermore, the investigation considers the role of urban policies and their impact on the promotional and development approaches used by MPE developers.

At the micro level the study explores the factors of residential satisfaction in the MPEs including, environmental, socio-cultural and economic needs. This is reached by addressing the motives behind residential mobility to the MPEs and the aspirations for improving their conditions. The macro-micro analytical approach involves the key role played by the different stockholders concerned with making the MPEs into liveable places. These include officials involved in urban policies, developers and residents of MPEs. Table 3.2 highlights the key aspects of this research.

Table 3.2 Summary of the aspects of the research

Level of investigation	Scope of investigation	Purpose of investigation	Stakeholders involved
Macro	The physical context of the MPEs.	To highlight role of landscape through investigating the strategies for attracting people to the MPEs.	Officials involved in implementing urban policies. Developers of the MPEs. Planning practitioners and academics.
Micro	Social process in MPEs.	To understand liveability through exploring the factors of residential satisfaction.	Residents of the MPEs.

3.2.4 Getting into the Field: Positionality

To do fieldwork in Egypt, it is essential to obtain a research permit. In this case, the researcher was required to apply for a permit through his sponsor administrator[10], who contacted the researcher's sponsor in Cairo[11], who in turn passed the application to both the National Security Agency (NSA) and the Centre for Public Mobilisation and statistics (CAPMAS). Part of the documentation required is the interview questions that will be asked in the course of the research. This document is given priority since it is supposed to reflect the intentions of the researcher and the research. There is another more important reason why the questions are required in the application; if, in the event of publishing the work that criticises the media or the regime, CAPMAS can claim that they did not approve the interview questions. This semblance of control over what is difficult to control is one of the most obstructive aspects of doing fieldwork in Egypt, and this process of acquiring the necessary permissions took over five months. However, doing fieldwork without the requisite permits is a public security crime (Sholkamy, 1999).

Returning to Egypt to do fieldwork posed a number of problems for the researcher. What constitutes the field versus home is a problematic distinction, as returning to Egypt to conduct fieldwork was in no sense returning home. The field sites were all new MPEs and totally different from the Cairo of the researcher. However, the previous knowledge of New-Cairo, mentioned earlier, boosted the researcher's familiarity with such settings. Doing fieldwork back home brings with it concerns of insider-outsider and politics of representation across social differentiations beyond commonality in nationality or ethnicity (Mullings, 1999). What most concerned the researcher about his positionality were the class differences.

[10] The Egyptian Cultural Centre and Educational Bureau in London (ECCEB).
[11] The Cultural Affairs and Missions Sector (CAMS), Ministry of Higher Education (MHE).

As the researcher is conducting postgraduate research, he will be classified as middle-class regardless of his real socio-economic status. As we will see in Chapter 4, Egyptian society is divided into lower, middle and upper strata, each with their own characteristics but which often overlap. This raised questions of how he could play with different positionalities to build rapport with different social classes, while being attentive to the ethics involved in such a process of fitting in[12]. This resulted in a collective positioning of the researcher by MPE respondents as an outsider doing research. In particular when the researcher was positioned with ties to an educational institution in UK, sentiments of acceptance and sometimes of scrutiny were more frequent and sentiments of rejection were fewer.

3.3 Data Collection: Methods and Analysis

A reconnoitring pilot study in 2006 proved significant in guiding the research direction, data collection and the main fieldwork activities in 2007. Using the words of Teijlingen and Hundley (2001:4): *"pilot studies can inform us about the best research process and occasionally about likely outcomes"*. Although the data collection process is not systematically visible as Meloy (2002) noted, yet planning the time was important as this was limited and the possibilities were huge (Walliman, 2005). The research fieldwork went through four main stages; 1) prior to pilot study; (2) pilot Study; 3) after the pilot study; 4) main field work (Table 3.3).

[12] The appearance of the researcher made this possible, the way he dressed, talked, his means of transportation were different from the lower and upper classes. For example, if the interview was in a lower class community, the researcher dressed moderately and used public transport or at least parked the car at a distance. If the interview was in an upper class community the researcher dressed differently and sometimes borrowed a BMW from a friend.

Table 3.3 Summary of the data collection activities

Stage	Description	Duration	Activities
1st Stage	Prior to pilot study	Sep 2005 - Jul 2006	- Building up the key variables from the relevant literature - Designing the research methodology - Selecting the provisional case studies - Preparing the questionnaires - Preparing the interviews questions - Testing both the questioners and the interviews questions in Newcastle, UK
2nd Stage	Pilot Study	Aug 2006 – Sep 2006	- Visiting the potential case studies - Household questionnaire - Informal interviews and discussions - Informal discussions with some urban experts - Re-choosing the case studies - Observations and photos documentation of the MPEs
3rd Stage	After Pilot Study	Oct 2006 – Jul 2007	- Evaluating the outcomes of the pilot study - Reworking the methodology - Preparing the interviews questions - Testing the questions in Newcastle, UK
4th Stage	Main Fieldwork	Aug 2007 – Nov 2007	- Household interviews - Group interviews - Interviews with officials - Developers interviews - Interviews with academics and practitioners - key officials Interviews - Field observations – spending time in the MPEs - Photographic documentation - Video documentation - Collection of reports and documents from central and local governments

3.3.1 In Field: the Shift

Several activities evolved from the preparation of the pilot study. It started by building up the key variables which then led to the adoption of mixed methods, starting with a broad survey in order to generalise results to population and then focuses in a second phase on detailed qualitative, open-ended interviews to collect views from the participants (Creswell, 2003). Consequently, a multi-page questionnaire and semi-structured interview themes were prepared for the MPE residents. Both questionnaires and interviews were tested and modified with the help of the researcher's Egyptian friends living in Newcastle.

The pilot study commenced with a reconnaissance of the selected provisional case studies[13]. The questionnaire forms were delivered in person[14] to 80 households in 2 MPEs, though only 45 questionnaires were completed by respondents. The objective was to test the questions; hence, sampling was not important at this point. The researcher took the advantage of knowing some friends in both MPEs to help in the distribution of questionnaires and to facilitate the possibility of carrying out 5 informal interviews and discussions[15].

However, the researcher was in the relatively unusual position of having his research supervisor in Egypt at the time of the pilot study. The decision was made before his arrival in Egypt that the supervisor would somehow be involved in the pilot study by visiting the case studies, discussing the appropriateness of the case selection and the methodologies used on the ground. The two day visit to the potential case studies in New-Cairo and to those in other suburban extensions around Cairo, informal discussions with some residents, together with a formal meeting with a housing professor at the National Housing and Building Research Centre in Cairo (HBRC), all contributed to a big shift in the research approach.

The field visits, discussions and meetings led to the decision to widen the case studies to cover the different MPE typologies in New-Cairo, and not to limit it to the middle-class MPEs only. This shift was due the belief that a cross-sectional investigation would be more appropriate in addressing the research's problem than the comparative study approach, which was thought to limit the research outcomes. A re-visit to the field was needed to address MPEs typologies in New-Cairo and to select the MPEs that best fulfil the criteria mentioned earlier[16].

[13] At this point of the pilot study the research was only focusing on two middle-class MPEs; this later changed to six MPEs, covering all social classes as will be elaborated in the following point.
[14] Because other techniques of distribution, as for example mailing, is not possible in New-Cairo.
[15] Three were re-interviewed a year later in the main fieldwork stage.
[16] Although, the six MPEs has been identified during the pilot study, the Golf MPE: Kattamia Heights, had to be replaced by Mirage City due the lack of accessibility during the field work a year later.

Back in Newcastle after the pilot study, the outcomes and the collected data were analysed and discussed thoroughly. The completed questionnaires, and the interview records and notes were analysed. This showed that the questionnaires were not helpful in addressing the research problem and questions. The interviews were more helpful and informative, therefore it was decided that interviews would be the central data collection tool and therefore, a shift was made to a purely qualitative approach as discussed earlier. A plan of the main fieldwork activities was designed; this included contacting key individuals who helped in approaching respondents.

3.3.2 Sources of the Required Data

A general guide to defining the research analysis is related to the definition of the research scope (Yin, 2008). Accordingly sources of the required data for this study were grouped into two. The first relates to the physical context of MPEs; the purpose of the investigation was to highlight the role of landscape through investigating the strategies used to attract residents to relocate to the MPEs. The data collected concerned urban polices, promotional approaches, development stages and the physical characteristics of MPEs. This data was obtained through collecting relevant documents and interviewing key officials from the New Urban Communities Authority, the New-Cairo Development Agency, the National Organisation of Urban Harmony and the Egyptian Environmental Affairs Agency. Further data was obtained through interviews with planners and with developers of MPEs. This was complemented by some web-materials and visual survey using photos and videos for New-Cairo and the six MPEs.

The second group relates to the social process in MPEs; the purpose of the investigation was to understand the dynamics of liveability through exploring factors of residential satisfaction in the MPEs. The data gathered concerned motives for relocation to MPEs and aspirations for improvements in their conditions. This data was obtained through in-depth interviews with residents from the six MPEs. To

summarise, data collection activities were based and guided by 1) the scope of the investigation; 2) the required data; 3) the source of the needed data; 4) the methods that are appropriate for data collection (Table 3.4).

Table 3.4 Summary of data collection methods

Scope of investigation	Required data	Source of data	Methods of data collection
The physical context of the MPEs. (Infrastructure and landscape)	The role of urban polices in the rise of MPEs.	NUCA (New Urban Communities Authority).	Interviews with key officials. Documents.
		NCDA (New-Cairo Development Agency).	
		NOUH (National Organisation of Urban Harmony).	
		EEAA (Egyptian Environmental Affairs Agency).	
	The approaches that are used in the promotion for MPEs.	NUCA (New Urban Communities Authority).	
		NCDA (New-Cairo Development Agency).	
		Developers of the MPEs. Developers of the six MPEs.	Interviews with developers' representatives. Promotional materials.
		Planning practitioners and academics.	Interviews with MPEs planners.
	The development strategies that are used in the development of the MPEs.	NCDA (New-Cairo Development Agency).	Interviews with key officials. Documents.
		Developers of the six MPEs.	Interviews with developers' representatives.
	The physical characteristics of the MPEs.	Visual survey of New-Cairo. Visual survey of the six MPEs.	Photos. Videos. Maps.
Social process in MPEs. (Residential satisfaction)	The motives behind residential relocation to the MPEs.	Residents of the six MPEs.	Household interviews. Group interviews.
	Residents' aspirations to improve the living conditions in the MPEs.	Residents of the six MPEs.	

3.3.3 Interviews

As discussed earlier, the attempt in this study was to allow the phenomenon under investigation to present itself instead of imposing preconceived ideas upon it. This was achieved through bringing to the fore the experience and perceptions of the different stakeholders from their own perspectives. Therefore, the researcher was prepared to be surprised, awed and open to whatever might be revealed. This openness was described by (Dahlberg et al., 2008) as the willingness to listen, see and understand. They emphasised that it involves respect and certain humility towards the phenomenon as well as sensitivity and flexibility. Hence the semi-structured interviews were prepared so as to empathise with the respondent's position and to offer further prompts geared to exploring the existential dimensions of the respondent's position. The aim was to access the respondents' experiences and to go beyond what they have consciously thought about (Wertz, 2005).

The criteria for selecting the study's respondents were defined by their role in the MPEs. Hence the selection included officials involved in urban policy, developers, planners and residents. This study is field oriented in nature and not concerned with statistical rigour, therefore respondents were accessed through purposive sampling (Yin, 2008)[17]. The most appropriate sampling technique found was the 'snowballing effect', because, for example, knocking on house-doors to approach respondents is not possible owing to cultural considerations[18].

The size of the purposive sample is established inductively and sampling continues until theoretical saturation occurs (Noy, 2008; Guest et al., 2006). This research followed Glaser and Strauss' (1999:65) definition of the saturation point: *"[At which] no additional data are being found whereby the researcher can develop properties of*

[17] Patton (2002) outlined sixteen types of purposive sampling, but the common element is that participants are selected according to predetermined criteria relevant to a particular research objective.

[18] Snowball sampling is a purposive sampling procedure and a data accessing method, defined when the researcher accesses informants through contact information provided by other informants, and is often used to find 'hidden populations' (Noy, 2008)

the category. As he sees similar instances over and over again, the researcher becomes empirically confident that a category is saturated". The respondents were grouped into two; 1) respondents related to the physical context of the MPEs; and 2) respondents related to the social process. The first group included officials, developers, planners and academics, and the second included residents (Table 3.5).

Table 3.5 Groups of Respondents of the semi-structured interviews

Respondents Related to Physical context	Respondents Related to Social process
• Officials from New Urban Communities Authority. • Officials from New-Cairo Development Agency. • Officials from National Organisation of Urban Harmony. • Officials from Egyptian Environmental Affairs Agency. • Developer representative of Cooperative MPE: Eskan El-Gehaz. • Developer representative of Improve-coop MPE: Eskan El-Shabab. • Developer representative of Self Built MPE: Al-Hay El-Khames. • Developer representative of Controlled MPE: Al-Rehab City. • Developer representative of Gated MPE: Arabella Park. • Developer representative of Golf MPE: Mirage City. • Planning practitioners and academics.	• Residents from Cooperative MPE: Eskan El-Gehaz. • Residents from Improve-coop MPE: Eskan El-Shabab. • Residents from Self Built MPE: Al-Hay El-Khames. • Residents from Controlled MPE: Al-Rehab City. • Residents from Gated MPE: Arabella Park. • Residents from Golf MPE: Mirage City.

Officials involved in urban policy from four organisations and agencies directly related to MPEs were identified and interviewed. These include officials from; 1)the New Urban Communities Authority (NUCA) which is the central government body concerned with main national urban policy for the desert urbanisation; 2) the New-Cairo Development Agency (NCDA) which is the local government body concerned with implementing urban policy in New-Cairo; 3) the National Organisation of Urban Harmony (NOUH) which is the central government entity concerned with urban liveability; 4) the Egyptian Environmental Affairs Agency (EEAA) which is the central government department concerned with environmental issues including landscape.

Interviewing this group enabled the investigation to grasp the role of urban polices in the rise of practices in the MPEs.

Developers' representatives of six MPEs in New-Cairo from both the public and private sectors were interviewed. This includes 1) departmental officers at the New Urban Communities Authority (NUCA) representing MPEs developed by the public sector; 2) marketing officers representing three private sector real-estate companies. The reason for interviewing this group is to understand the strategies they use to attract residents to their developments. Consequently the interviews concern two themes; the first is the approaches used to promote their developments and the second is the strategies used in the development of these estates.

Planning practitioners and academics involved in the planning of MPEs in New-Cairo and elsewhere were also interviewed. Both architects and academics are often involved in urban planning practice in Egypt. This group was interviewed to grasp a sense of the professionals' attitude towards the current strategies used to attract individual relocation to the desert MPEs. Views gathered from these interviews were used in conjunction with both officials' and the developers' views to show contrasts and similarities in their positions.

Residents from six MPEs in New-Cairo were interviewed. This includes households and group interviews from 1) Cooperative MPE: Eskan El-Gehaz; 2) Improve-coop MPE: Eskan El-Shabab; 3) Self Built MPE: Al-Hay El-Khames; 4) Controlled MPE: Al-Rehab City; 5) Gated MPE: Arabella Park; 6) Golf MPE: Mirage City. The aim of the interviews was to understand factors involved in residential satisfaction in the MPEs. Accordingly the interviews were built around two themes; the first concerned the motives behind the relocation decisions and the second with aspirations to improve living conditions in the MPE. In addition the interviews also sketched a picture of the residents' socio-economic background including their tenure status, social group,

duration of stay in their current MPE, previous place of dwelling and their means of transportation[19].

The interviews generally commenced with an informal introduction and then were conducted according to respondent's group, using the themes mentioned earlier. The interviews were semi-structured, and sufficiently flexible and responsive to new ideas and issues which often developed during the sessions. Interviews lasted from 20 minutes to 2 hours and ranged from individual one to one sessions, to sessions with more than one to occasional group interviews. However, the difficulties mainly related to the large number of interview cancellations and sometimes the number of sessions needed to finish an interview, up to four sessions in some cases. A total of 66 interviews were completed (Table 3.6) and (Appendix A & B).

Table 3.6 Summary of interviews

No. of interviews	Coop	I coop	Self B.	Cont.	Gated	Golf	Total
Households	12	7	5	8	3	3	**38**
Group / No. of people	1 / 5	1 / 4	-	1 / 7	-	-	**3**
Developers	1	1	1	1	1	1	**6**

Interested Bodies	NUCA	NCDA	Academics	Practitioners	NOUH	EEAA	Total
No. of interviews	3	7	2	2	3	2	**19**
					Total of interviews		**66**

Coop (Cooperative MPE: Eskan El-Gehaz)	**Cont.** (Controlled MPE: Al-Rehab City)
I coop (Improved cooperative MPE: Eskan El-Shabab)	**Gated** (Gated MPE: Arabella Park)
Self B. (Self Built MPE: Al-Hay El-Khames)	**Golf** (Golf MPE: Mirage City)
NUCA (New Urban Communities Authority)	**NOUH** (National Organisation of Urban Harmony)
NCDA (New Cairo Development Agency)	**EEAA** (Egyptian Environmental Affairs Agency)

When possible the interviews were digitally recorded, but some were only documented in note form. Specific permission to record was always sought from respondents and sufficient time was allocated to explain the purpose of the study, the proposed use of any information gathered and giving assurance on the issue of confidentiality. The key disadvantage of digital recording was the data handling process. In the semi-structured interviews in particular where there is no strict

[19] This was important to get over the fact that there is no demographic data to relay on in the analysis of the MPEs, yet an idea of this information is needed even if not very accurate but at least it gives an idea of the population characteristics.

control on respondents' replies, sometimes the data gathered was far more than needed. Back in Newcastle the records were analysed and selected segments transcribed and translated into English for inclusion in the study[20].

3.3.4 Visual survey and Observation

Observable signs of order and quality of the built environment influence well-being and residential satisfaction (Dunstan, 2010). The physical structure of New-Cairo and the six MPEs was the focus of the visual survey and observation to gain information on the characteristics of built and natural environment, and how these environments are used and cared for [21]. The observation method is used in conjunction with interviews outcomes and information drawn from documents to sketch a complete picture of New-Cairo and the MPEs under study. Photo documentation, video recording and field notes were used as the visual survey and observation tools.

Many studies rely on census and administrative data sources or on interview data about residents' perceptions of the condition of their urban environment (Gravlee et al., 2006). These data are important but incomplete; comprehensive analysis of these conditions also requires direct observations (Sampson and Raudenbush, 1999). For this reason, checklists of issues to be observed were prepared before starting the fieldwork[22]. The checklists included the physical settings of the built environment, as suggested by Corbetta (2003) and incorporated people, interactions, routines and social organisations, as recommended by Denzin (2009). In general the visual survey was oriented toward the eye-level view. The survey covered both infrastructures and

[20] Translation from Arabic to English was done by the author. Names of interviewees have been omitted, but places and other personal data remain the same.

[21] Dunstan (2010) for example recorded that it is possible to walk around the residential areas and get a sense of whether it might be a good or bad place to live because we tend to give meaning to visual cues. Yet some commentators criticised the reliance on physical measures and evaluations of housing and neighbourhood quality that depend on the judgements of expert observers, see for example Pacione (1982).

[22] Many studies reported researcher administered surveys of the built environment designed to measure its physical quality and characteristics (see for example Dunstan et al., 2005, Caughy et al, 2001; Weich et al, 2001).

landscape. The first included physical, economic, educational, health and community infrastructures and the second included landform, water, vegetation, paved surfaces, street furniture and structures.

The video survey was conducted from a slow-moving vehicle, the camcorder taped to the dashboard following a pre-planned route to cover New-Cairo in general and the six MPEs in particular. In the inner areas which are not accessible by car, the camera was handheld and recording followed a pre-planned walking route. Points of interest were identified in and around the MPEs and 360 degree shots recorded. These methodologies were used by Stephen and Robert (1999) when they observed neighbourhoods in Chicago from a vehicle in which video recorders were taped to both sides of the car. Some commentators noted that making observations from a moving vehicle raises significant ethical and methodological problems (Caughy et al., 2001). For this reason, the researcher obtained permission from the New-Cairo Development Agency (NCDA) and stuck this on the vehicle's windscreen.

The visual data obtained in this study was used as part of the analysis and as illustrations. As part of the research analysis it was used to provide explanatory information on the analysed data sets from interviews. Using both photos and videos enabled the researcher to gather visual data that the eye and normal observation might ignore (Pink, 2007). An additional reason for using videos is that photos record specific settings, but videos record all that is within view (Rosenstein, 2002). Back in Newcastle the video recordings and photos were checked thoroughly and selected images and still snapshots were used in the interpretation process of respondents' accounts.

3.3.5 Documents

Creswell (2003) argues that the use of documentary data can be helpful in offering more insights and in-depth information about the research and so enhance the

process of analysis. Available published and unpublished materials concerned with urbanisation in Egypt, Greater Cairo and New-Cairo were collected. Documents were obtained from the Central Agency for Population Mobilization and Statistics (CAPMAS), the Ministry of Housing, Utilities and Urban Communities (MHUUC), the New Cairo Development Agency (NCDA) and the New Urban Communities Authority (NUCA).

Documents included draft urban policy reports, final master-plans and reports, annual performance reports, reports on socio-demographic indicators, building and land use regulation manuals, digital and printed maps[23]. Collecting the relevant documents was not an easy task. This was mainly due the extensive need for permissions in addition to having to exploit personal and social relations to contact those who could provide the necessary documents. Without dedicated help from friends and relatives, collecting these documents would have been practically impossible[24].

3.3.6 Data Analysis

Qualitative methods and the different methods used to collect data are enjoying a growing popularity throughout the social sciences (Marshall and Rossman, 1999; Bryman and Burgess, 1994; Denzin, 1994; Morse, 1994; Jensen, 1991). Relatively little is known on how 'exactly' to analyse this information (Bryman and Burgess, 1994). Hence an analytical tool for organising the thematic analysis process is needed. However, the process of thematic analysis is well established (Creswell, 2003). In this study, the Attride-Stirling (2001) concept of 'thematic networks' is employed as a tool to build up the arguments. Thematic analysis seeks to discover

[23] Surprisingly New-Cairo demographic data are not included in the recent 2008 national census.
[24] Two types of permission were needed; the first which the researcher acquired to carryout fieldwork in New Cairo as discussed earlier; the second were the permissions to obtain a particular report, document or map (sometimes a fee was required).

the themes salient in the data at different levels and to facilitate the structuring and representation of these themes. Data analysis is a complex and challenging task difficult to explain procedurally. Bearing in mind that it is cyclical rather than linear, this might be illustrated in a series of organising stages; a) reduction and breakdown of the data; b) exploration of the data and c) the integration of explored data.

Interviews were the core data collection tool; hence visual surveys and documents were considered as complementary and illustrative tools. Consequently, the data collected from interviews shaped the process of data analysis. Sophisticated text management software is widely available for doing thematic or code-based analysis (e.g. NVivo); these software packages allow researchers to tag and retrieve contiguous blocks of data, maintain complex codebooks, automating the retrieval of similarly coded passages and perhaps quantifying the frequency of code instances.

Due to time and financial constraints it was impossible to transcribe all the interviews in a traditional manner. Therefore, searching for a valid way to resolve this problem was essential. 'Microsoft Word' has been used to manage the data and as a database bank. Microsoft Word options and functions, such as Table, Table Sort, Find/Replace, and Insert Comment were found very useful and easy. This strategy was found very practical by some researchers (see for example (La Pelle, 2004; Ryan, 2004).

The initial step was to convert the interview recordings into manageable segments of data. The main target was to find the basic ideas in respondents' accounts that were relevant to the aims of the interviews. These involved identifying useful relevant passages in the accounts to be used as quotes to describe these ideas[25]. For example, the residents' interviews centred around two themes as mentioned earlier;

[25] Marking the significant sections of the interviews was possible using the RealPlayer programme that gave the option to trim the digital recordings and categorise them (Appendix C).

a) motives for relocation and b) aspirations for improvements. Consequently ideas retrieved from the interviews were grouped in two groups accordingly (Table 3.7).

Table 3.7 Example of managing the data gathered form resedent's interview

Interview code	**Motives** (reasons for relocation)	**Aspirations** (aspirations for improvements)
CH-Rx Interview duration (48:00mins)	**Potential passages to be used as quotes** **(CH-Rx-Q1)** From minute 2:00 to 6:30 **(CH-Rx-Q2)** From minute 8:00 to 9:30 **(CH-Rx-Q3)** From minute 12:00 to 15:30	**Potential passages to be used as quotes** **(CH-Rx-Q4)** From minute 19:30 to 22:00 **(CH-Rx-Q5)** From minute 26:00 to 32:30
Basic ideas	**Mentioned reasons for relocation** - Shopping - Security - Air pollution - Crowdedness - Children needs - Open spaces - Living away from the city	**Aspirations for improvements** - Architecture quality - Public transportation - Streetscape - Cleanness - Green areas

Ryan and Bernard (2003:85-86) explained the importance of thematic grouping as without it of *"researchers have nothing to explain, nothing to compare, and nothing to describe"*. Therefore after breaking up the interviews into manageable segments of data, themes were abstracted by going through the identified ideas and grouping similar ones together. It was essential at this point to be sure that the identified themes were specific enough to be non-repetitive, and broad enough to encapsulate a set of different ideas in the data (Attride-Stirling, 2001)[26]. This reduces the data into more manageable sets of significant and related themes which then framed the discussions in this study. The repetition technique has been used as it is one of the clear-cut ways to identify themes. Taylor and Bogdan (1998) believed that the most obvious themes in a chunk of data are those topics that occur and reoccur.

[26] Fortunately there is now a growing library of texts on observing themes which offer not only a theoretical background to such techniques, but also some guidance and examples on how to carry them out (see Patton, 2002; Glaser and Strauss, 1999; Strauss and Corbin, 1998; Taylor and Bogdon, 1998; D'Andeadw, 1995; 1991; Lakoff and Johnson, 1980).

Researchers apply varying and overlapping techniques in identifying themes in which each of these has advantages and disadvantages[27].

After assembling the basic ideas into similar and coherent groups, these were then grouped together under broader themes. The web-like network has been verified and refined several times. The aim was to summarise particular ideas in order to create unifying themes which condense the concepts mentioned at the basic level of the network. The themes identified earlier provided the basis of the thematic networks which directly corresponded to the aims and objectives of the study. Furthermore, this provided the structure of Chapters 5, 6, & 7.

3.3.7 The Quality of the Research

Quality in quantitative research is often referred to as its validity and reliability. In qualitative research like this study, quality is measured by its credibility, transferability and trustworthiness (Patton, 2002; Strauss and Corbin, 1998). While quality in quantitative research relies on the research tools, in qualitative research it depends on the researcher's skills and efforts (Denzin, 2009). To maximise the quality of this research two strategies were employed; 1) using multi-methods techniques in data collection; 2) bringing to the fore the experiences of different stakeholders involved in making the MPEs into liveable places.

The usage of multi-methods *"has risen as an important methodological issue in qualitative approaches to control bias and to establish valid arguments"* (Mathison, 1988:13). Furthermore, the researcher in this study worked towards understanding the phenomena under investigation based on the perspective of the different stakeholders. As much as possible the researcher tried to minimise the effect of his

[27] See for example the repetition technique used by Taylor and Bagdan, 1998; D'Andrade, 1991, indigenous typologies used by Patton, 2002; Strauss and Corbin, 1998, metaphors and analogies used by Lakoff and Johnson, 1980; D'Andrade. 1995, or similarities and differences used by Glaser and Strauss, 1999; Strauss and Corbin, 1998).

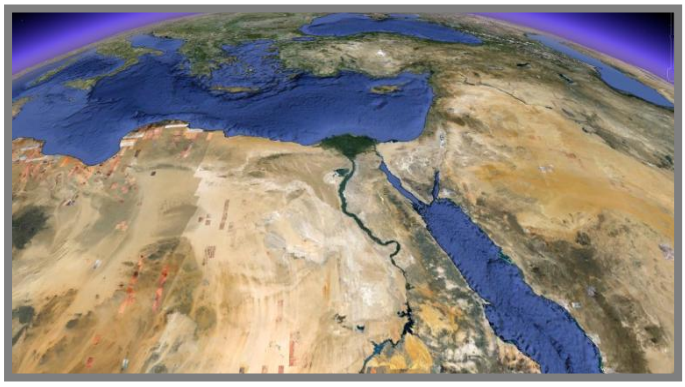
own values and knowledge on respondents' accounts to allow the respondents to give meaning to their own reality. This increased the objectivity of the researcher by avoiding imposing any preconceptions on the data collection (Crotty, 2003).

Using this phenomenological approach resulted in gathering large amounts of data that were not easy to handle or analyze and occasionally far more data than was necessary. This was justified by the intention of allowing the phenomenon to present itself, alongside the identification of similarities and contrasts in opinions. In addition to fulfilling the aims and objectives of this research, the data gathered raised new questions which need further study of the phenomena under investigation in particular and the MPE phenomenon in general.

3.4 Conclusion

In this chapter, the relevant methodological approaches were explored to test the framework for understanding liveability in the MPEs developed in Chapter 2. Out of this exploration, both inductive and deductive reasoning were adopted as the logical approaches to the research. Qualitative methods were used as the methodological approach including interviews, visual surveys and observations. New-Cairo and six new MPEs were chosen to be the case studies of this research.

As discussed throughout the chapter these decisions were not straightforward, and required an element of trial and error, as it may be better called, learning by doing. The next chapter will examine the influence of the context on the urbanisation pattern in Egypt. The intention is to discuss the salient factors that led to the rise of the MPEs in Egypt in order to enable a meaningful analysis of the case study in Chapters 5, 6 & 7.



Chapter 4

Urbanisation in Egypt:

Constraints and Problems

Chapter Four

4.1 Introduction

In the previous chapter the relevant methodological approaches to test the developed conceptual framework in Chapter 2 were explored. In this chapter the salient factors that led to the rise of the MPE phenomenon in Egypt will be examined so that the main themes of the study can be interpreted in context. After briefly describing the landscape characteristics of Egypt, the discussions will explore how changing and managing these characteristics can influence urbanisation activities. The chapter will then move on to briefly examine the historic development of Cairo over the preceding fourteen centuries up to the first half of the 20th century, focusing specifically on the relationship between landscape and urban development.

This is followed by a discussion of the development priorities in parallel with urban quality concerns and how these were reflected in national strategies affecting quality of life and liveability in Cairo in the second half of the 20th century. The process of master-planning Cairo that led to the pushing of urban growth out towards the desert in the form of MPEs will be then examined, followed by a discussion of the housing alternatives for different social strata of Cairene. Such examination is essential if the link between landscape and liveability is to be analysed meaningfully. Discussion in this chapter is built upon an extensive review of relevant literature and policies of urbanisation in Egypt.

4.2 Egypt: the World's Largest Oasis

Understanding landscape character as whole cannot be completed simply by analysing its elements. The interaction of these elements must be considered, integrating natural and human activity in a single evolving system (Crumley, 1999; Patterson, 1999; Nassauer, 1995). The history of landscape character symbolises the

stories of different cultures occupying the same place, each creating its own pattern (Flores, 1994). An initial enquiry into landscape character should take a multiple view of temporal scale and consider the full range of possible processes. A 10,000 year perspective will take us to a point where global climatic conditions were significantly different (Figure 4.1)[2].

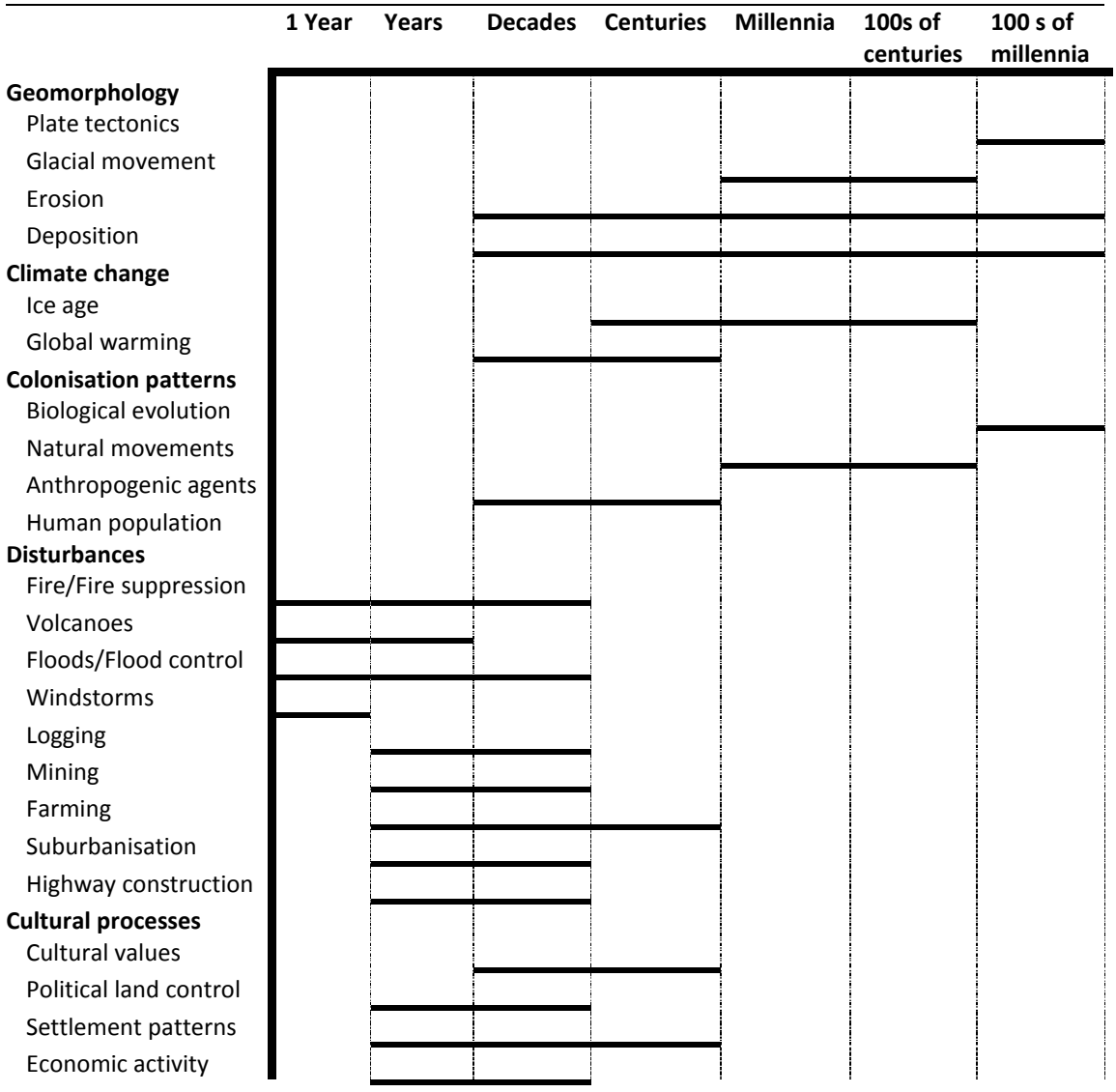


Figure 4.1 Length of time for processes to affect landscape change
Source: Marucci (2000:73)

[2] Marcucci (2000) stressed the importance of considering the millennial, centennial, decennial and annual scales, and that processes may occur in each scale which are not apparent from other scales. Identifying these processes allow planners to correlate them to the time frames of planning interest.

Long ago there was no desert in North Africa; the land that witnessed the rise of one of the world's first great civilisations, that built the Pyramids of Giza and much more, was once a fertile area of savannah. A quarter of million years ago hunter-gatherers lived there beside a flowing river whose banks were not sand or dust, but lush tall grasses and bushy forest. Much of the Sahara was ecologically similar to the areas of bush land that nowadays characterise the plains of Kenya or Tanzania.

Around twenty-five thousand years ago, the climate became drier and wide-scale desertification began. People moved towards the river as the trees and grasses were consumed by encroaching sand. By 8000BC, when northern Europe was recovering from the last ice age, there was already cultivation in the villages alongside the Nile. Animals were domesticated and a society based on settled agriculture began to take shape. Copper and gold were used to make tools, weapons and jewellery. Canals and ditches were built in an attempt to make better use of the annual Nile flood. Although, it would be another ten thousand years before these flood waters, surging down the Nile every summer after the annual monsoons and drenching the Ethiopian Highlands, were completely controlled (Beattie, 2005). In this section, the importance of the river in shaping urbanisation activities in Egypt will be sketched.

4.2.1 The Contrasts: Hyper Arid Desert and Lush Green Valley

> [The Nile]: A thin blue vein of geographical fate, once worshipped and now abused, is the source of all life for Egypt. Observe Egypt from the outer edge of the earth's atmosphere and admire the lotus-shaped valley, the triangular blossom of its delta opening wide to the Mediterranean, its impossibly slender stalk extending deep into African soil.
> **Golia (2004:14)**

Egypt occupies the north-eastern corner of the African continent, with a surface area of just over one million square kilometres (1,019,600 km^2) or about 3% of the total area of Africa (Zahran and Willis, 2009). Most of the country falls within the temperate zone, and is situated in the centre of the largest, driest desert regions on the globe. Average temperatures are high (mean: summer 20-30^0 C, winter 10-20^0 C)

and the mean annual rainfall over most of the country is less tan 10mm. The most significant feature of Egypt's landscape is the Nile River, which is the largest and most important source of fresh water in the country. The Nile divides Egypt into two parts, east and west of the river; Egypt east of the Nile shows significant relief, including the country's highest mountain peaks; west of the Nile the landscape is generally featureless, largely made up of vast expanses of desert sand, dotted with scattered oases (Figure 4.2).

Figure 4.2 Satellite Image of Egypt Captured July 2010
Source: Google Earth accessed in 27.09.2010

Egypt enjoys considerable diversity of habitat, despite its predominantly hyper-arid environment. Lying at the junction of four bio-geographical regions, Saharo-Sindian, Irano-Turanian, Mediterranean and Afro-tropical, it has a unique mix of vegetation types, which support a corresponding diversity of fauna (Mikhail, 2003). The Saharo-Sindian ecosystems are well represented in Egypt's vast deserts, while Mediterranean and Irano-Turanian ecosystems occupy fairly small areas along the

Mediterranean coast and the Sinai highlands respectively (Baha-El-Din, 1999). Egypt is tenuously connected with sub-Saharan Africa through the Nile River and the Red Sea, along which much African fauna and flora extend northwards, adding a further dimension to Egypt's biodiversity. The Nile, with its enormous water resources, supports almost all the country's major wetlands. A further contribution to the diversity of Egypt's habitat types emerges from the long coastlines on two enclosed seas, both with very different marine ecosystems and terrestrial environments encompassing a wide variety of topographic features ranging from the rugged mountains of South Sinai and the Eastern Desert (up to 2641m) to the Qattara Depression (134 m below sea level) (Baha-El-Din, 1999).

Dealing with these characteristic landscapes, each dominated by a lush green valley and a harsh desert, can be seen as pure culture production, the composite of human imprints on the surface. It is the outcome of interactions between cultural and natural forces. Culture is considered as the agent, nature as the medium; the result is the cultural landscape (Sauer, 1963). It is fair to say that people as drivers of change in the Egyptian landscape have made an impact on its characteristics as a result of their continuous efforts to manage it. Some examples of this will be discussed in the coming section.

4.2.2 Egypt's Landscape: A Cultural Production

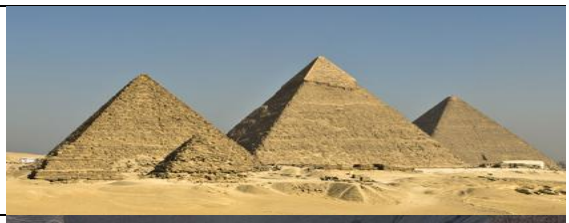
> What we witness when we examine landscape is a process of continual interaction in which nature and culture both shape and are shaped by each other. Thus we arrive at the notion that distinctive national, regional or local landscapes are expressions of human responses to and modifications of natural environments over long periods.
> **Wylie (2007:9)**

Cultural landscape is expressed in two salient ways as highlighted by (de Blij et al., 2007); permanent structures which are exceptional in terms of function, durability, form and configuration, and are generally associated with beliefs and governments; and functional or domestic architecture whose characteristics are ordinary, less

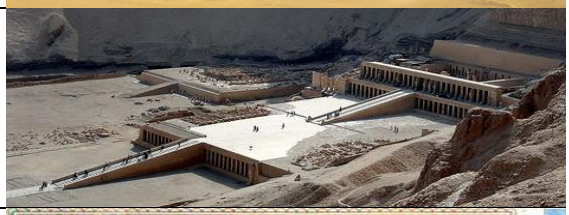
important and thus less expressive of the culture as a whole. The primordial landscape of Egypt reflects a view of the world in which every object and every being had its allotted place, which could never change (Figure 4.3). This view was described by Jellicoe and Jellicoe (1995:109):

> In ancient Egypt, the gardens of the rich, of 'which nothing remains', were highly cultivated geometrical enclosures. They formed a small part of the brilliantly coloured linear pattern of irrigated agriculture that lay within the narrow valley and outlined the Nile. There was no natural green landscape. Punctuating this linear landscape were the great rock monuments, the temple on the east bank and the tomb on the west. The pyramids at Saqqara, Dahshur and Giza are the earliest, the simplest and still the grandest symbols on earth of human aspiration as seen through abstract geometry. Yet except as a source of awe and speculation, this tremendous river scene, reaching from Giza to Abu Simbel, as yet had little influence upon the world's landscape design, for it reflects a philosophy of life and death which subsequent ages found unacceptable.

The pyramids
Pyramid complexes exploited open terrain where horizon was inescapable. Stepped, true pyramids become man-made vertical foils for the natural horizontal, and in Egypt the pyramids were eventually superseded as vertical markers by the obelisk.



Temples and tombs
The mortuary temple of the Queen Hatshepsut terraces were embellished with incense trees planted in earth-filled pits to create a garden for Amun's promenades. Buried irrigation pipes supplied water to sustain the plants.



Garden scenes in tombs at Thebes
Within the tombs of nobles there are often garden scenes, which indicate the high standard of living; the owner thus perpetuated his garden in order to find in the next life the same pressures he had in this life. Some of these scenes depict the elegant nature of domestic architecture and the decorative use of plants such as the vine trellis and the enrichment of the native flora. Large gardens had water pools for angling and reclining in awning-covered boats. Perhaps the plan of Sennufer's garden is the most famous illustration of an Egyptian garden, and the world's oldest accurate garden plan.

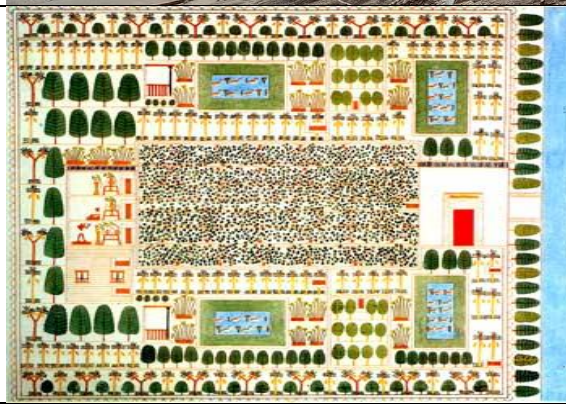


Figure 4.3 Ancient Egypt Cultural Landscapes

During the old, middle and new kingdoms (2686 – 1085 BC) and up until the conquest by Alexander in 332 BC, the Egyptian landscape clearly reflected the dominant culture of power, death and life after death. However, the Egyptian

landscape is often portrayed as static, but this is not the whole story. However what remains supports absolutely the fact that the landscape is a cultural production, reflecting the beliefs of a particular group of people living in a particular place at a particular time.

There are many grand projects throughout Egyptian history which had a significant impact on landscape change and which reflect the common culture of the time. This landscape change in turn usually had a significant impact on the shape of urbanisation activities. For example the realisation of the Suez Canal in the late 19th century, linking the Red sea and the Mediterranean, turned the once an unmitigated desert plains into a populated region with three major cities, a number of smaller towns and villages, and extensive lush farmland. This was made possible by the building of the Ismailia fresh water canal from the Nile which led to dramatic landscape change in the area, for the first time pushing population growth away from the main inhabited areas along the Nile valley and delta (Figure 4.4).

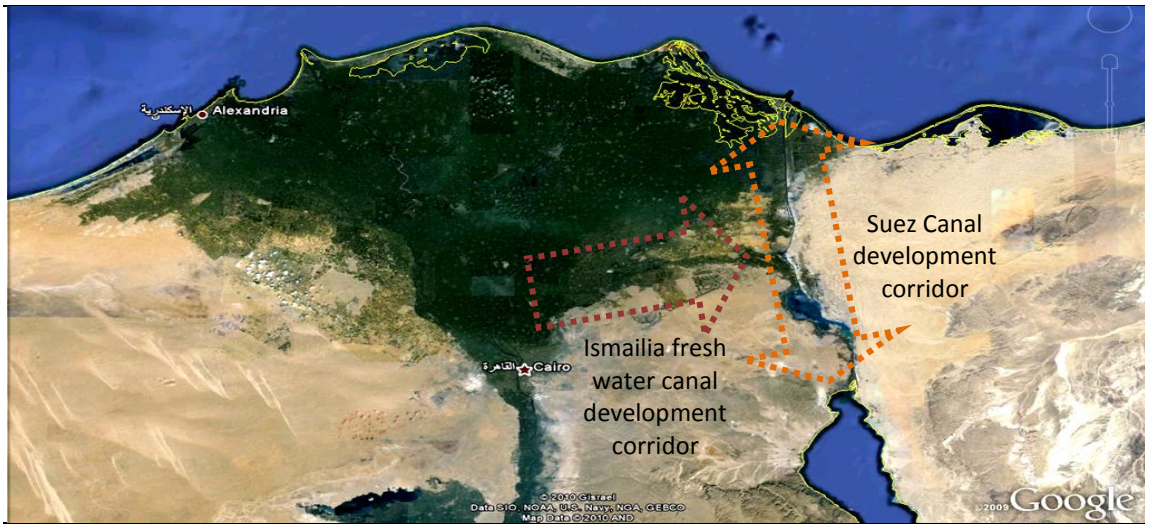


Figure 4.4 Suez Canal and Ismailia fresh water canal development corridors Captured July 2010
Source: Google Earth accessed in 28.09.2010

As mentioned earlier, the main shaper of the Egyptian landscape is the River Nile. Taming the river dominated political structures, social activities, economic organisation, religious beliefs, and almost every other aspect of Egyptians life. To control the Nile waters, the construction of the first dam in modern Egypt, named

the Aswan Dam, began In 1889 and lasted until 1902 when it was officially opened. The initial design was soon found to be inadequate and the height of the dam was raised in two phases, 1907-1912 and 1929-1933. The construction of this dam allowed for more than one crop per year (i.e. 2-3 crops/year), saved the cities and towns along the river from floods and opened up new lands for urbanisation activities. When the dam almost overflowed in 1946 it was decided that, rather than raising the dam for the third time, a second dam would be built 6 Km upriver. The actual planning for this second dam, named The High Dam began in 1954, but it was not until 1967 that construction began and then lasted until 1970. The reservoir, Lake Nasser, began filling in 1964 and first reached its maximum capacity in 1976, shaping what is now considered the largest artificial lake in the world. Lake Nasser changed the Egyptian Landscape; it is 550km long and 35km at its widest point with an average depth of 25m; it covers a total surface area of 5,250km^2 and has a storage capacity of some 157km^3 of water. The anticipated rising waters behind the dam required major relocation projects for both residents (around 60,000 Nubians) and ancient temples (18 temples – most notably Abu-Simble), which were carried out during the 1960s.

To maintain the maximum level of the lake at 183m above sea level, a drainage canal was built in 1978 to prevent an overflow in the event of high floods, directing the excess water to the Toshka depression to the west of the lake. In the 1990s because of rising water levels in the lake the water started to drain off through the leaking canal, forming a series of endorheic lakes in the western desert of Egypt, covering an area of 1300km^2. As a result of this landscape change, the Egyptian government decided to develop the area, creating a New-Valley for agricultural and industrial activities. A system of canals carrying water from Lake Nasser is supported by the centrepiece of the project, the largest pumping station in the world, pumping water from Lake Nasser at the rate of 25 million m^3/day, and transforming 588,000 acres of desert into lush green agricultural land. On completion, this ambitious project will increase Egypt's arable land by one third.

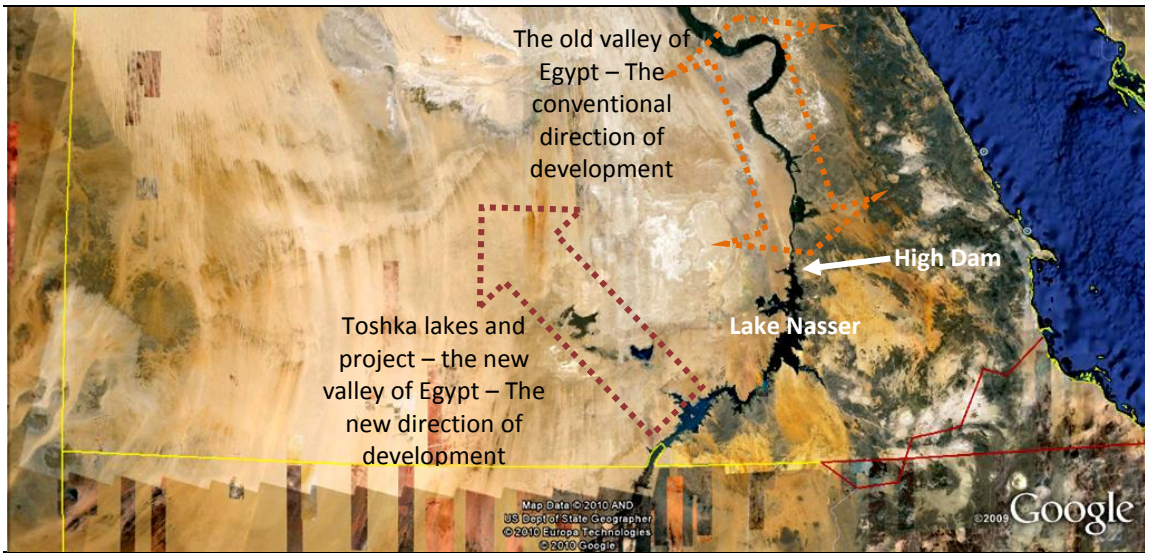


Figure 4.5 Lake Nasser and Toshka Project
Source: Google Earth accessed in 28.09.2010

It is clear now how landscape characteristics on national and regional scales and attempts to manage them have a direct influence on urbanisation activities by turning the generably uninhabitable desert plains into habitable, liveable ones. As discussed in Chapter 2, the struggle against aridity in the Middle East has influenced social and political organisation and shaped religious and cultural values. This was a result of the duality in the Middle Eastern landscape character; on one hand, there was the ordered, inhabited space of settlements and cultivated land and, on the other, the desert.

Landscape is an expression of ecological, economic, social and cultural changes which inclusive of multi-faceted values that then acquire dynamic values (Brunetta and Voghera, 2008). Consequently, landscapes are always changing because of these dynamic interactions and alterations, therefore landscapes are the result of consecutive reorganisations of land adapting its use and spatial structure to changing societal demands (Antrop, 2005). In the following section the discussion will continue by examining the historic development of Cairo, focusing particularly on the relationship between landscape, urban quality and development.

4.3 Compact to Disperse: Restoring Urban Quality of Cairo

> Cairo is, according to the United Nations, the most densely populated large urban area in the world. Overall the city packs 70,000 people into each of its 200 square miles, confining its citizens more tightly than does the bristling little island of Manhattan. In central districts like Muski and Bab Al-Sa'ryya the density is 300,000 per square mile, a figure that soars in some back streets to a crushing 700,000...Crowding squeezes Cairenes out of their homes. But where [are they] to go? Until a recent crash programme the city had only five square inches of parkland per inhabitant, which is less than the area covered by the sole of one adult foot.
> **Rodenbeck (2005:16-18)**

According to the latest national census in 2006, Greater Cairo houses 25.4% of the Egyptian population or 18.29 million of a total 72.08 million (CAMPAS, 2008). By the end of the last century Cairo's population growth had started to slow down for the first time in centuries (Denis, 1996). Its rapid growth can be monitored over four stages from the beginning of the 20th Century. The first stage lasted 50 years; between 1900 – 1947 the city's population doubled and grew from 1 million to 2.23 million (Fahmi and Sutton, 2008). The second stage lasted 20 years; between 1947 – 1966 the city grew more than two fold again to reach 4.22 million (Khadr et al., 2010), reaching 8 million by 1976 or doubling again in only 10 years at an average rate of 2.5% per year (Sutton and Fahmi, 2001). However, in the 1980s and 1990s the average annual population growth started to slow down reaching 1.6% and slowed even further in the 2000s to reach 1.4% (CAMPAS, 2008). Denis (1996) attributed this slowing down in population growth to lower rural-urban migration and a decline in fertility. El-Araby (2002) related it to the higher levels of education, rising incomes and a highly successful family planning programme that led to a decline in household average size over 30 years from 6.23 to 4.47 by the late 1990s.

> After the overwhelming first sight of the magnificent pyramids, the next impression a first-time visitor to Cairo receives when coming in by plane is an ochre sea spreading below him/her on both sides of the Nile, with very small dots of darker colours that do little to alleviate the dull monotony of the landscape. This is modern Cairo, sprawling across miles and miles of former agriculture and desert land and made up of densely laid out buff-coloured buildings with few green spaces between them. The only green is along the banks of the river and on the island of Gazira. These unalleviated expanses of tan are

> perplexing, to say the least, for a city lying at the apex of the bountiful Nile, one of the mightiest rivers in the world and the greening agent of its own valley. It is also misleading, insofar as it convinces urban and landscape researchers that Cairo has always been a toneless city with no gardens or parks, when historical records unmistakably suggest otherwise.
> **Rabbat (2007:43)**

Figure 4.6 Cairo satellite image captured July 2010
Source: Google Earth accessed in 28.09.2010

Cairo parched and pulverised its inhabitants increasingly like '*merry amoebae'*, lies near the end of the river's 6,818 Kilometre length. Viewing the Nile valley as a lotus flower, Cairo occupies the throat of the flower and is strangling it (Golia, 2004). The unification of Upper and Lower Egypt by the year 3120 BC was the cardinal event of ancient Egypt and led to the the establishment of the world's first imperial capital at Memphis. This city was situated close to the Nile's west bank, 20miles south of Cairo city centre today (Beattie, 2005). The evolution of Cairo and its urban structure perceived from socio-economic and socio political standpoints has been a subject widely researched and analysed (Khadr et al., 2010; Raymond, 2007; Beattie, 2005; Golia, 2004; Stewart, 1999; Abu-Lughod, 1971). In this section the factors that led to the rise of the MPE phenomena will be discussed, but first a brief history of the urban development of Cairo and its relationship from a landscape perspective will be examined.

4.3.1 Fourteen Century of Urban Development

A pattern of urbanisation is identified by Forman and Godron (1986) as the 'Landscape modification gradient' and by Rodiek (1988) as the 'Landscape development continuum', both useful to consider here. Marcucci (2000) argued that urbanisation comes in many patterns and is not necessarily sequential, yet he felt it possible to identify five distinct phases along this landscape continuum; nature, managed, cultivated, urban and suburban. Cairo is no exception to this; its urban history can be divided into; Islamic, Imperialist, Arab Socialist, Neo-liberalism (Stewart, 1999). Raymond (2007) divided it into; pre-foundation, foundation, medieval, traditional and current. These, classifications provide a useful analytical tool to understanding Cairo's long history of urban development (see Figure 4.7).

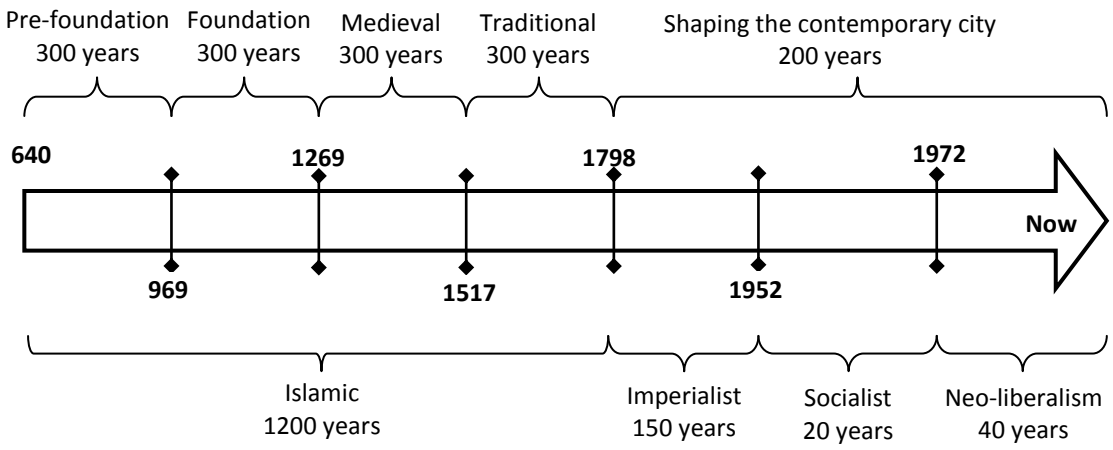


Figure 4.7 Historical periods of Cairo

Source: After (Raymond, 2007; Stewart, 1999)

The history of 'current' Cairo starts with the Arab conquest of Egypt in the year 640, three centuries before the foundation of Al-Qahira *Cairo* (Raymond, 2007). The process that gave birth to Cairo extended over nearly six centuries and involved a series of foundations: Fustat, established by Arab conquerors in 642; Al-Askar by Abbasids in 750 and Al-Qataai by Tulunid in 868. Al-Qahira founded by the Fatimid in 969, and the construction of the Saladin citadel in 1176 by the Ayyubid, completed Al-Qahira's transformation into a city that later became the centre of Egypt's official,

political, administrative and military life (Raymond, 2007; Beattie, 2005; Rodenbeck, 2005; Golia, 2004). The modernisation of Cairo is traditionally related to the arrival of the French expedition in 1798, but the real transition to a new phase in Egyptian history was confirmed by the accession of the reforming ruler Mohamed Ali Pasha, who from 1805-1848, was able to organise a new government, society and economy (Raymond, 2007). In the 1860s Cairo went through the sort of upheaval and glorification that happens nowadays when a city hosts the Olympic Games (Beattie, 2005). This was because of the preparation for the Suez Canal opening ceremony. Thus, the year 1863 was remarkable in Cairo's history with the accession of Isma'il Pasha 1863-1879, the first ruler in nine centuries to make an overall plan for the city's urban development. In the colonial period the trend first manifested itself and then intensified in Isma'il's urban projects of creating two cities side by side. Before 1882 a dividing line separated the 'traditional' sector from the 'modern' one, but with the arrival of a British presence the line marked a boundary between a 'native' city and a 'European' one (Raymond, 2007). But what did the city look like? During the foundation between the 7th and the 13th Centuries, the Iraqi traveller Ibn Hawqal in the course of two stays in Egypt, one around 943-947 and the other after the foundation of Al-Qahira (Cairo) in 969 wrote that the capital of Egypt:

> Named Fostat…is a very beautiful city…a large city…its site densely peopled and wonderfully fertile. The city has other eminent and agreeable qualities. Its various quarters possess vast open spaces, enormous markets, impressive commercial centres, spacious private lands, not counting its splendid exterior, a pleasant atmosphere, flowering gardens, and parks that are always green no matter the season.
> **Cited in Raymond (2007:29)**

At some stage in Medieval Cairo between the 13th and 16th Centuries, the Jewish traveller Rabbi Meshulam of Volterra, who visited Cairo in 1481, wrote:

> I had come to see the Cairenes and their deeds. However, if I were to write about its wealth and its people, all of this book would not be sufficient. I swear that if it were possible to put Rome, Venice, Milan, Padua, Florence and four more cities together, they would not equal in wealth and population half that of Cairo.
> **Quoted in Rodenbeck (2005:91)**

During the time of the traditional City between the 16th and 18th Centuries, Fulgence a European traveller, who lived in Cairo around 1700, wrote:

> The most beautiful houses in Cairo are situated around this *birka* [pond]. It is flooded for eight months of the year, and it is perpetual garden during the other four. During the flood, one sees a great number of gilded brigantines on which persons of consequence and their wives take the air at nightfall. There is not a day when fireworks are not set off and music is not heard.
> **Cited in Raymond (2007:276)**

Between the 19th and 20th centuries, British writers described the city in 1909 as two civilisations overlapping; they portrayed this meeting as a scene of battle:

> What with the raucous shouting of the pedlars, the rattling of the water-carriers' tiny brass trays, the blowing of motor-car trumpets and the ringing of tram bells, the grinding of wheels and the clanging of iron shod hoofs against the cobbles – the uproar heightened by the voices of men and women in passionate controversy – it is as though an Oriental Bedlam had been let loose...here East meets West, and the struggle between two elements still rages at its greatest height... To the west lies Europe, to the East the Orient. Gradually the former is encroaching upon the later.
> **Quoted in Rodenbeck (2005:175-176)**

These accounts sketch an overall picture of the city; however, throughout this urban history there was an explicit relationship between urbanisation activities and the landscape characteristics of the site which aimed to improve the city's habitability or liveability. This relationship was often clear when dealing with the natural settings of the site's landscape characteristics which involved an interventionist approach to any modification. This relationship started with the choice of a site on the River Nile which became the City of Cairo and the transfer of the river waters deep into the city by digging canals, continued with the construction of the city around lakes and ponds left after the annual floods, which turned into lush green areas between flood seasons, and the designation of areas for parks, maydans and green ways. For a summary of the most salient relationship between urbanisation activities and landscape characteristics since the foundation of Cairo in the 7th century up to the first half of the 20th century, see Table 4.1.

Table 4.1 Summary of Cairo's urbanisation and its major landscape characteristics

Year	Name	Urbanisation Activities	Landscape Characteristics
Foundation of the City 7th – 13th Centuries			
640 - 642	**Al-Fostat** By Arab Conquerors	The camp-city organised around fifty sections for army units. Gradually the sections turned to neighbourhoods filled with buildings.	Camping on the Nile bank. *Digging a water canal from the Nile.* Network of streets and common areas. Main streets were paved.
750	**Al-Askar** By Abbasids	Building the first dynastic city to the north.	Building on high hills to have a view of the Nile and the port
868	**Al-Qataai** By Tolonids	Building the second dynastic city.	First appearance of *maydans* public squares with a big gardens.
969	**Al-Qahira (Cairo)** By Fatimid	Absorbing Al-Fostat, Al-Askar and Al-Qataai. Building the first mud bricks fortified ramparts. Renewing the neighbourhoods of Al-Fostat, Al-Askar and Al-Qataai.	Leaving three times the built up area as green *bustans* for live stock and leisure inside the walls of the city. Digging a network of water canals from the Nile. Private luxurious gardens for elites. Building the current wall and gates.
1171 - 1250	**The transformation to a city** By Ayyubid	Building the citadel and a wall surrounding Al-Askar and Al-Qataai and Al-Qahira. Urban facilities and services. Urban spelling beyond the walls.	Building the citadel on high hills to overlook Al-Qahira. The shift of the Nile opens new lands for development.
Medieval Cairo: 13th – 16th Centuries			
1269	**Al-Qahira (Cairo)** By Mamluks I	First suburban development to the north.	Setting large open spaces and *maydans*. Digging a new canal *khalej A-Nasry.*
1325 – 1517	**Al-Qahira (Cairo)** By Mamluks II	Urban expansions to the west. Urbanisation of the southern districts. Expansion of the city. Urban renewal: the first attempts to enhance the urban liveability.	Building around large ponds *Birkat Al-Azbakiyya* and *Birkit Al-Nasiriyya* left from the Nile shift. Installation of waterwheels for filling ponds and canals with water. Widening of streets, pavements, renewing building facades, street cleaning, lighting shops by lamps and introducing street watch system.
The Traditional City Form: 16th – 18th Centuries			
1517 – 1798	**Al-Qahira (Cairo)** By Ottomans	Further expansions Fashionable neighbourhoods	The elite build their houses away from the city core, around the water bodies like *Birkit al-Fil* and vegetations.
Shaping Cairo as We Know: 18th – Mid 20th Centuries			
1798 - 1801	**Al-Qahira (Cairo)** The French expedition	Slow urban awakening	Urban improvements around *Birkit Al-Azbakia* pond. Planting trees around the pond.
1805 - 1863	**Al-Qahira (Cairo)** By Mohamed Ali	Urban modernisation	Levelling the mounds around Cairo for further expansion. Grading and planting the area between the city and the Nile. Filling the low lands and ponds that are no more in use and turning them to parks. New roads lined with trees to facilitate movement around the city.
1863 - 1879	**Al-Qahira (Cairo)** By Ismail Pasha	Urban westernisation	Covering many of the canals, turning them to green ways. Filling the last few ponds and turning them into parks. Expanding in building gardens and parks.
1882 - 1936	**Al-Qahira (Cairo)** The British presence	The colonial city	Expansion in building green ways and parks in *Maaadi*, *zmalek* and *Heliopolis*. Controlling the Nile flood by the first Aswan Dam opened the way to further urbanisation towards the river.

Source: After (Raymond, 2007; Beattie, 2005; Rodenbeck, 2005; Golia, 2004)

The above summary shows the direct and indirect connection between urbanisation activities and landscape characteristics which most of the time improved the habitability and liveability of the city. However, from the second half of the 20th century up till now different societal factors started to affect the picture of the city's development and its priorities in improving habitability and liveability. These factors will be discussed next.

4.3.2 Development and Urban Quality: the question of Liveability

After the 1952 revolution, economic development through industrialisation was a main priority for the Egyptian government (Stewart et al., 2004). Accordingly, several economic policies were implemented, including land reform and protective policies, to empower the industrial sector with a full hand in the local market (Yousry and Aboul Atta, 1997). These policies were not completely satisfactory in terms of achieving the government's economic development goals. As a result, nationalisation laws were introduced authorising state intervention in all sectors of development and accompanied by extreme centralisation in decision-making. Hence, towards the 1960s, the government became the main employer, housing and services provider.

This shift towards industrialisation led to the concentration of industrial activities in the main cities and in Cairo particularly. The result was massive rural-urban migration, concentration of economic activities in urban centres, rising demand for land and housing, all in which led to degradation in urban quality (Sutton and Fahmi, 2001). The prevailing idea was that a focus on improving urban quality would constrain economic growth (Stewart et al., 2004). However, in the 1950s and 1960s, economic development institutions were more powerful than physical planning ones; in addition there was a complete absence of any environmental or urban quality institutions.

In the 1970s and 1980s, although economic development remained the ultimate goal, the government altered its perspective by consider the deteriorated urban quality. This shift was accompanied by the adoption of an open-door policy to attract private and international investment (Yousry and Aboul Atta, 1997). Despite this consideration of deteriorated urban quality, the open-door policy still favoured economic development over the enforcement of urban policies and this led to unplanned urbanisation. The ease of applying urban policies in favour of any means of economic development during this era led the government to accept the existence of this unplanned and informal urbanisation, considering it as an economic asset and providing it with necessary infrastructures (Sutton and Fahmi, 2001). Giving legal status to any unplanned and informal urbanisation led to further expansion of this sort; the result was more degradation in urban quality (El-Araby, 2002).

Despite this, the 1970s and the 1980s represent the first attempt to establish institutions responsible for environmental policies; for example the Egyptian Environmental Affairs Agency (EEAA) was founded in 1982. This agency worked to produce a national environmental plan for Egypt. The result was a group of projects to improve urban quality; however, the projects were not successful in the short term as they focused mainly on improving and protecting the natural environment with no clear intervention to improve the deteriorated urban environment.

There was wide recognition of the failure of the government intervention model, the nationalisation policy of the 1950s and 1960s to the open-door policy in the 1970s and 1980s, to enhance the economic conditions in Egypt which gave rise to a deteriorated urban quality. Therefore, during the 1990s and 2000s there was a shift towards a market economy based on the neoliberal themes of the market, and political and citizen enablement (Yousry and Aboul Atta, 1997). The role of the government as facilitator, regulator and coordinator was re-addressed (Stewart et al., 2004). There was an attempt to move from mere diagnoses of a deteriorated

urban quality and the scattered unplanned actions to new, well organised frameworks to improve urban quality without hindering economic development (El-Araby, 2002).

The new strategy was designed to tackle these problems through two main approaches, upgrading the existing urban fabric of the cities by urban regeneration and developing new desert settlements. In the 1990s and 2000s came the first attempt to deal with the immediate urban quality problems, the establishment of the National Organisation of Urban Harmony (NOUH) in 2001. However, a special section in the new Building and Planning Law of 2009 is devoted to urban harmony initiatives; hence it is quite early to assess its success. However, the growing concern over the quality of urban life in Cairo resulting from population growth and the deterioration of the urban environment due the industrialisation led to a series of attempts to 'master-plan' the city, in 1956, 1970, 1983, 1990, 1995 and 1998. The master-planning of the city was a real attempt to improve urban quality and liveability as will be discussed next.

4.3.3 Master Planning the City: Pushing Growth towards the Desert

The first serious attempt was the 1970 Greater Cairo Master Plan which proposed to accommodate the population growth in a super agglomeration with satellite towns. The plan had two major objectives; 1) to contain the city within its built-up area by means of a surrounding circular road and a green belt; 2) diverting any further population to new satellite towns to the east and west on desert land away from the green north and south (Yousry and Aboul Atta, 1997). Thus an essentially poly-nuclear approach was favoured, following the London and Paris models (Sutton and Fahmi, 2001). This plan was not fully implemented in the 1970s, yet it formed the basis for the 1983 Greater Cairo Master Plan, which remains *to date* the base-map for urban development in the region. In 1981, the 1970's plan was updated and launched as a result of deteriorating urban conditions, which were evident in its

overcrowded population, its proliferation of small enterprises, housing shortage, poor infrastructure and environment (Fahmi and Sutton, 2008; Stewart et al., 2004). However, the 1983 plan had five main objectives; 1) to meet the needs of the growing population; 2) to protect farmland by establishing 10 new settlements in the desert to the east and west; 3) urban regeneration of the inner city to reduce population density; 4) to upgrade the urban infrastructure; 5) to involve the private sector in the process of the new settlements and urban development (Yousry and Aboul Atta, 1997).

The outcome of the major infrastructural improvements proposed by the 1983 plan was a number of new projects to meet the infrastructure gaps which had festered for decades (El-Araby, 2002). For example, the 240Km circular road, three underground metro lines, six urban motorways, two new pumping stations for drinking water to supply the new eastern and western settlements and two new enormous interceptor sewers, all formed the backbone for an improved infrastructure for the region (Fahmi and Sutton, 2008). Together the 1970 and 1983 Greater Cairo Master Plans and subsequent modifications in the 1990s pushed the urban growth of the city towards the east-west direction rather than the historic north-south expansions; urban sprawl continued to move towards the north but far less than before (Sutton and Fahmi, 2001). However, such infrastructure improvements led to negative as well as positive outcomes and divided Cairo into six different spatial patterns (Figure 4.8), as highlighted by Sutton and Fahmi (2001:148):

> **First:** the ruralisation of urban fringes and the emergence of spontaneous informal settlements around the city peripheries. **Second:** the urbanization of rural villages on the outskirts of Giza to the west and of Qalubia to the north. **Third:** the densification of the west bank of the Nile (Mohandessine and Zamalek), of the south (Maadi), and of the northeast (Madinat Nasr) triggered a mass residential mobility to the suburbs. **Fourth:** saturation of the CBD and the decline of the inner old city as people seek to move out from core areas to the fringes. **Fifth:** inefficiency of new desert settlements in providing housing for low-income population. **Sixth,** population growth in the suburban master planned estates within the desert new settlements, in eastern Cairo (New Cairo City) and in the western desert (6th October City).

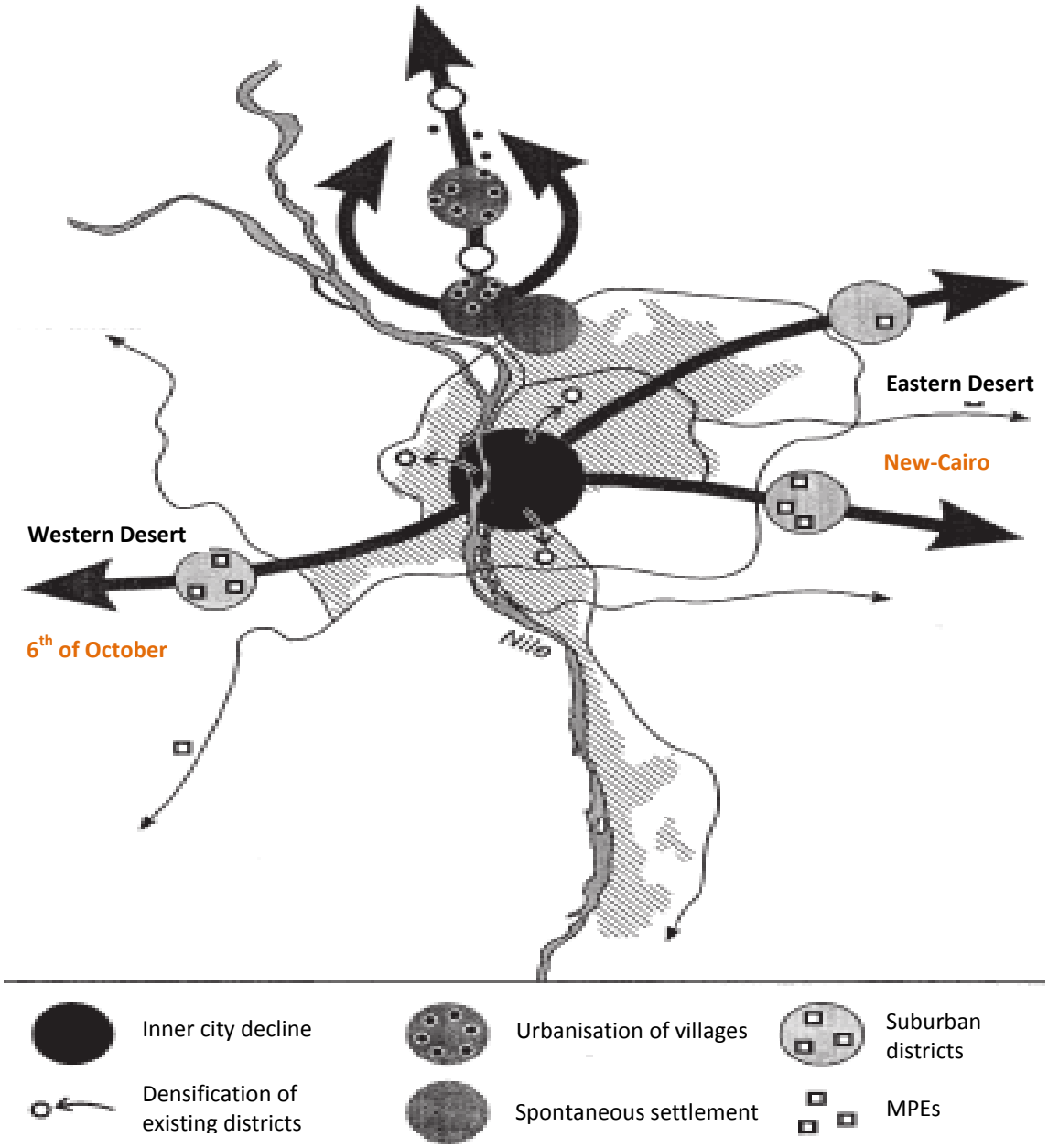


Figure 4.8 Model of Cairo's recent urbanisation patterns

Source: Sutton and Fahmi (2001:148)

It can be noted now that what Sutton and Fahmi (2001) called the "*mastering*" of Cairo's population growth is clearly shown in the decline in inner city population associated with the outward movement of people from different socio-economic classes, as in the case of the rapid relocation to 'New-Cairo City' in the east and to '6th of October City' in the west. The new desert settlements have been marked by using the concept of the master planned estates (MPEs) as a form of urbanisation

and grasping the idea of building communities by extensive provision of infrastructures as well as an enhanced urban landscape better than the one in Cairo. However, it is worth mentioning here that housing is delivered in Egypt through three major suppliers; the public sector, and the formal and informal private sectors (El-Araby, 2003), (see Table 4.2) .

Table 4.2 Housing supply in Egypt

Major housing supply sectors	Public sector	Private sector (formal)	Private sector (informal)
Developer	-Ministry of Housing, Utilities and Urban Development (MHUUD). -New Urban Communities Authority (NUCH). -Local Authorities.	-Real estate companies. -Land subdivision companies. -Individuals.	-Individual informal land holders. -Individual formal land holders.
Location	-Desert land. -Urban regeneration sites.	-Inner cities. -Cities boundaries. -Desert land.	- Cities boundaries. -Agricultural land.
Ways of supply housing land	-State lands in cities. -Desert lands. -Large lots.	-Demolition of old buildings. -Large lots. -Subdivisions.	-Desert land invasion. -Subdivision of agriculture land.
Transfer of housing land rights	-Freehold. -Lease.	-Freehold. -Lease. -Inheritance. -Court orders. -Legalised land invasion.	-No legal registration. -Contracts and pre-sale arrangements. -Social norms.
Housing price	-Political choice	-Market and speculations	-Market factors

Source: After El-Araby (2003:447)

This duality of formality and informality, peripheral informal and planned suburbs, demonstrates the urban polarisation and social transformation of Egyptian society (Bayat and Denis, 2000). Cairo is often cited in the literature on developing countries, as exemplifying overcrowding, slum dwellings and various aspects of housing crises experienced by the urban poor. Roof-top shanty dwellings, cemetery residences *city of the dead* and informal vertical extensions of apartment blocks, these stereotypes are peculiar to this mega-city (Fahmi and Sutton, 2008).

4.3.4 Who Lives Where and How in Cairo

> Cairo, like all cities, is a place of extremes. But the polarisation is accentuated here perhaps more than anywhere on earth. There is a continuous tension between competing standards of social and economic change: between the modern and traditional, the western and the Islamic, the most between rich and Poor.
> **Beattie (2005:224)**

The city is divided into adjacent and often overlapping social spaces; lower, intermediate and upper strata (Fahmi and Sutton, 2008; Bayat and Denis, 2000; Stewart, 1999; Denis, 1996), although Singerman (1995:30) recorded that rich and poor in Cairo live "*cheek by jowl*" in some areas and are not totally segregated. However, Harris and Malak (2002:71) noted that this is not the norm and *"[i]n class terms, and by western standards, Cairo is a highly segregated city"*.

Raymond (2007) estimated that the lower stratum forms about 56% of Cairo's population and shares only 12% of the aggregate income, while the middle forms 39% with 34% of the income, and only 5% form the upper strata with about 54% of the income. It is not easy to distinguish between different social spaces in Cairo, but to make it easier we can differentiate the three types of social strata by their density, education level, business activities, property cost, and quality of amenities.

The space belonging to Cairenes' *lower strata*, with its large share of labourers and high illiteracy rate is the city's largest and most populous and the one where facilities are the most marginal. This social space consists of two separate typologies. The first comprises the central area of the old Fatimid city, its traditional outlying areas, Bulaq and Old Cairo, where densities are highest, dwellings are most overcrowded, and the urban fabric is extremely rundown. These parts of the city, where the residents are the most homogeneous, are yet marked by a decline in population since the 1960s (Figure 4.9).

Figure 4.9 Cairenes' lower strata formal living spaces
Top-left: Inner city street; Top-right: Inner Cairo satellite image;
Bottom-left: Inner Cairo cooperative housing street; Bottom-right: Inner Cairo cooperative housing satellite image
Source: Google Earth accessed in 24.01.2010

The second consists of informal and spontaneous settlements ringing the inner city, like Mattariyya and Shubra to the north, Imbaba and Faysal to the west, Tura and Helwan to the south, Mansheat Nasser to the east. The inadequate infrastructure is especially marked because of the illegal nature of settlement in agricultural or desert lands owned by the government. There have been many projects carried out in the last three decades to improve the quality of life in these areas, with the help of the international community; billions of pounds have been pumped into them, but success is very limited (Figure 4.10).

Figure 4.10 Cairenes lower strata informal living spaces
Top-left: Informal settlement towards the desert ; Top-right: Desert informal settlement satellite image;
Bottom-left: Informal settlement on green land; Bottom-right: Green land informal settlement satellite image
Source: Google Earth accessed in 24.01.2010

The space belonging to Cairenes' *intermediate stratum*, a prosperous level of the population is the second largest of the city. It occurs in areas to the west of Fatimid city, such as Azbakia, Abdin and Sayyida Zaynab, where the first modern expansions were built at the end of the nineteenth century, and which remain the city's business and trade centres to this day, to the north, in parts of Shubra and Wayli, where development goes back to the first decades of the twentieth century and shows a strong industrial character. Population density is high, but people have a high level of education and are generally represented in the self-employed and service professions rather than in the worker category. The level of infrastructure is generally acceptable (Figure 4.11).

Figure 4.11 Cairenes intermediate strata living spaces
Top-left: street in Wayli; Top-right: Wayli district satellite image;
Bottom-left: street in Gamra; Bottom-right: Gamra district satellite image
Source: Google Earth accessed in 24.01.2010 – Photos by author

However, Cairenes' *upper stratum* occupies an extensive area of the city with respect to the other two strata, more sparsely inhabited and geographically scattered around the city. It consists of the relatively old centre of Qasr Al-Nil and Zamalek, with its 1960s extensions to the west bank of the Nile, such as Aguza and Doqqi, in addition to the main inner circular road suburbs of Heliopolis and Madinat Nasr to the east, and Ma'adi to the south. Density is relatively low, despite the high-rise character of its urban fabric. This group is distinguished by a high educational and occupational profile, forming an enclave within the city. Due to the saturation of these districts accompanied by high demand and high land values, detached single family houses and small buildings are often replaced by high rise buildings. Infrastructure services are of high quality, and include the city's fashionable shopping and entertainment venues (Figure 4.12).

Figure 4.12 Cairenes upper strata living spaces
Top-left: Community garden in Heliopolis; Top-right: Heliopolis satellite image;
Bottom-left: Street in Maadi; Bottom-right: Maadi satellite image
Source: Google Earth accessed in 24.01.2010 – Photos by author

The faces of the city blur; its centres are many and mobile. But this fragmented-compacted city can be reconstituted into more or less coherent quarters, each clearly revealing deep social differences (Raymond, 2007). A survey by Labib and Battain (1991) quoted in Raymond (2007:361) showed how Cairenes draw the distinction between *raqi* chic districts and *sha'bi* popular ones, and how very explicit the criteria are:

> Density ("here, at Madinat al-Tahrir, it is peaceful, a nice *raqi* area"); noise ("*sha'bi* is what you have here, at al-Husayn, a little *baladi* local, full of people. In a *sha'bi* quarter there is aways noise, bustling, lots of people, but a *raqi* quarter is peaceful"); the nature of the buildings ("Muhandisin is *raqi*, the height of the buildings is different...the construction is modern, the buildings are different, cleaner...each person lives apart in his own apartment"); cleanliness ("In Imbaba, the Al-Munira district is very crowded, unclean. Al-Basrawi street is not asphalted, there are no sewers even"); retail services ("Heliopolis is full of shops with expensive dresses and there is a supermarket. In Darrasa, there are *jam'iyyat* cooperatives and long queues"

This social division of the city was evident throughout the city's fourteen century history, but was reinforced in Nasser's socialist era when many of the public housing schemes benefited the middle stratum, leaving the poorer behind. However, this was accelerated by the adoption of a neoliberal free market strategy, letting the law of the market become the norm, while minimising the government's role in urban development and leaving it chiefly to the private sector (Raymond, 2007; Bayat and Denis, 2000; Stewart, 1999). This is evident in the emerging desert MPEs which will be discussed in the next chapter.

4.4 Conclusions

In this chapter the salient factors that led to the raise of the desert MPEs in Egypt are examined. From this, it is clear that dealing with the landscape characteristics of Egypt dominated by a lush green valley and harsh desert led to the concentration of urbanisation activities around this valley. There are continuous efforts to manage these landscape characteristics on national and regional levels, in particular by taming and controlling the waters of the River Nile in attempts to change the landscape characteristics of the desert by pushing urbanisation activities away from the tight Nile valley. This shows the importance of managing the landscape to turn the uninhabitable deserts into habitable ones or in other words, unliveable deserts into liveable ones.

This theme was extended to the development of Cairo up to the first half of the 20th century. Through the long urban history of the city there was a clear link between urbanisation activities and landscape characteristics, which aimed to improve the habitability or liveability of the city. This relationship becomes evident through dealing with the natural settings of the site which requires an interventionist approach to modify it. This began with the choice of a site to camp near the River

which grew into the city of Cairo; subsequently canals were dug transferring the river's waters deep into the city, residential areas grew up around lakes and ponds left after the annual floods where the land turned into lush green areas between floods seasons, and areas are now designated for irrigated parks and green ways.

From the second half of the 20th century, the city's development and priorities to improve habitability and liveability became different due to different societal factors. These priorities can be summarised around three ideas. First, in 1950s and 1960s development occurred without any thought for the liveability of the city because the focus was on economic development through industrialisation, and hence there was a complete absence of environmental or urban quality institutions. Second, during the 1970s and 1980s, city development kept liveability in mind, but was accompanied by a relaxed urban policy in favour of economic development; however, it was the first attempt to tackle the problems of urban quality and was manifested in the establishment of the Egyptian Environmental Affairs Agency (EEAA) though this was not a great success in dealing with short term urban quality problems. Third came development without compromise on urban quality; the National Organisation of Urban Harmony (NOUH) was established to deal with immediate urban quality problems, though it is too early yet to assess its success.

The master-planning of Cairo centred around two major objectives; 1) to contain the city within its built-up area by a surrounding circular road and a green belt; 2) to divert any further population to new satellite towns to the east and west into desert land away from the green north and south, which has been the real attempt to improve the city's urban quality and the main reason for the rise of the desert MPEs. In the next chapter, the planning and development strategies used by different MPEs developers to attract people towards relocation to the desert developments will be investigated.

Chapter 5

The Challenge of Peopling the Desert

Chapter Five

5.1 Introduction

In the previous chapter the salient factors that led to the rise of the MPE phenomena in Egypt were examined. This was essential so that the main themes of the study could be interpreted in context. The rise of the MPEs around Cairo can be as attributed to two main factors; a) the efforts to contain the city within its built-up area; and b) the efforts to divert population growth to the east and west desert plains and away from the green north and south. In general these factors were a result of the attempt to improve the city inhabitants' quality of life by providing more liveable urban environments. In this chapter the strategies used to attract people to relocate to these desert MPEs will be investigated.

Discussions in this chapter are a continuation to the macro level of investigation started in the previous chapter. Therefore, the scope encompasses the physical context of the MPEs in order to highlight the role of landscape in their production. By focusing in some detail on New-Cairo, the chapter will explore the strategies that are used to transform desert plains into liveable places, and following on from this exploration will then examine the role of the urban policies which led to the rise of the different forms of MPE. It will then be possible to investigate the desert transformation strategies driven by these urban policies or as can be seen in MPE advertisements. However, moving beyond both political and promotional strategies the chapter goes on to examine the development process of six MPEs in New-Cairo to understand the approaches used by different developers.

This chapter is based on data from fieldwork undertaken in 2006 and 2007. In particular, the discussions are structured around the information obtained from relevant policy documents and from key officials in both central and local government as well as from interviews with planners and developers. This is complemented by a visual survey and field notes, in addition to some web-materials.

5.2 Transforming a Desert to a Liveable Place

The transformation in the function, role and nature of both the public and private sectors closely influences the change in urban planning and policy (Stewart, 2003). *Al-Qahira Al-Gadedah* New-Cairo is a direct production of changing urban policy reflecting the neo-liberal themes of market economy in Egypt. It is a gigantic suburban development built up of a mosaic of MPEs. The city lies to the east of the Greater-Cairo Ring Road, in the region between the Cairo-Suez Road to the north and the Cairo-El-Sokhna Road to the south (Figure 5.1). New Cairo has developed incrementally since the mid 1980s as a result of different urban polices, which caused radical changes in its objectives, population and structure. Such spatial process falls within Soja's (2000:6) concept of 'human spatiality'; as New-Cairo's urban form and functions are the *"product of both human agency and environmental or contextual restructuring".*

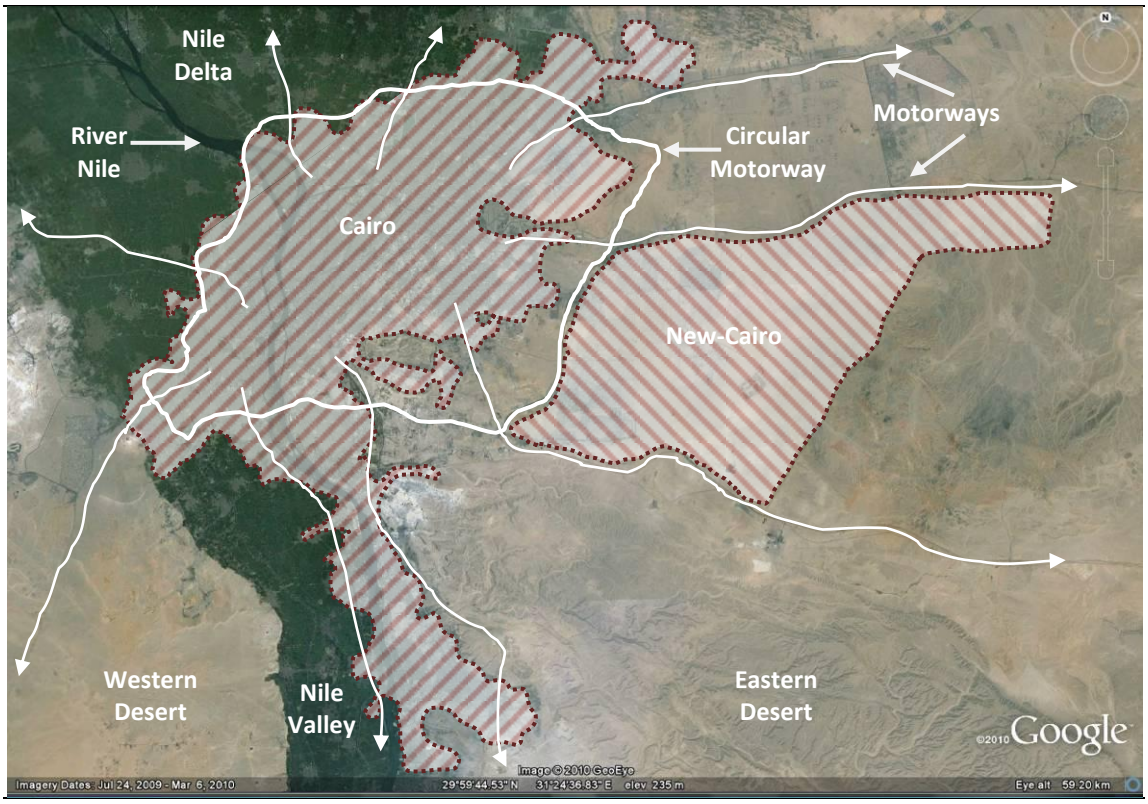


Figure 5.1 Greater Cairo City showing New-Cairo to the east - satellite image captured July 2010
Source: Google earth accessed in 09.10.2010

New-Cairo was only established officially in the year 2000 by presidential decree (191/2000), but its origins go back to the early 1980s within the Greater Cairo Region 1983 master-plan (see Chapter 4). The merging of settlements 1, 3 and 5 of the 1983 master plan into one entity and empowering the private sector to take over urban development after the failure of the 'all public' enterprise system acted as triggers of the city's urban growth and enabled the delivery of new urban forms in Cairo. The relationship between the contextual influences and the change in urban policies is complex (Nedović-Budić et al., 2006). The intention here is not to discuss this complexity as such, but rather to explore particular manifestations of it that are affected by this change.

5.2.1 The Rise of Different forms of Master-Planned Estates

Stewart (1999) argued that successive political, economic and socio-cultural regimes have imprinted very divergent patterns on the Egyptian urban landscape. Hence the shift towards a neo-liberal economy is the defining feature precipitating the change in urban policies in Egypt, marking the change from a centrally-controlled to a free-market economy. This is similar to what happened in other contexts, as for example in post-socialist economies (Nedović-Budić et al., 2006), and the shift is accompanied by institutional changes (Taşan-Kok, 2004). This shift both shapes planning behaviour and provides an incentive structure in political and social organisations (North, 1990). The development of New-Cairo's urban form evolves through *"individual development actions at variety of sales with guidance and incentives from formal planning documents and policies",* as described by Nedović-Budić's et al. (2006:9).

Settlements 1, 3 and 5 of the 1983 Greater Cairo Master-plan aimed to accommodate 750,000 inhabitants by developing 4,200 acres up to 2010 (GOPP, 1986). In stages this jumped to a target of 4 million inhabitants by developing 33,620 acres up to 2027 (NUCA, 2005). According to NCDA (2007), the population of New-Cairo City was 750,000 in 2007. The development of New-Cairo's urban form went

through four stages; 1) starting from the 1983 Greater Cairo master-plan up to the early 1990s; 2) from the early 1990s up to 2000; 3) from 2000 up to 2005; and 4) from 2005 to the present (Figure 5.2).

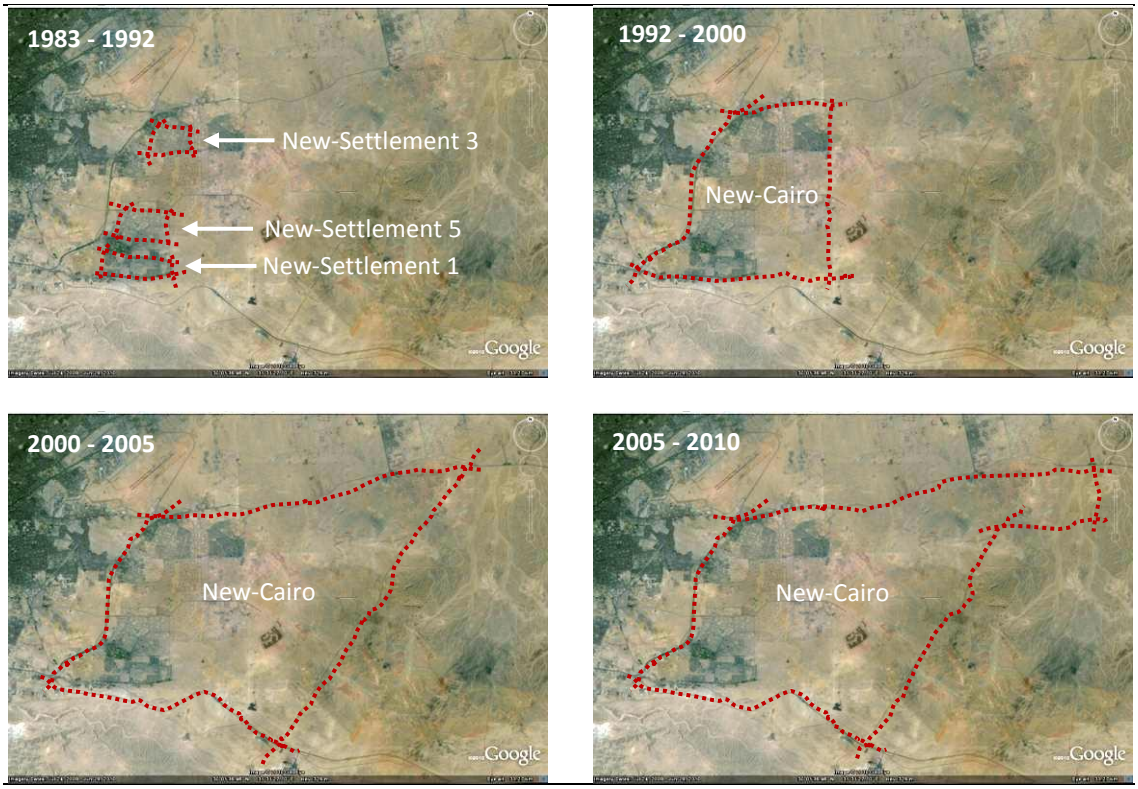


Figure 5.2 New-Cairo formation stages - satellite image captured July 2010
Source: Google earth accessed in 09.10.2010

The first seeds were sown with the implementation of the three new settlements, 1, 3 and 5, in 1985 which were targeted at Cairo's urban poor, housing them in typical 1960s Egyptian social-housing apartment blocks. According to GOPP (1986), the original master plans of the three settlements were each centred around five concepts ; 1) limiting each area to 1,400 acres with a density of 180 inhabitants/acre; 2) implementing a green belt for recreation and to limit sprawl; 3) creating a service centre; 4) locating industrial activates outside the greenbelt for environmental reasons; 5) allocating 70% of the settlement to house the low stratum in the form of Cooperative MPEs, with 30% allocated to the middle to upper stratum in the form of self-build MPEs. These settlements remained vacant up until the 1992 earthquake when 100,000 victims were relocated to settlement 1. This was seen at the time as

evidence of the government's capability to manage an unpredicted crisis, as the development coordinator at NUCA recalls:

> El-Katameya [settlement 1] for more than five or six years was a total failure...no one wanted to go to live in the middle of no where...I do not know if it is correct to thank the grim incident 1992 [the earthquake]...it changed the failure to a success...thousands of victims were sheltered...this made El-Katameya to be on the map...earthquakes destroy cities but in Egypt it creates ones *(Interview OI-CG3)*.

By the end of the 1990s the establishment of settlement 1 led to a merger and expansion of the three settlements and gave birth to New-Cairo in 2000. This was achieved by extending the area allocated to the three settlements from 4,200 acres to 11,550 acres aiming to accommodate 1.2 million inhabitants by 2012 (NUCA, 1999). New-Cairo was formed around a number of concepts; 1) enabling the private sector to extend and take over the planning and implementation of MPEs; 2) shrinking the public sector's intervention to the provision of main infrastructures and services as well as the development of a limited number of Cooperative MPEs; 3) restricting the city to residential, leisure, commercial and services activities and banning any industrial activities. However, the 2000 New-Cairo master-plan was quickly updated and a massive new area added to the east of the city, pushing the area from 11,550 to 33,620 acres (NUCA, 2005).

The change in urban policies marked by shrinking the role of the public sector in urban development led to the rise of different forms of MPE in New-Cairo. Many researchers are highly conscious of the unique institutional, political, socio-cultural conditions that are shaping contemporary urban forms of MPEs in Egypt (Fahmi and Sutton, 2008; Kuppinger, 2004; Asfour, 1999; Abdelhalim, 1996). Despite this awareness, the American MPE literature, and in particular the work of Blakely and Snyder (1999), has influenced the empirical focus of the Egyptian understanding of these new residential forms. Therefore, it is notable that Egyptian research to date has focused on the MPEs to be found at one end of the spectrum i.e. gated communities. The major drawback of this focus is that little is known about the

diversity of the MPE phenomena in Egypt, and therefore of the social outcomes they are likely to engender. However, six forms of MPE were identified in New-Cairo including; 1) Cooperative; 2) Improved-cooperative; 3) Self-build; 4) Controlled; 5) Gated; 6) Golf (Figure 5.3). These forms of MPE have different characteristics and cater for different social groups. In addition, they are developed and promoted by both the public and private sectors through different strategies, as will be discussed later this chapter.

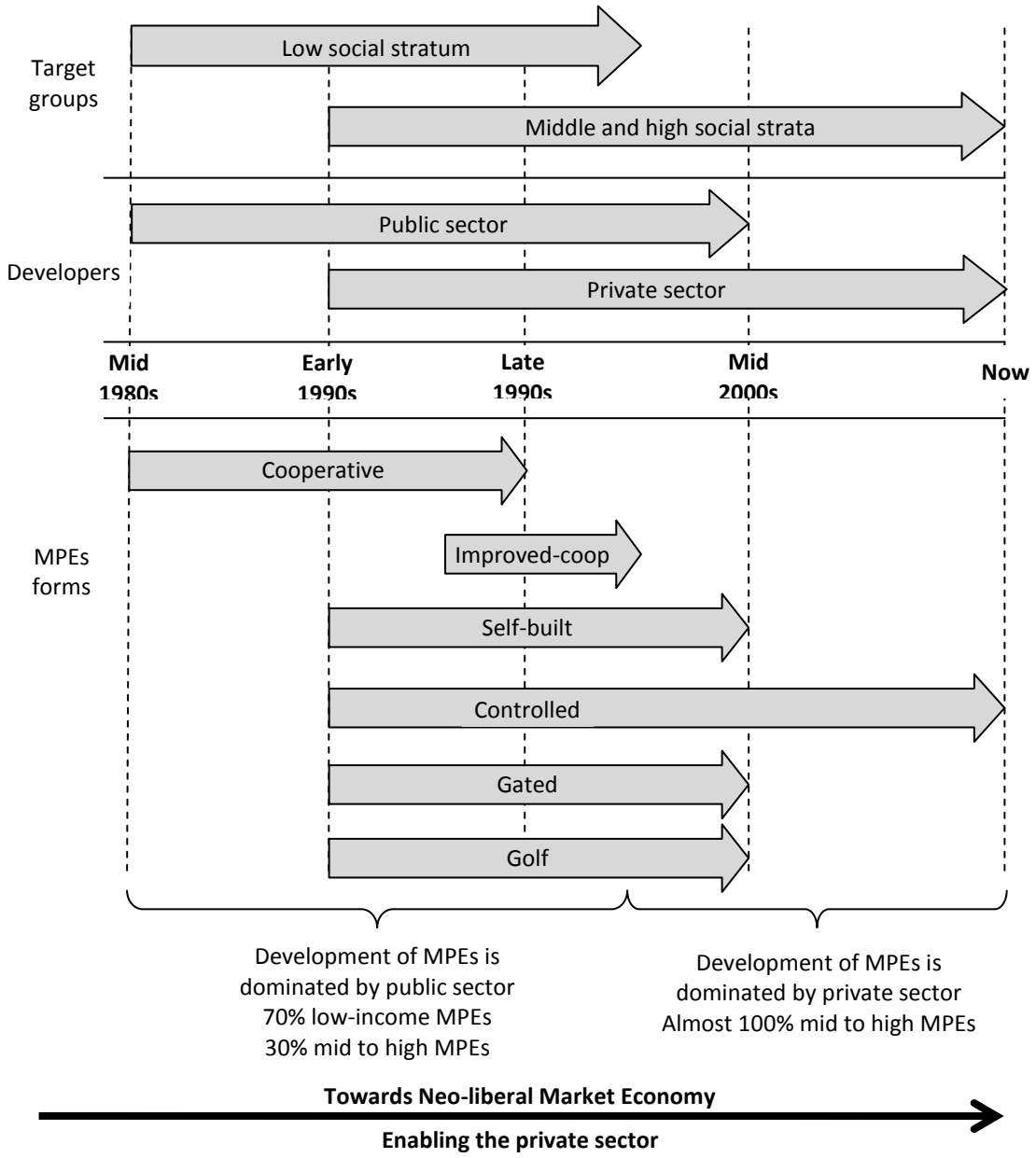


Figure 5.3 The change in urban policies and the rise of the various forms of MPEs.

It is notable from that the new extensions, especially those from the early 2000s, are devoted mainly to the middle and upper social strata while limiting the share of the lower social stratum to areas designated in the early stages of the city. This illustrates Soja's (2000) argument that market forces are likely to produce urban forms based on inequality of distribution. This is one of the shortcomings of empowering the private sector in urban development with its emphasis on the search to maximise profits. This started to be clear in an interview with a New-Cairo planning officer at NUCA. The interview was interrupted by a phone call from a higher rank official whom she had to leave the interview to meet. When she returned she was angry and prompted; *"We have been talking before I leave about our current planning policy for New-Cairo...well I will tell you...it's the PHONE CALL POLICY"*. Asked to elaborate she replied aggressively:

> with a phone call, the coordinates of land allocated to one of *those* real-estate companies will be changed...because they decided to increase their land a bit...they did a phone call to whoever...and I received the order via a phone call...yes the area is still a piece of desert...but changing the coordinates just like this will be with the price of losing services areas, streets...it is all about who has the voice...there is no clear urban policy for New-Cairo...never has been...and never will be*(Interview OI-GC2)*.

Her interpretation of the incident as *"no urban policy"* raises an important question about the role of power relations in the decision- making processes and in the deployment of urban polices. Marcuse (1996) argues that empowering the private sector in urban development is the most radical aspect of the shift towards a market economy. The participation of the private sector in urban planning decisions appears to be consistent with rules derived from the predominance of a neo-liberal mentality and with the politics of arrangement now prevailing in Egypt. This form of decision-making therefore, mimics what Stewart (2003) considers as the global shift from government to governance. Consequently, the Egyptian government minimised its intervention in urban development to urban governance related to land provision, and to insuring the delivery of infrastructures in addition to the provision of a limited supply of public housing MPEs.

5.2.2 Infrastructures and Services

In New-Cairo, following the government's strategy to attract people to the desert MPEs, the transformation of the desert to a liveable place is based on the local authority providing the necessary infrastructures and services. Such a scenario follows Ennis' (2003:1) suggestion that *"the availability of infrastructure services is critical to the functioning of the modern urban environment*. Renard (2003) stated that the urban environment requires a mixture of services in order to function effectively. Different approaches have been adopted to identify the essential infrastructures and services of the built environment of relevance here (for the classification adopted by Ennis (2003) and Healey et al. (1995) see Chapter2). Following this classification, New-Cairo consists of several layers of infrastructures and services (Figure 5.4).

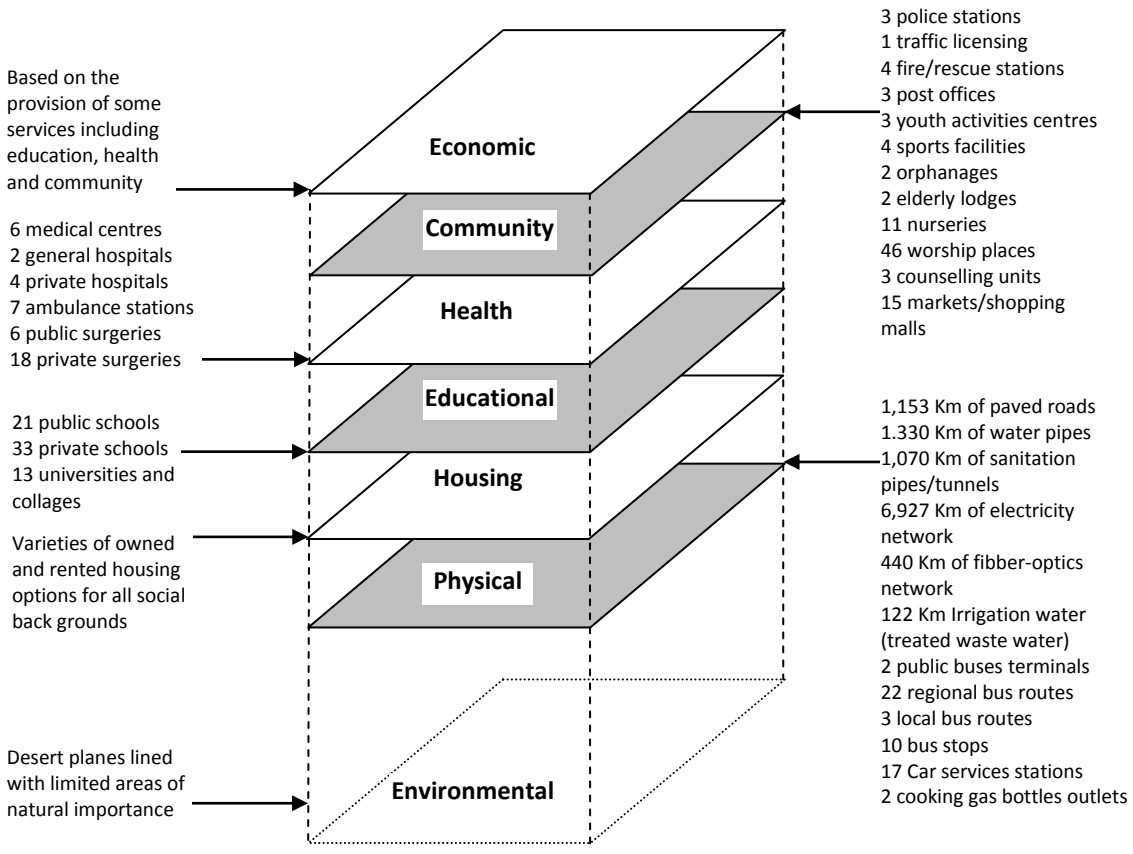


Figure 5.4 New-Cairo as layers of infrastructures and services as for January 2007
Source: Based on Ennis (2003) and Healey et al. (1995) classification and information from (NCDA, 2007)

These layers of infrastructures require provision, except for the environmental infrastructure which usually needs preservation. Ennis (2003) differentiates two levels of environmental infrastructure; the first relates to environmental quality within and surrounding the built-environment; the second covers the need to deal with the environmental impact of the other infrastructures and services. Therefore, the latter is closely linked to impact of the city on the landscape characteristics of its location.

New-Cairo's natural landscape tends to be open and extensive, a typical desert pavement covered with sand and gravel. Hence, the location is poor in natural vegetation owing to its low rainfall and the coarse texture and salinity of the soil. Despite these facts the city is lined from the south by two natural protectors; the 'Maadi Petrified-Forest' and the 'Wadi-Digla' (Figure 5.5). Both are famous for their eco-tourism activities[2]. To illustrate how the city's environmental infrastructure can be endangered, the Maadi Petrified-forest was threatened by the city's expansion in 2003. The Natural protection officer at EEAA recalls:

> We were about to lose the northern part of the forest after it was allocated to a developer four years ago [2003]... We had to surround the Petrified-Forest with a wall to protect it from the development invasion...although the borders of the area is well known to the local authority they ignored the fact that it is protected by the law *(Interview OI-EE2)*.

He added that this confrontation provoked a degree of controversy in the media in without which they would have been unable to do anything about it.

[2] Wadi-Digla runs through limestone terrain cutting a deep winding canyon. With its numerous fossils it supports one of the richest assemblages of flora and fauna in Cairo. The Maadi Petrified-Forest is the remnant of a forest that grew 35 million years ago during a wetter period in Egypt (Mikhail, 2003).

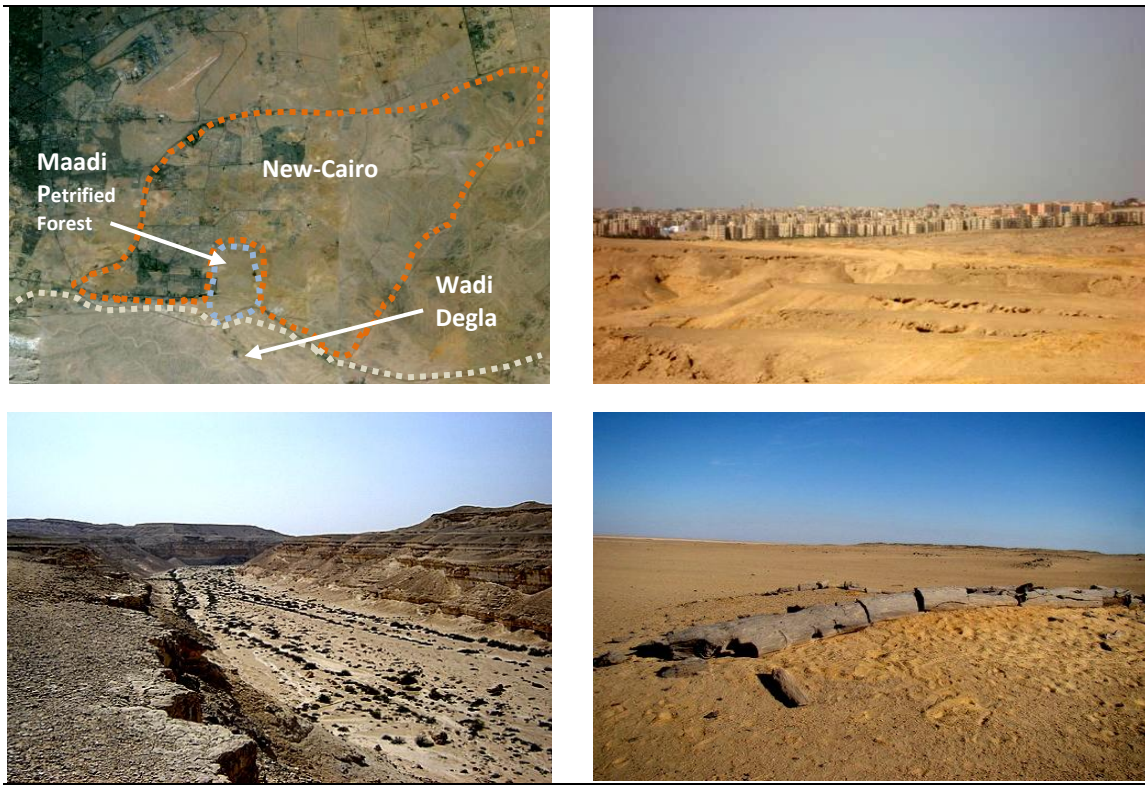


Figure 5.5 Landscape characteristics of New-Cairo's location
Top-left: New-Cairo satellite image; Top-right: Panoramic view of New Cairo;
Bottom-left: Wadi Digla; Bottom-right: Maadi Petrified Forest
Source: Map - Google earth accessed in 02.4.2010

One of the main driving forces for the non-stop expansion of New-Cairo to the east is therefore the landscape characteristics of its location. In New-Cairo the first step in transforming this desert into a liveable place is the provision of physical infrastructures. The development coordinator at NUCA explains:

> Before we start to sell plots of lands to individuals or developers...we implement in advance the essential infrastructures and services to encourage the formation of a new community in the desert...we start with water, sanitation, power and roads...without these infrastructures you can't build or develop anything...afterwards we start to provide the other services as the new community starts to be formed...it is impossible to encourage people to move to those new communities without providing complete infrastructures and services *(Interview OI-CG3)*.

Therefore, physical infrastructures in New-Cairo are widely available including networks (roads, water, sanitation, electricity and telecommunication) and transport (bus terminals/routes and petrol stations) (Figure 5.6). Physical infrastructures are

the base for all other infrastructures and their availability is often taken for granted in developed and increasingly in less developed regions (Graham and Marvin, 2001).

Figure 5.6 Examples of physical infrastructures in New-Cairo
Top-left: Area ready for development; Top-right: Communication hub;
Bottom-left: Bus terminal; Bottom-right: Petrol station

As mentioned earlier, the main driver behind the development of New-Cairo is to drive the population away from the city of Cairo itself. Therefore, it is not surprising that housing infrastructure is the core of the city's existence. Despite the inequality in distribution, housing options in new-Cairo are available in various forms and cater for different socio-economic needs. The variety of housing options will be discussed in detail later in this chapter.

Closely related to a successful housing infrastructure is the provision of educational, health and community infrastructures. In Egypt education is free to all citizens up to postgraduate level. Similarly health services are provided through the Health Insurance System to all citizens regardless of income. Public schools, general hospitals and public medical centres are available in New-Cairo (Figure 5.7).

Figure 5.7 Examples of public educational and health infrastructures in New-Cairo
Top-Left: Public school; Top-Right: Public higher education institute
Bottom-left: Public pre-school nursery; Bottom-right: General hospital

Education is one of the bases of the economic infrastructure in the city, as explained by the head of NCDA:

> We are facilitating the investment in private education activities...our plan is to make New-Cairo a world-class education hub...the growing number of international universities and schools is a proof of this...these activities are pushing other services to occur...creating jobs...and bringing people and cash to the city *(Interview OI-LG4)*.

In addition to education, New-Cairo's economic infrastructure is also based on the provision of services of health facilities and some community services such as sporting clubs and leisure centres (Figure 5.8).

Figure 5.8 Examples of private educational, health and community infrastructures in New-Cairo
Top-left: Private school; Top-right: Private university;
Middle-left: Private hospital; Middle-Right: Private rehab centre;
Bottom-left: Leisure centre; Bottom-right: Private sports club

Despite the designated business core that runs from west to east of the city, New-Cairo's economic infrastructure is dependent on Cairo to a great extent (Figure 5.9). At the same time New-Cairo is independent in terms of providing the day to day needs of its residents through community infrastructures, as Ennis (2003) called them. In New-Cairo these include shopping facilities, recreation facilities, social facilities, public security and safety (Figure 5.10).

Figure 5.9 The business core of New-Cairo
Left: satellite image; Right: Office building

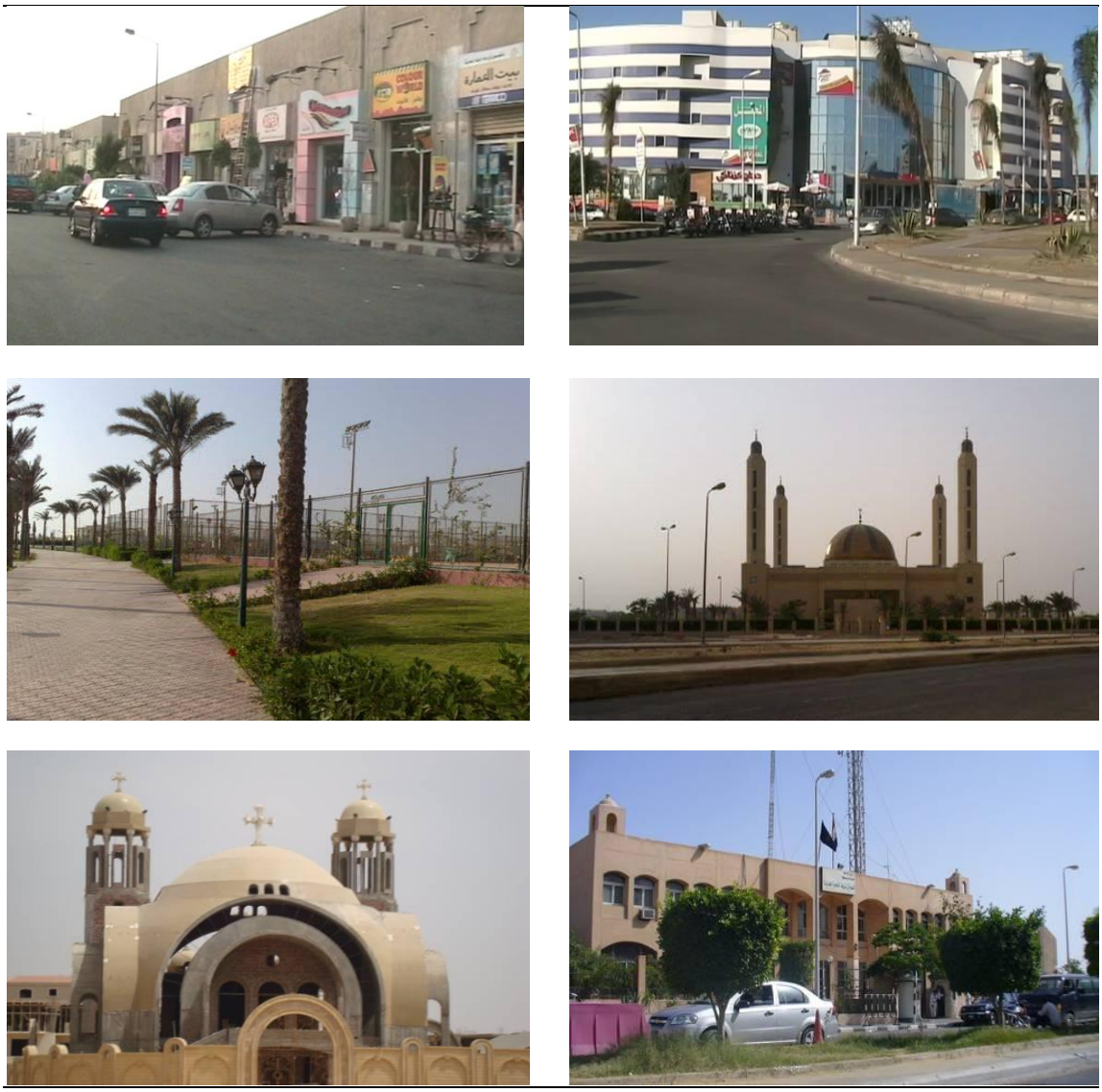


Figure 5.10 Examples of community infrastructures in New-Cairo
Top-left: Public market; Top-right: Shopping mall;
Middle-left: Youth activities centre; Middle-Right: Mosque;
Bottom-left: Church; Bottom-right: Police and rescue station

The provision of infrastructures and services in New-Cairo is funded through three sources; 1) funds allocation; 2) a MPE developer; and 3) fundraising. Funds are usually allocated from NUCA (New Urban Communities Authority) to NCDA (New-Cairo Development Agency) in coordination with the line Minsters of the different services. In general, NCDA is responsible for the provision and/or assuring the provision of infrastructures and services in New-Cairo. MPE developers negotiate the price of land allocated to them based on taking or partially taking responsibility for their development. As New-Cairo land is owned by NCDA, another way to fund infrastructures and services is the revenue from selling land-plots to individuals or developers.

Nedović-Budić et al.(2006) explained that infrastructures and services are provided through either the public or the private sectors but also increasingly through public-private partnerships. Similarly, in 2006 the Egyptian Government adopted a new long-term policy of pursuing partnerships with the private sector in order to expand and increase the country's infrastructure investments. For example, in New-Cairo a new wastewater treatment plant is one of the public-private partnerships projects. NCDA granted the commission to a group of investors. Under the contract the investors will fund all construction and running costs for 20 years, and in return they charge NCDA for the service. At the end of this contract, the plant will be handed back to NCDA. The head of NCDA explains the reason behind this pilot project:

> The government is committed to provide high quality services for the residents of the new-communities...but sometimes the lack of funds hinders these ambitions. Privatisation was the answer for a while but it was hard to control. We hope that the new public-private partnerships will allow us to have a better control to insure a better service (*Interview OI-LG4)*.

The change in urban policies over the past 25 years, including the approach to infrastructure provision, has influenced the rise of different urban forms of MPE in New-Cairo. This illustrates what Nedović-Budić (2001) suggests, that political, social

and economic transformations including privatisation and commercialisation of infrastructures and services leave a powerful imprint on urban production.

5.2.3 Landscape and Community

With a brief glance at any newspaper or TV commercials in Egypt, it is easy to recognise that they are full with MPE advertisements. In line with Wood's (2002) observation, the major trope shared by most of these adverts is the emphasis on the particular MPE landscape characteristics with the suggestion that it makes the development a 'good' community. The promoters of these MPEs are trying to create what Soja (1996) called '*third-space*'. For Soja the promoters are playing with the idea of combining the first-place (perceived real environment of the development) with the second-space (conceptual message found in the advertisements) to create the third-place (imagined idea about the development). In New-Cairo, the first-place is the harsh desert and the chaotic City of Cairo; therefore the third-place is possibly based upon nostalgia for community, order and greenness.

The emphasis in the MPE advertisements on 'landscape' and 'community' is displayed by texts and accompanying images which suggest the link between landscape and community. In the texts, attention is usually drawn to the physical characteristics of the MPE with special emphasis given to the landscape. This is restated in the accompanying images that show residents enjoying not the private spheres of their homes but the public ones. This illustrates Wood's argument (2002) that these advertisements clearly imply that community is created not from the bricks and mortar of homes but from the landscape of the development.

An advertisement for 'Degla Palms', a low-middle class MPE, appears frequently in the popular daily newspaper, *Al-Ahram* (Figure 5.11). The main heading to the top-right corner reads: "*We promised...We were committed",* a reference to the presidential housing agenda for the period 2005-2011 which involves the private

sector in the development of low and middle income housing. The left box reads: *"You will see the difference in PRICE with your naked eye...and also you will see the difference in the GREEN AREAS"* (capital letters are the words in green colour in the advertisment). Whilst the written text emphasises the affordability of the price, it also stresses that this does not compromise the vast green areas. Although the major attraction would initially seem to be the price, the green areas seem to be another important attraction. What is striking here is the complete ignoring of any mention of the dwelling characteristics or any other amenity in the development.

Figure 5.11 Degla Palms printed advertisement
Source: Al-Ahram 28.09.2010 Volume:45221

In another advertisement for a middle income MPE called 'Grand Residence', the main heading reads: *"Bigger spaces for bigger ambitions"* (Figure 5.12). The lower text reads: *"you ambitions came true at once...privacy...greenness...lakes...mall...all in which came with a duplex apartment...the unusual spaces were designed for a better life".* This implies that the developer is not just offering a dwelling but also the landscape that comes with the dwelling, offering both as one package.

Figure 5.12 Grand Residence printed advertisement
Source: Al-Ahram 13.10.2010 Volume:45236

With a heading that reads: *"Club house for each zone in Mivida...for enjoyable times in nature",* the developers of 'Mivida', a high-income MPE, advertise their development on a full page (Figure 5.13). The slogan of Midiva is: when life comes together. To illustrate the meaning of the slogan, the central text reads:

> Mivida is a unique community in New-Cairo in which you can enjoy life in nature. A community in which you get along with neighbours and friends in a calm and attractive environment surrounded with impressive lush greens. The whole community is connected with a network of greenways that link residential clusters, schools, services and a 33 acres central park that changes its colour all around the seasons in harmony with the stylish architecture designs.

Mivida's advertisement is an explicit example of the link between landscape and community that the developers of the MPE are trying to disseminate.

Figure 5.13 Mivida printed advertisement
Source: Al-Ahram 02.11.2010 Volume:45256

It can be seen from the above examples that landscape elements are offered as the key component of MPEs which make moving to them worthwhile. Therefore, the display of this constructed landscape via 'media-scaping', as Wood (2002) calls it, seeks to diminish the actuality of the actual MPE locations and to boost confidence in the belief that they are different. The use of landscape in the promotion of the desert MPEs in Egypt is widely recognised, as for example when Asfour (1999:44) stated:

> It is no secret to any one that the best way to advertise for a new community in the desert in Egypt is by showing green outdoor spaces stretching from one corner of the site to the other...People in the [real estate] business today start by converting the desert into lush green, then worry about building actual houses later. They depend on the seductive power of the landscape to persuade client's to buy houses they haven't seen; [resulting to] a mystifying spectacle to many observers of the real estate industry in Egypt...Many developers became convinced that traditional method of finishing construction work prior planting outdoor spaces limits the marketing possibilities and cuts profitability.

In this sense, the intensive use of the landscape as a promotional tool can be seen as disseminating a message that is *"nothing of the clique – but more of the cliché"* (Wood (2002:3). Although this might seem true to a great extent, it is important to hear the views of those who develop these MPEs, and more importantly to hear the voice of those who have moved to them in order to justify these claims. The latter will be discussed in the coming chapter; the rest of this chapter will examine the key development strategies used by different developers.

5.3 Processes of the Master-Planned Estates Development

As discussed so far, for urban policy makers, the key to a functioning and a liveable urban environment is the implementation of the essential infrastructures and services However, for the developers, the MPE advertisements indicate that the ideas of landscape and community are the answer to attainment of a liveable environment. Both approaches confirm Kuppinger's (2004:35) observation that the MPEs in Egypt often offer *"a combination of promises; like, plentiful of greenery, healthy environment, quality lifestyle, comfort, convenience, sense of community, complete services, peace and quiet".* In this section the processes of MPE development will be examined building on data gathered from six MPEs. As mentioned in Chapter 3 these MPEs were chosen on the basis that they represent the different MPEs typologies in New-Cairo (see Table 5.1 and Figure 5.14).

Table 5.1 The six MPEs ID card

MPE	Description
Eskan El-Gehaz *(Cooperative MPE)*	The developers of both MPEs provide ready-made affordable housing to the low-income social stratum. Housing units are in the form of flats, ranging from 65m^2 up-to 90m^2 in 5 storey blocks for Eskan El-Gehaz and 4 storey blocks for Eskan El-Shabab. These blocks are usually clustered around a common green space. Population density is set to a 100 residents/acre or 64,000 residents/sq.mile.
Eskan El-Shabab *(Improved-Coop MPE)*	
El-Hay El-Khames *(Self-build MPE)*	The developers of this MPE provide plots for Self-build homes to middle and high-income social strata. The dwellings in El-Hay El-Khames are in the form of flats ranging from 120m^2 up-to 300m^2 in 5 storey residential buildings or 3 storey detached and semi-detached houses ranging from 400m^2 to 840m^2. The residential buildings and the houses are usually lined along streets, and are located in the middle of 600m^2 fenced plots. Population density is set to 70 residents/acre or 44,800 residents/ sq.mile.
Al-Rehab City *(Controlled MPE)*	The developers of this MPE provide ready-made dwellings to middle and high income social strata. The controlled MPEs are developments with marked entry ways, but no methods for preventing access. Dwellings in Al-Rehab City are in the form of flats or houses. Flats range from 35m^2 to 320m^2 in five storey blocks and houses range from 256m^2 to 660m^2 in form of 2 storey detached and semi-detached houses. Typically the blocks are clustered around a common green space and the houses lined along streets. Population density is set to 70 residents/acre or 44,800 residents/ sq.mile.
Arabella Park *(Gated MPE)*	The developers of both MPEs provide ready-made and sometimes customised dwellings to the high-income social stratum. Both MPEs are fully gated to limit access but without restricting it. Dwellings are in the form of 2 storey detached and semi detached houses ranging from 400m^2 to 1100m^2. The houses are clustered around a picturesque park as in the case of Arabilla Park or around a 27 hole golf course in the case of Mirage City. Population density in both cases is set to 30 residents/acre or 19,200 residents/ sq.mile.
Mirage City *(Golf MPE)*	

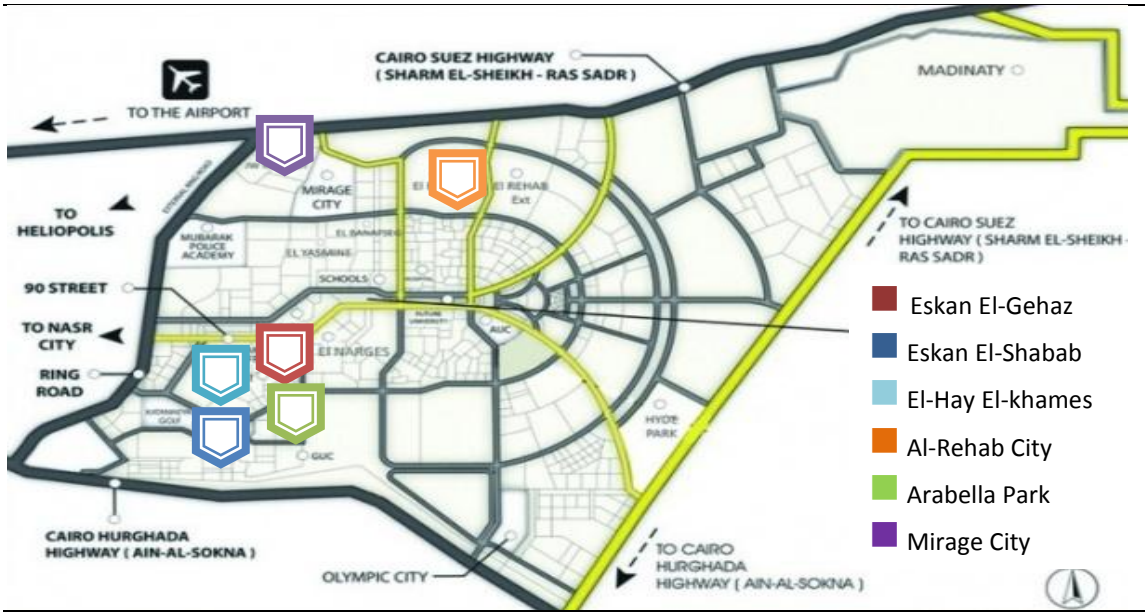


Figure 5.14 Location of the six MPEs within New-Cairo.

As mentioned earlier, MPEs in New-Cairo are the product of both the public and the private sectors. Accordingly, they vary in their delivery process, implementation mechanism and their final physical structure. As elsewhere, the MPEs in New-Cairo are developed following a combination of parameters including; a) level of enclosure; b) nature and degree of boundaries; c) nature of services; d) type of residents (Blakely and Snyder, 1999); e) tenure; f) location; g) size; and h) policy context (Grant and Mittelsteadt, 2004). Building on these parameters, the development processes of the iNew-Cairo MPEs were found to be based on four key ideas including; 1) securing the right for housing; 2) retaining the liberty of the self-build tradition; 3) promising a complete development; and 4) ensuring exclusive lifestyles (Figure 5.15).

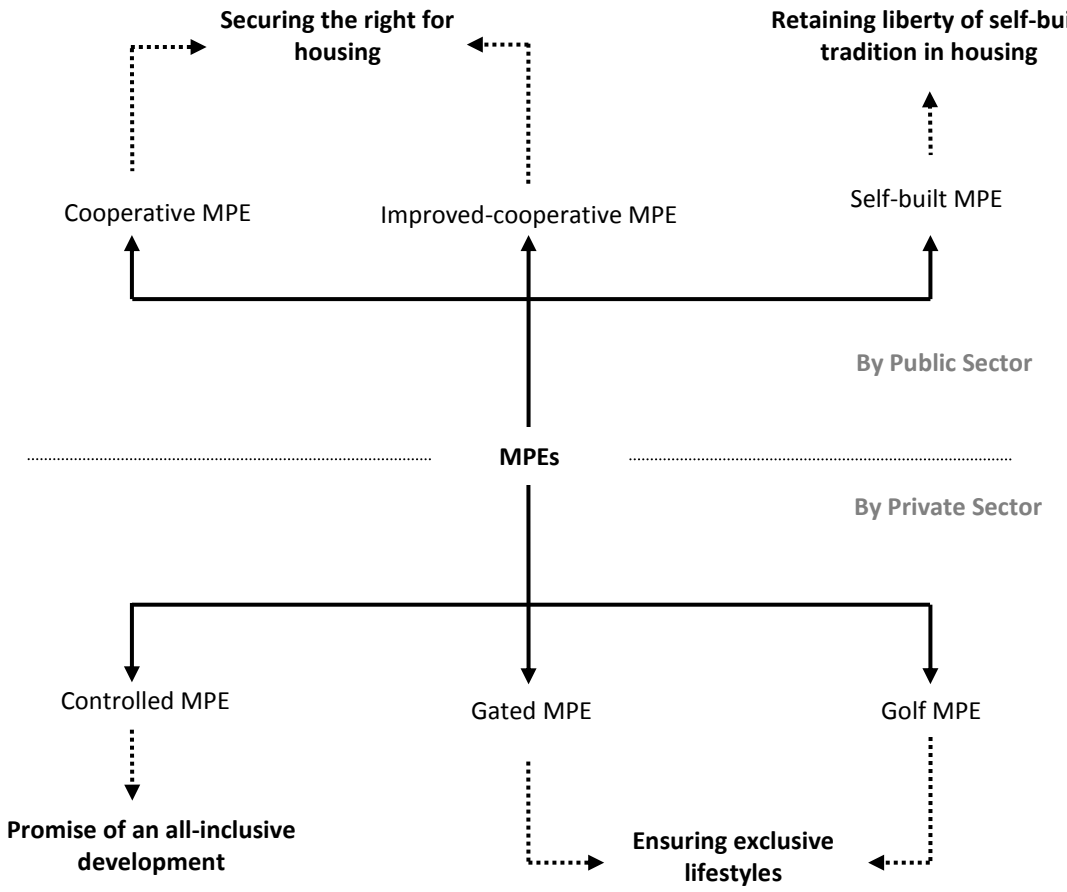


Figure 5.15 The key ideas of the MPEs development processes

5.3.1 Securing the Right for Housing: Learning from the Past

The development of Eskan El-Gehaz and Eskan El-Shabab are both based on the idea of securing the right to housing for low income groups. Although, both MPEs have similar development stages, the quality of implementation and post-implementation management is different. Figure 5.16 summarises their development stages.

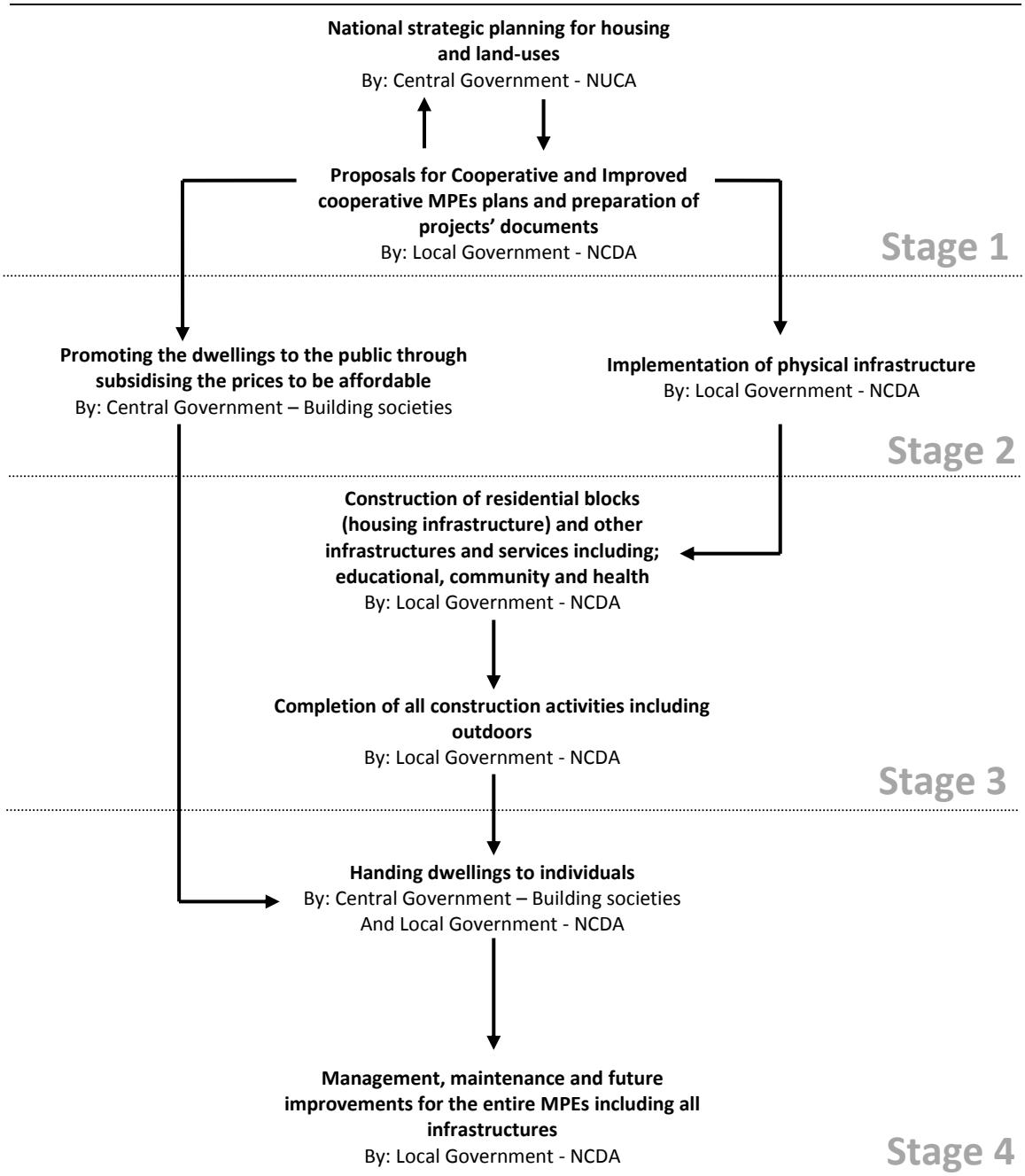


Figure 5.16 The development process of Cooperative and Improved-cooperative MPEs

Figure 5.17 Cooperative MPE in New-Cairo
Top: Satellite view of Eskan El-Gehaz captured July 2010;
Middle-left: Satellite view of the blocks cluster; Middle-right: Satellite view of a residential block;
Bottom-left: Blocks cluster around a common green; Bottom-right: A residential block
Source: Google Earth accessed in 19.08.2010

Figure 5.18 Improved-cooperative MPE in New-Cairo
Top: Satellite view of Eskan El-Shabab captured July 2010;
Middle-left: Satellite view of the blocks cluster; Middle-right: Satellite view of a residential block;
Bottom-left: Blocks cluster around a common green; Bottom-right: A residential block
Source: Google Earth accessed in 19.08.2010

Since the 1952 revolution, the Egyptian government has tried to secure the right to housing for the low-income stratum based on enabling them to live in self-owned dwellings. Kellett and Moore (2003) highlighted the significance of housing ownership in providing a level of stability for low-income groups, because it offers residential security and enables them to send a message to others that they have a stake in society. This is partially realised through the cooperative MPE schemes which are based on subsidising house prices to make them more affordable for these groups.

The development process of both Eskan El-Gehaz and Eskan El-Shabab started with an assignment from Central Government (NUCA) to the Local Government of New-Cairo (NCDA) to prepare proposals for public housing schemes. Upon approval, the Local Government started to implement the basic physical infrastructures (i.e. roads, water, sewerage, power and communication). At the same time Central Government's affiliated building-societies started to publicise the new housing opportunities. The dwellings were handed to their residents on completion of the whole process of construction, including the entire educational, community and health infrastructures in addition to all outdoor and public realm facilities. The responsibility for managing and maintaining both MPEs is placed on the developer (the Local Government). However, there are notable differences in the qualities of the implementation and the upkeep of both MPEs.

Cooperative MPEs were first introduced in the 1950s as a reflection of the government socialist policies of that time. The government's desert settlements plans were mainly based on providing this type of MPE. The aim was to relocate low-income groups away from the main cities in a programme of relocation from deteriorated areas and to improve their quality of life. This aim was not achieved as the cooperative housing officer at NUCA explains:

> Since the 1970s we have been trying to drive the urban population away from our major cities around the country…we were successful in attracting businesses and industries to

> relocate in some cases...see for example, 6th of October City and 10th of Ramadan City... we did build hundreds of thousands of cooperative housing units...people got these units and sometimes never moved in...or only moved in if forced to...up till now there are many units still empty in some new settlements...we realised after years of this practice...it's no longer workable...we have to change...we can't just build hostile, dull blocks of concrete in hostile settings and ask people to go and live there...it's like asking people to go from hell to hell *(Interview OI-CG1)*.

The relative failure of the cooperative MPEs to attract people to relocate to the new desert settlements led to a change in the policy attitude towards public housing. The Improved-cooperative MPEs, known locally as the Youth Housing Project or the Moubarak Housing Project, were launched in 1995 to replace the traditional Cooperative MPE. The aim is to provide more 'pleasant' Cooperative MPEs in an attempt to be more successful in attracting people to relocate, as the cooperative housing officer at NUCA continued to explain:

> The Youth and Mubarak Housing Projects...same payments and same units size but no more horrible concrete blocks, they are attractive buildings in attractive settings with vast green spaces in between...yes it cost slightly more than the old schemes but it costs more to have empty cheaper ghost communities...Now in New Cairo, New Aswan and Al-Obour and other cities we have a long waiting lists...people want to live there...public housing should be for the public *(Interview OI-CG1).*

This shift in the approach to public housing characteristics is seen as a move towards greater consideration of the social dimension of its prospective residents, as explained by an urban planning professor at Cairo University:

> Public housing should not make the poor people feel poorer...and should not make them feel that living in public housing will be a cause that the society will look down to them...I assume that the new public housing [Improved-cooperative] will not make such feelings creep to its residents *(Interview KI-AC1)*.

Despite this recognised shift in thinking, many of the old styled cooperative MPEs are still under construction in New-Cairo and elsewhere.

5.3.2 Retaining Liberty of Self-built in Housing: Delaying Consolidation

Based on the idea of the self–build housing tradition, Al-Hay El-Khames is meant to cater for middle and high income groups. Despite tight regulations to ensure the level of dwelling consolidation in this type of MPEs, the overall consolidation of its public realm is more relaxed. Its development stages is summarised in Figure 5.19.

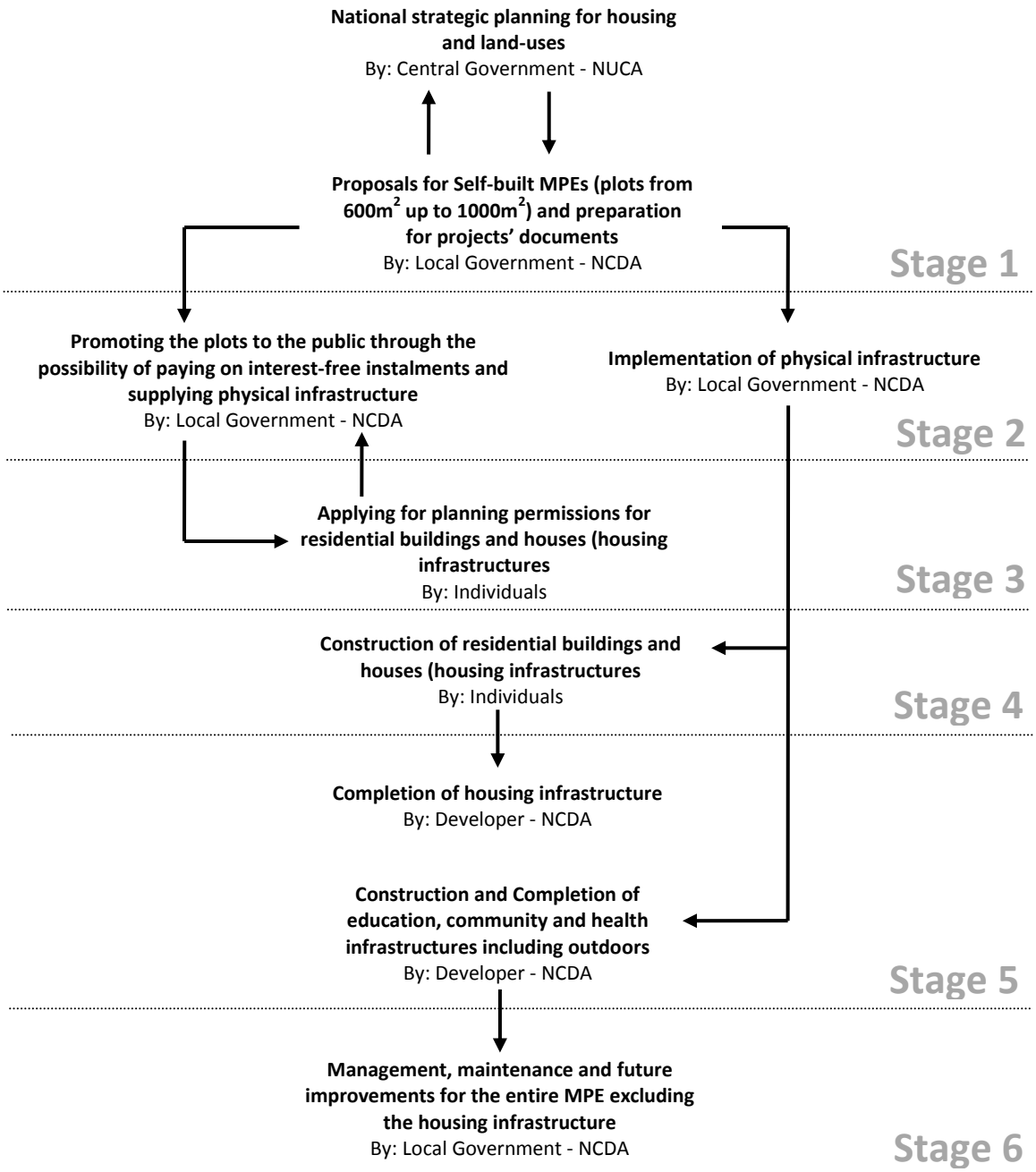


Figure 5.19 Process of developing the Self-built MPEs in Egypt

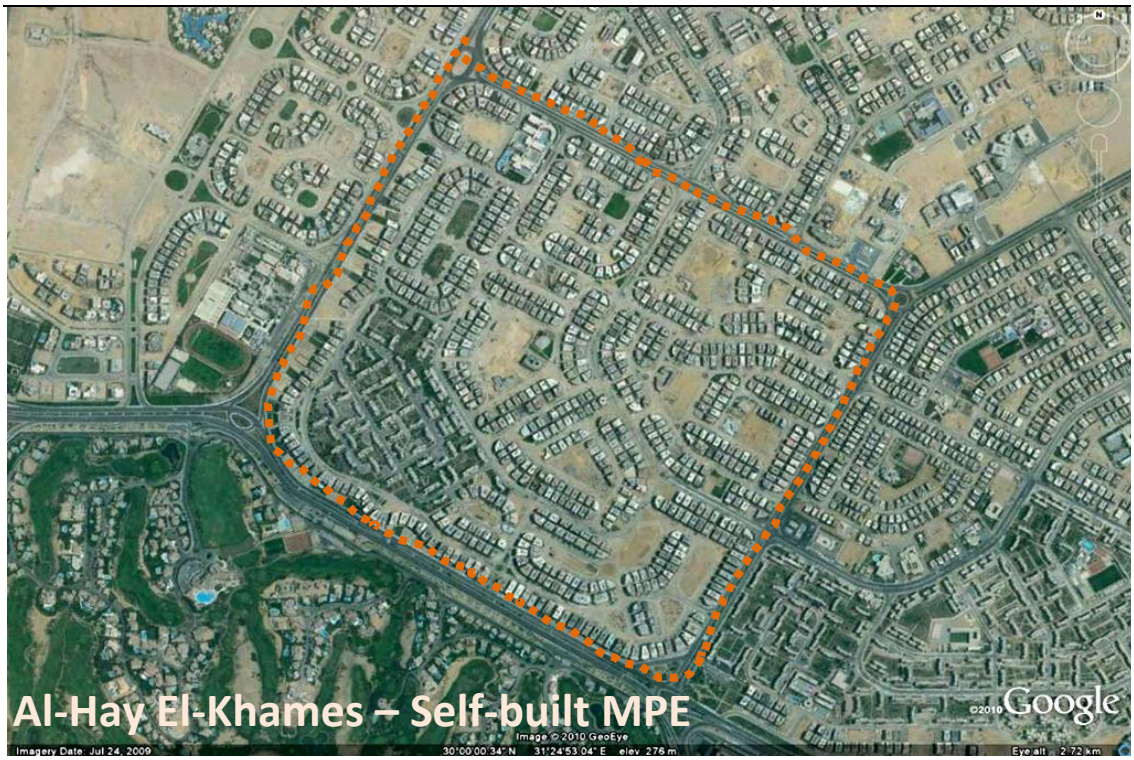


Figure 5.20 Self-Built MPE

Top: Satellite view of Al-Hay Al-Khames captured July 2010 ;
Mid-left: Satellite view of the residential buildings strips; Mid-right: Satellite view of a residential building; Bottom-left: Residential building lined along the street; Bottom-right: A residential building
Source: Google Earth accessed in 19.08.2010

The process of the Al-Hay El-Khames development started with proposals to designate land for self-build or self-help housing to be developed by individuals themselves. These proposals are a response from the Local Government (NCDA) to Central Government (NUCA) urban policies as regards the retention of people involvement in housing. In line with Sanoff (2000), such involvement is seen as essential in order to produce affordable and appropriate housing environments which can satisfy the socio-cultural needs of residents. The affordability of such an approach is related to the ability to reduce total costs by controlling expenditure (Turner and Fichter, 1972).

Following the Central Government approval of the proposals, the Local Government implemented the physical infrastructures (i.e. roads, water, sewage and power) of the entire MPE. The plots were promoted to individuals through public announcements and prices were set to partially cover the cost of the physical infrastructure. Individuals who acquired plots were required to apply for Local Government planning permission. The guidelines stated that the construction of buildings, including finishing the facades, had to be completed within 2 years from the date of the grant of planning permission. However, this timeframe was extended several times.

Upon completion of the dwellings the developer (in this case the Local Government) started to implement the rest of the infrastructures, including the necessary education, community and health infrastructures. Although the developer's responsibility is to implement the common green areas and to maintain the streets and the outdoors in general, there are significant delays in the process. The cause of these delays is explained by the land subdivision officer at NCDA:

> We are waiting till the whole construction activities finish in the area and then we will finish the final touches...people finished the main construction phases...but due financial constraints many still in the interior decoration phase...unavoidably these activities result to accumulating loads of building refuse...you can't push people more than they can afford and in the sometime it is nonsense to spend millions of pounds and then people wipe it out with their activities *(Interview SB-D3)*.

Self-build MPEs in Egypt can be traced back to the 1960s. The aim then was to master-plan a massive area to the east of Cairo called 'Madenetnasr' based on enabling people to build their own homes by providing fully serviced plots. The idea was to control the unplanned expansion of city by implementing a grid of roads and infrastructures and to control land uses by tight planning regulations, while at the same time retaining the involvement of people in housing. Driven by the possibility of generating quick profits, the planning regulations were violated; for example four storey buildings were allowed to become fourteen storey buildings, leading to pressures on infrastructures and services. The planning permeations officer at NCDA tried to ensure prevention of the violation of planning regulations in New-Cairo:

> Our main concern in New-Cairo is to deliver high quality residential environments...we have a tough auditing system to insure the development of projects are according to the approved planning permissions...we have absolutely zero tolerance for any defiance that might occur *(Interview OI-LG2).*

Some planning professionals are against the model of self-build MPEs. For example, an urban planning professor at Cairo University expressed his position as follows:

> What is happing in some parts of the new cities is a repetition of the same mistakes...why we don't learn from our faults...we will have a number of new Madenetnasrs in few years...people are allowed in some areas to build only two storeys and they are placing foundations which can carry ten...they are waiting for the regulations to relax...just like what happen in Madenetnasr...We should change this approach in housing...this is beyond housing needs...it is encouraging everybody to be a real estate developer or land speculator and the result is a deteriorated urban environment *(Interview KI-AC1)*.

For others however, the model of self-build MPEs is an opportunity. An architect from Cairo explained:

> Residential buildings that are built by individuals are allowing many architects, civil engineers, contractors, labours and suppliers or even small real estate developers to keep going...large real estate developers are relying more and more on big firms in everything...people work in construction field are a main contributor to the country's economy...if they are out of business the whole economy will collapse *(Interview KI-PP1)*.

5.3.3 Promise of an all-Inclusive Development: Defining the Territory

In the case of Al-Rehab, the key development idea is based on the promise of an all-inclusive development. While the size of such MPEs encourages the existence of all services, this promise is largely based on identifying the development's entrances and boundaries. Figure 5.21 summarises its development stages.

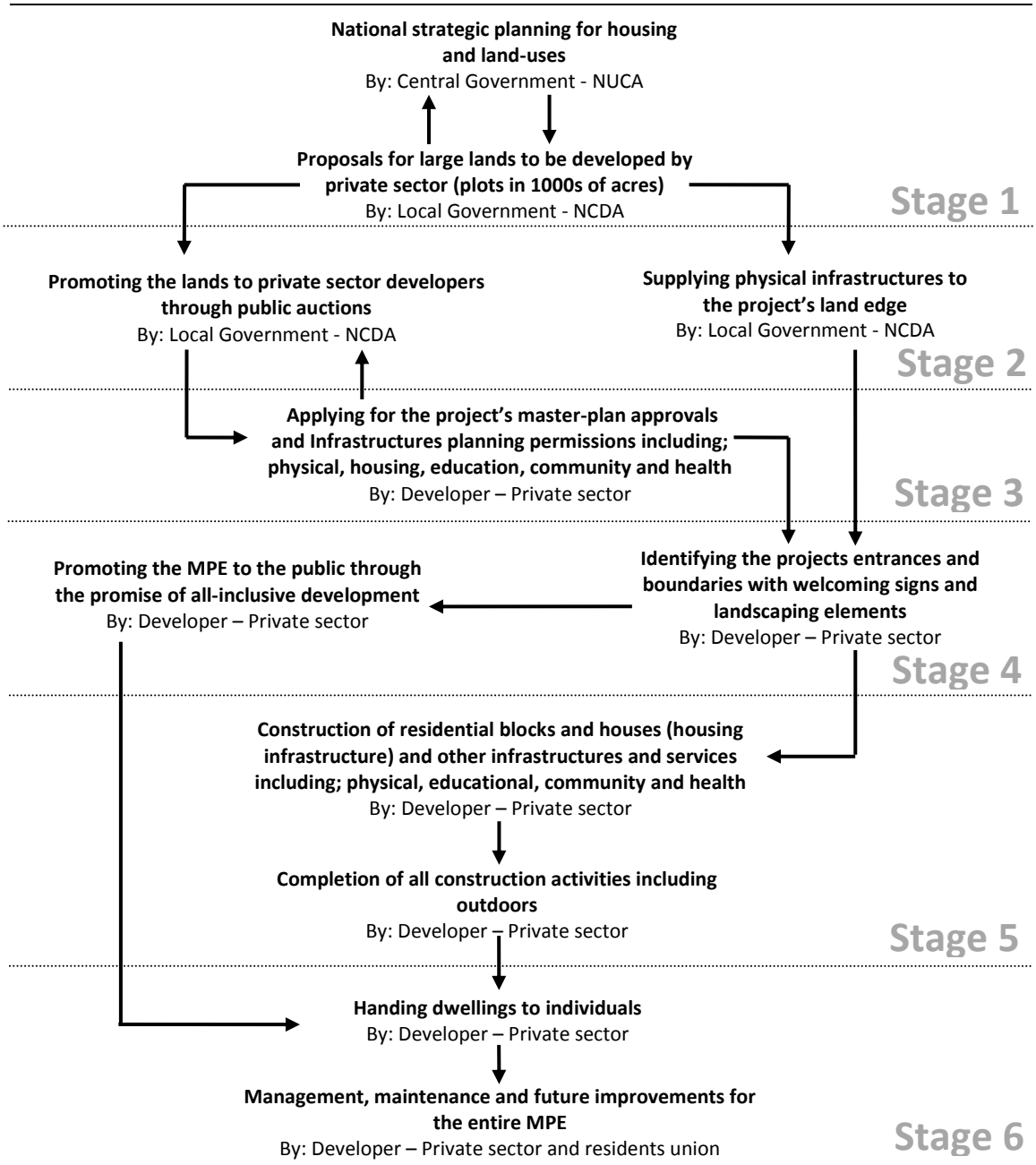


Figure 5.21 Process of developing the Controlled MPEs

Figure 5.22 Controlled MPE
Top: Satellite view of Al-Rehab City captured July 2010;
Middle-left: Satellite view of the blocks cluster; Middle-right: Satellite view of a residential block;
Bottom-left: Blocks cluster around a common green; Bottom-right: A residential block
Source: Google Earth accessed in 19.08.2010

The Al-Rehab development process started with proposals by the Local Government (NCDA) designating land for large housing projects to be developed by the private sector. As in the case of Cooperative or Self-build MPEs, these proposals are typically a response to directions from the central Government (NUCA). Following approval of the proposals, the Local Government implemented the necessary physical infrastructures (i.e. roads, water, sewage and power) to the edge of the designated land areas. The Local Government then promoted the lands to private sector developers through public auctions. The starting prices at the auctions were set to cover the initial costs of the physical infrastructures already supplied.

According to Local Government guidelines, the winning bidder, the developer of Al-Rehab in the case outlined here, started to prepare a master-plan for the project and applied for the planning permissions for all necessary infrastructures including; housing, education, community and health. The approved master-plan laid the responsibility for the internal physical and community infrastructures provision on the developer. However, the size of Al-Rehab (population 50,000) allowed the developer to negotiate for some educational and health infrastructures to be partially funded and provided by the Local Government.

In the fourth stage, the developer started to identify the project entrances and boundaries using trees, shrubs and water displays to enhance the archway which carries the name of Al-Rehab. After this the main road to the City Hall was defined by low lying shrubs located in two thin ribbons of sloping grass borders. The naked sand around the road was sprayed with green dye to help prospective customers to imagine the green areas. This entry statement was used as the prime selling factor, as explained by the marketing officer at Talaat Mustafa Group, the developer of Al-Rehab:

> People by nature want to be part of a community and to feel safe in a defined place...we wanted people to feel when they come to visit the site that this future city will be a complete community...central to this is to let them feel that they can define and identify their future living address even before building any thing...when the area was still a piece

> of desert it was easy to know that you are in Al-Rehab or out...even when the area around it is developed now you still can easily identify Al-Rehab's Lands *(Interview CON-D4)*.

The construction of residential blocks and houses as well as all other infrastructures occurred in different phases. Before handing over the dwellings to their residents the developer ensured that all construction activities related to the particular phase ere completed, including services and the outdoor spaces. The reason behind this was articulated by the marketing officer:

> In each phase we finish we ensure that we completed all services before residents move in...we promised a complete community...for us this means providing the residents with all their needs within the boundaries of the community *(Interview CON-D4)*.

This echoes what Grant and Mittelsteadt (2004) noted: the more self-contained the MPE, the less frequently residents need to venture outside. However, the completed phases in Al-Rehab is managed by the developer and the residents' association. At the time of the fieldwork, there was a conflict between the union and the developer concerning management expenses. The association therefore wanted to release the developer from its management responsibility and employ another company, but the developer refused. The reason for this refusal was explained by the marketing officer:

> We are a well known real-estate developer...our reputation is built upon the quality of our development and upon our ability to sustain this quality even after we finish the development...it is easier for us to hand the management to the union but we can't by any means let anything spoil our name in the business...Al-Rehab is our development and insuring its quality is our responsibility in which we can't give away *(Interview CON-D4)*.

This management challenge can be understood in terms of what Cheshire et al. (2009) called the new governmentality of master-planning in which the developer acts on the estate and its residents in a neoliberal manner. Such an MPE model was first introduced in Egypt by the Belgian, Edouard Empain, in Heliopolis in 1905. Heliopolis was different in various ways from the norm of urban development of Cairo at the time; 1) built with no support from the government; 2) located in the desert; 3) away from the city; and 4) was an expression of individual thought rather

than an official plan. However, this model returned in the 1990s when a number of Controlled MPEs started to blossom around Cairo, such as Dream-Land to the west, and Madinaty to the East. This form of MPE is widely encouraged by the urban authorities. The development and follow up officer at NCDA explains:

> We are encouraging the private sector to invest *more* in developments like Madinaty [Controlled MPEs]...the success of such communities is not hidden... but obviously we don't encourage these projects to be only accessible for affluent people like what is happening now... with some new regulations these projects will have the potential to serve a wider group of people...in the new projects developers are required to provide a range of housing options to suite different social groups *(Interview OI-LG5)*.

Similar to this urban authority attitude, the urban planning professor, who earlier had criticised the Self-build MPEs, showed his support for the concept of Controlled MPEs:

> We need developers who can deliver complete communities. If we to talk about sustainable development we need to build communities that serve both the current generation without undermining future generations...but how and we are undermining the current generation...the solution is not in the gated communities...no room for extremes...we don't need under developed communities nor *pictorial* communities...we want communities for all *(Interview KI-AC1)*.

This illustrates Grant and Mittelsteadt's (2004) argument that the larger the MPE, the greater the chance it will reflect some level of social and economic diversity. Therefore, it is likely to influence the fulfilment of residential needs.

5.3.4 Ensuring Exclusivity: Protecting Lifestyles

Ensuring exclusivity is the key idea on which the development of Arabella Park and Mirage City is based. For the developers, this exclusivity means creating a picturesque park or a golf course and surrounding the development with walls and gates. The development stages of such MPEs is summarised in Figure 5.23.

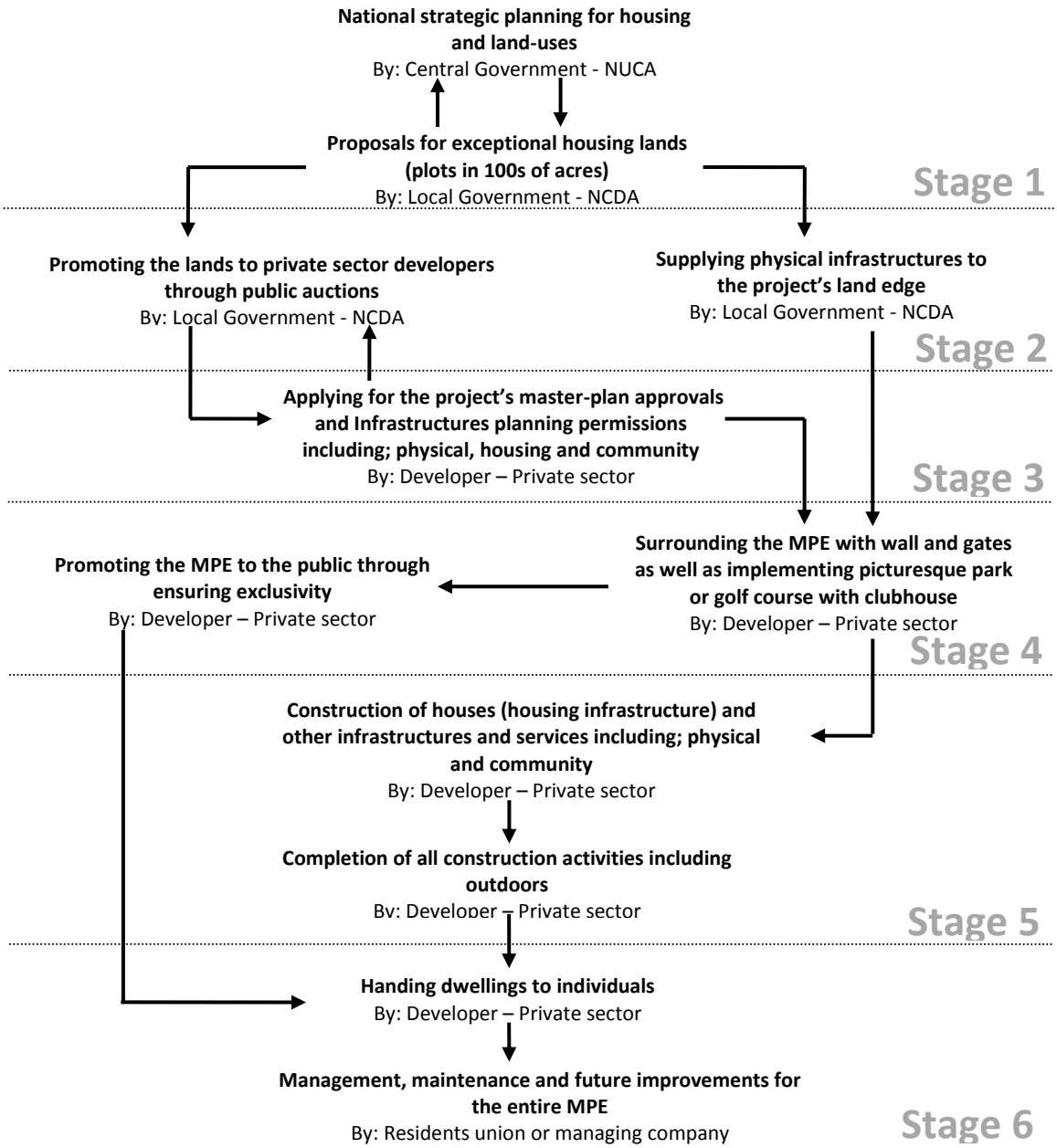


Figure 5.23 Process of developing the Gated and Golf MPEs

Figure 5.24 Gated MPE

Top: Satellite view of Arabella Park captured July 2010;
Middle-left: Satellite view of the houses cluster; Middle-right: Satellite view of a residential house;
Bottom-left: Houses clustered around a picturesque park; Bottom-right: Typical House
Source: Google Earth accessed in 19.08.2010

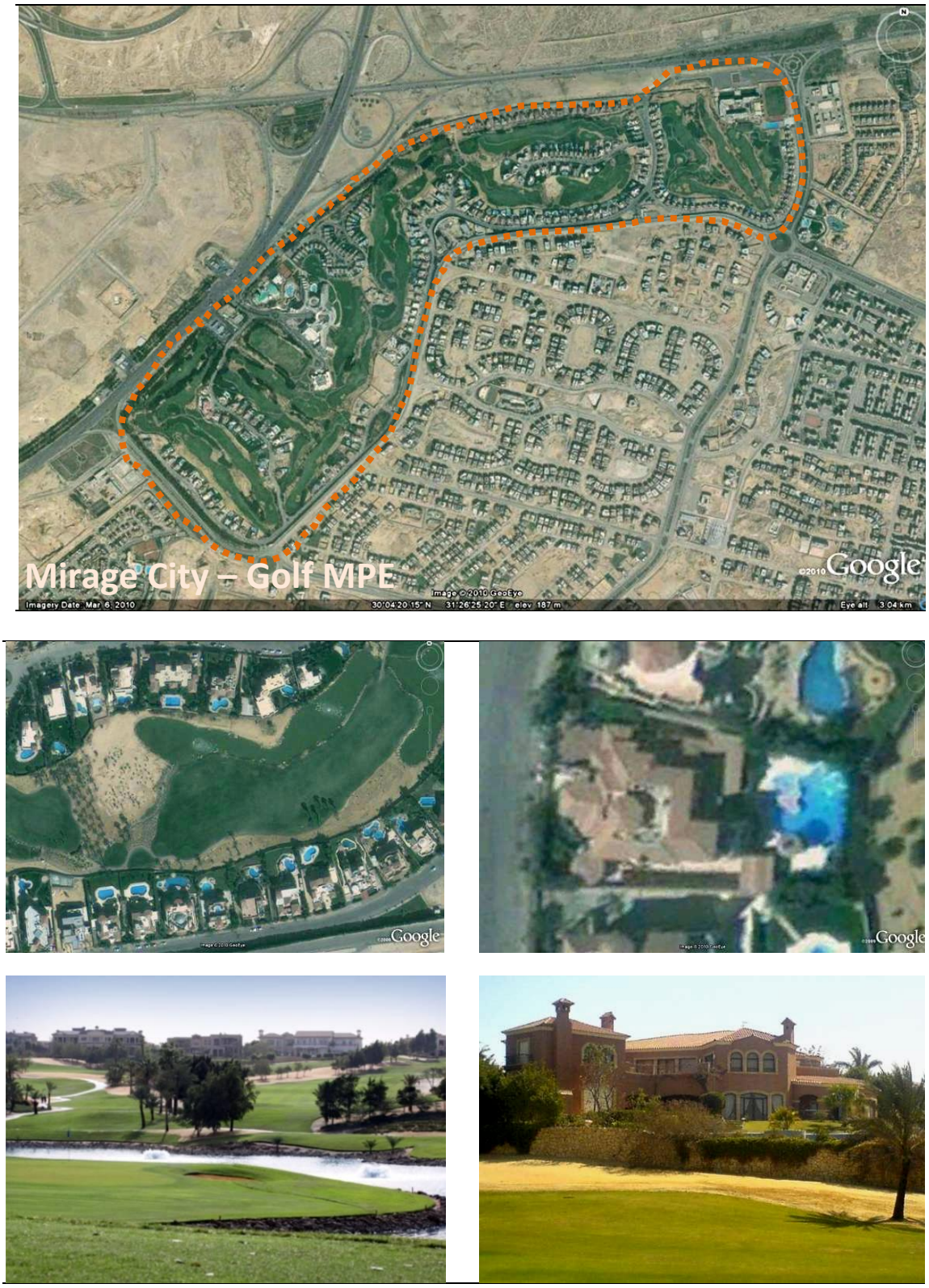


Figure 5.25 Golf MPE
Top: Satellite view of Mirage City captured July 2010;
Middle-left: Satellite view of the houses cluster; Middle-right: Satellite view of a typical house;
Bottom-left: Houses clustered around a golf course; Bottom-right: Typical House
Source: Google Earth accessed in 19.08.2010

The development stages of Arabella Park and Mirage City are similar to those of Al-Rehab City. However, the differences occur in the third and fourth stages. For the third stage, unlike the case of Al-Rehab, the size of both Arabella Park and Mirage City did not require any education or health infrastructures for the master-plan approvals. In Arabella Park, the fourth stage started with the surrounding of the development's land with a wall and gates. Then the construction of the clubhouse and the central park and the pocket gardens took place. The clubhouse and the park were used as the show places of the development. The marketing officer at Arabella Developments, the developer of Arabella Park, explained:

> It is nearly impossible to market multi-million houses without creating a feel of fascination about it...inviting the prospect costumers to spend a day in the clubhouse with its spectacular views on the lakes and greens almost did the sales for us...costumers needed to feel that they can live in a completely different place...a place different than elsewhere *(Interview GAT-D5)*.

Similarly in Mirage City, the fourth stage started with the surrounding of the development's land with a wall, gates and the construction of the clubhouse. But instead of the park as in Arrabella Park, 18 plus 9 holes golf courses were constructed subsequent to the walling and gating process. The golf club membership and activities started ahead of the construction of houses or other facilities in the MPE. The rationale behind this action was pointed out by the marketing officer at ATIC Group, the developer of Mirage City:

> Here in the group [the developer] we understand the growing need and demand for exclusive lifestyles in Egypt...golf is one of those very exclusive games worldwide...the opining of Mirrage club and golf course to membership brought our prospect costumers to the site...ironically only very few club members actually purchased houses in the project but their friends or relatives did...in few months all units were sold-out *(Interview GOL-D6)*.

The reason for the walling and gating of Arabella Park and Mirage City was not to improve security as might be expected. In Arabella Park the gating and walling was to limit access to the MPE's public amenities, in particular the parks and gardens.

This was explained by the marketing officer when he was asked about the reason of gating and walling the MPE:

> There are no nearby parks with lakes and nice views as in Arabella...what do you expect if we did not control the access to the community...it will turn into the public park of the surrounding estates...of course by law we cannot prevent people from gaining access but we can at least limit it and make a statement that people who are not living there are not welcomed...I think it is not fair to people who paid to live there *(Interview GAT-D5)*.

Waling and gating Arabella Park therefore illustrates Foldvary's (1994) application of pubic choice and social choice theory where he shows how collective goods can be provided by agents in a market process. By contrast, in the case of Mirage City, the marketing officer reply for the same question was:

> Mirage in addition of being a housing estate it is a private golf club by the end of the day...normally private clubs allows access to its premises exclusively to its members...houses in Mirage are part of the club [golf course] therefore gating the club is gating the whole community *(Interview GOL-D6)*.

This practice in Mirage City clearly echoes the extensive criticism of the walling and gating as sources of segregation and social inequality (Low, 2001; Blakely and Snyder, 1999). It also demonstrates Grant and Mittelsteadt's (2004) argument that the type of amenities and facilities within the MPE has major implications for social integration and exchange. However, in the last stage of the development process the developers of both MPEs hand over the dwellings to residents after completion of the construction activities of the whole MPE. Afterwards, in the case of Arabella Park, the developer handed the upkeep of the MPE to the residents' union. The marketing officer at Arabella developments recalls in response to questions about the management strategies followed:

> I still remember how representatives of the residents union fought to get all matters of the community's management in their own hands...you know any shared property of more than 10 owners by law have to have residents union...our intention was to keep the responsibility of the project's upkeep and charge the residents union for this...it was included in the sales package anyway...but they [the residents union] changed their minds...I think it is better for both parties *(Interview GAT-D5)*.

Mckenzie (1996) called this sort of practice 'privatopia', where the owners of a particular residential estate take care of it themselves. Yet, in the case of Mirage City the developer did hand over the management of the MPE, including the golf club, to a management company. When he was asked about their management strategies, the marketing officer at ATIC Group explained:

> Managing golf courses is not easy or cheap...they need professionals for their maintenance or you can easily lose them especially in a climate like ours...at the time of constructing Mirage City there was not as many established companies to manage golf courses or residential compounds as you can find now...we contracted the management to an American company for the first five years and then an Egyptian company takeover afterwards up till now...the company is not only responsible of the golf club and course but for the whole lot *(Interview GOL-D6)*.

In both MPEs the dwelling maintenance and upkeep are the responsibility of the residents following internal conventions. However, if these conventions have been violated by any of the residents, the managing bodies carry out the maintenance and charge the residents for it. Many commentators have noted these forms of self governance within the Gated and Golf MPEs. For example Salama (2007:3) commented: *"Within the confines of their new communities, the elite can develop their private form of democracy, with common public spaces. Why wait for the country to become democratic [...] if you can have it all a few miles away from the capital"*.

The first appearance of Gated and Golf MPEs in Egypt was in the 1980s as a consequence of the rapid development of holiday villages along the Mediterranean coast for Egyptian elites, and along the Red Sea coasts for European holiday makers (Cole and Altorki, 1998). By the 1990s the change in the government's urban policies opened the door for some investors to develop MPEs that offer similar lifestyles to those of the holiday villages but within the city. The head of NUCA explained the reason for the emergence of the Gated MPEs in New-Cairo:

> In the 1990s most of the public sector's funding problems were resolved by liquidating some assets...the New Urban Communities Authority started to liquidate by its turn many

> of its owned lands to be able to fund public housing projects...to attract private sector developers the lands were marketed under the titles: *exceptional housing lands or investors lands*...to be financially viable, the developers were pushed to develop upscale gated compounds...selling lands generated enormous cash flow...at one point the Authority [NUCA] was not only financially independent but also was contributing to reduce the public-debt...this strategy was appreciated from the higher authorities and consequently we expanded in this policy *(Interview OI-LG4)*.

This indicates that the phenomenon of Gated and Golf MPEs appeared with the intention of raising money to fund public housing. However, this was not accurately achieved at least in New-Cairo as is evident from the shrinking share of public housing in the new extensions of the city. The expansion of Gated and Golf MPEs has been a source of provocation to planning professionals. Planning academics are more sceptical of the phenomena than planning practitioners. An urban planning lecturer and researcher at Ain Shams University showed his scepticism:

> The spreading of gated communities will end up with a city of separate islands...this will have serious implications on the entire society...we are already living in extremely segregated society...there is no need to amplify this segregation by our urban development practices *(Interview KI-AC2)*.

By contrast, a renowned urban planner who planned many MPEs in Egypt was more convinced by the gating concept despite being aware of the scepticism surrounding it and explained his position thus:

> We have been building for centuries gated communities...in old Cairo we had the *hara sad* [dead ended alley] with a gate...it is seen in the history books as a creator of sense of community...years later we had multi storey condominiums with security or doorkeeper...when we spread this tradition in a landscaped terrain to restore back sense of community in a contemporary style...why there are sceptical around it...people in those communities are enjoying their lives...what is hurtful in this *(Interview KI-PP2)*.

Despite this scepticism and/or the advocacy, the phenomenon of Gated and Golf MPEs is mushrooming in Egypt. Surprisingly the model is stimulating to a certain degree residents' perceptions in the other types of MPE as will be seen in the coming chapter.

5.4 Conclusions

In this chapter the strategies for attracting people to relocate to the desert MPEs were investigated. From this investigation it was clear how the change in urban policies, marked by a shrinking of the role of the government in urban development, led to the rise of different forms of MPE in New-Cairo. This change in urban polices appeared to be consistent with rules derived from the predominance of the neo-liberal mentality currently prevailing in Egypt. This mentality was characterised by a shift from government to governance. The Egyptian government therefore minimised its role in the urban development process to urban governance, including land provision, insuring the delivery of infrastructures and a limited supply of public MPEs.

Driven by urban polices, discussions in this chapter revealed that the implementation of infrastructures and services at the governmental level are the key to functioning and liveable urban environments. In addition to the change in urban policy, the change in infrastructures provision also influenced the rise of different forms of MPE in New-Cairo. However as demonstrated, MPE advertisements indicate that ideas of landscape and community are the answer to creating liveable environments. By examining the development processes of six MPEs in New-Cairo, it became clear that they are based on different development ideas. Nonetheless, with some exceptions, they all build on the quality of the public realm, including its landscape, to attract prospective residents.

For example, the advantage of owning a dwelling at an affordable price was not enough to attract residents to the cooperative MPEs. Therefore, their relative failure to attract residents because of its dull public realm was the trigger for the shift towards Improved-cooperative MPEs, which based on improving the appearance of the public realm, were more successful in attracting residents. Similarly, the controlled Gated and Golf MPEs despite different key development ideas ranging

between the promise of an all-inclusive development to ensuring exclusivity, relied heavily on their landscape characteristics to attract prospective residents. The interpretation of developer agendas involved in their landscape practices will be discussed in (Chapter7). It was notable throughout the discussions here that many respondents were pointing to the MPEs as communities; in (Chapter 7) this usage of community will be investigated as well. In the next chapter the factors of residential satisfaction in the six MPEs will be explored.

Chapter 6

The Peopled Desert:

Fulfilling Residential Needs

Chapter six

6.1 Introduction

In the previous chapter the strategies used to attract people to relocate to the desert MPEs were investigated. The investigation revealed that these strategies are built upon transforming the desert plains into liveable places. Driven by urban policies, for the urban authorities this transformation is based on the implementation or ensuring the implementation of infrastructures and services. Yet for many MPE developers the transformation is based on highlighting the developments' landscape qualities and addressing the MPEs as communities. In this chapter the factors of the residents' perceived liveability in the MPEs will be explored.

Discussions in this chapter are the study's micro level of investigation. The scope is the social process as the aim is to understand residential satisfaction in the desert MPEs. By focusing on residential satisfaction in six MPEs, the chapter will explore the motives behind relocation to the MPEs and aspirations to improve the condition therein. The exploration will commence by sketching an overall description of the residents' characteristics within the six MPEs and the most important factors affecting their residential satisfaction. These factors will be grouped and discussed in turn under three organising themes; environmental, socio-culture and economic dimensions.

The chapter will conclude by examining the outcomes of the discussions in order to understand the interaction between strategies to enhance liveability and factors of perceived liveability in the MPEs. This chapter is based on data from fieldwork in 2007. The discussions are heavily structured around the information obtained from interviewing residents from six MPEs in New-Cairo.

6.2 Living in the Master-Planned Estate

As discussed in Chapter 4, urban policy in Egypt encourages the transformation of the harsh desert around the city of Cairo by building on the MPEs as a mode of urbanisation. Discussions in Chapter 5 also revealed that this urban policy led to the rise of different forms of MPE. However this desert transformation is currently marked by a recognised influx of segments of different Cairene social strata; this is made more visible by the de-densification of the urban core of Cairo and the increase in habitation level of different MPEs around Cairo (Singerman and Amar, 2006). As mentioned in the introduction, the aim of this chapter is to understand factors of residential satisfaction through the motives for relocation and the aspirations to improve the conditions of the MPE.

However, due to the complexity of the residential mobility process, the accuracy of relying on residents' preferences and aspirations as a predictor of residential mobility and satisfaction has been questioned (Howley et al., 2009). Yet, some commentator have recorded that residential preferences can be seen as residents' attitude towards their urban environments, when considering three things; a) the variability of preferences; b) the type of content expected in these preferences; c) the extent to which these preferences relate to human spatial behaviour (White, 1981).

As discussed in Chapter 2 there is a direct connection between liveability and satisfaction. However, this satisfaction results from a process of appraisal, perception, evaluation together with coping or adaptive behaviour (van-Kamp et al., 2003). The connection between satisfaction, quality of life or urban liveability and residential mobility is well expressed by Amerigo and Argones (1997:47), when they stressed that *"residential satisfaction has been studied as an important criterion in descriptions of quality of life of inhabitants of a determinate residential environment, and also a trigger factor affecting residential mobility".* Therefore, satisfaction or

dissatisfaction with the urban environment is a measure by which to judge both the success of residential choice and the reasons for moving (Garling and Friman, 2002). In the following section a portrait of residents' characteristics in six MPEs in New-Cairo will be sketched as well as the salient factors that affect residential satisfaction and hence their perceived liveability.

6.2.1 Who Lives where and how in New-Cairo?

The key characteristics of the residents who have relocated to the six MPEs reflect the three social strata of the Cairene (i.e. low, middle and high). As discussed in the previous chapter, the reason for this is that each of the six MPEs catered for different socio-economic backgrounds. Therefore, it is not surprising that the residents of each are found to be homogonous and at the same time can be distinguished from residents of the other MPEs (Table 6.1, Table 6.2 and Table 6.3).

Table 6.1 The key characteristics of the respondents living in low-income MPEs

MPE	Respondents characteristics	
Eskan El-Gehaz (Cooperative MPE) *Construction started 1988 and finished 1991*	-Dwellings owners and tenants. -Rate of dweller occupancy is high. -Relocation between 1997 and 2006. -Nuclear families (head, spouse and 2-5 dependents). -Household age range (heads 30-50, spouses 20-50, dependents up to 20). -Mix between white and blue collars. -Often more than one income supports the household.	-Vehicle ownership is relatively low. -Dependency on public transport is high. -Relocation from Cairo with few exceptions. -Relocation is by individual choice with few exceptions. -Many were considering relocating again when it is possible.
Eskan El-Shabab (Improved-coop. MPE) *Construction started 1995and finished 1997*	-Dwellings owners and tenants. -Rate of dweller occupancy is high. -Relocation between 1998 and 2005. -Nuclear families (head, spouse and up to 3 dependents). -Household age range (heads 30-50, spouses 20-50, dependents up to 20). -Mix between white and blue collars. -Often more than one income supports the household.	-Vehicle ownership is relatively High. -Dependency on public transport is high. -Relocation from Cairo with few exceptions. -Relocation is by individual choice with few exceptions. -Majority were not considering relocating again in the near feature.

Table 6.2 The key characteristics of the respondents living in middle-income MPEs

MPE	Respondent characteristics	
Al-Hay El-Khames (Self-built MPE) *Construction started 1995and still under constriction till now.*	-Mainly dwellings owners. -Rate of dweller occupancy is low. -Relocation between 1998 and 2003. -Nuclear families in flats and extended families in houses or flats in the same buildings. -Household age range (heads 50-70, spouses 40-60, dependents up to 20). -White collars. -Mix between one or more than one income supports the household.	-Vehicle ownership is very High. -Dependency on private transport only. -Relocation from Cairo with few exceptions. -Relocation is by individual choice. -Many were considering relocating again when it is possible.
Al-Rehab City (Controlled MPE) *Construction started 1993 and finished 1998 for phase 1,2 and 3)*	-Dwellings owners and tenants. -Rate of dweller occupancy is high. -Relocation between 1997 and 2005. -Nuclear families (head, spouse and up to 4 dependents). -Household age range (heads 30-70, spouses 30-60, dependents up to 20). -White collars. -Often more than one income supports the household.	-Vehicle ownership is relatively High. -Dependency on Al-Rehab bus routes is high. -Relocation from Cairo with few exceptions. -Relocation is by individual choice. -Majority were not considering relocating again in the near feature.

Table 6.3 The key characteristics of the respondents living in High-income MPEs

MPE	Respondent characteristics	
Arabella Park (Gated MPE) *Construction started 1992 and finished 1996*	-Dwellings owners. -Rate of dweller occupancy is high. -Relocation between 1997and 2001. -Nuclear families (head, spouse and up to 2 dependents). -Household age range (heads 30-70, spouses 30-60, dependents up to 20). -White collars.	-Vehicle ownership is very High. -Dependency on private transport only. -Relocation from Cairo with few exceptions. -Relocation is by individual choice with few exceptions. -Majority were not considering relocating again in the near feature.
Mirage City (Golf MPE) *Construction started 1992 and finished 1998*	-Dwellings owners. -Rate of dweller occupancy is high. -Relocation between 1997and 2001. -Nuclear families and extended families in attached houses. -Household age range (heads 50-70, spouses 50-70, dependents up to 20). -White collars.	-Vehicle ownership is very High. -Dependency on private transport only. -Relocation from Cairo with few exceptions. -Relocation is by individual choice with few exceptions. -Majority were not considering relocating again in the near feature.

6.2.2 Factors of Residents' Perceived Liveability

As discussed in Chapter 2, a wide range of socio-cultural, economic and environmental needs must be satisfied in order to create liveable urban environments. However, Pacione (2003) argued that liveability is a relative rather than an absolute term whose precise meaning depends on person, place, time and purpose of assessment. He also stressed that to obtain a proper understanding of the quality of the urban environment in responding to its residents' needs, it is necessary to employ both objective and subjective evaluations. In other words, it is important to consider urban environments 'on the ground' and urban environments 'in the mind'. Therefore, examination here is based on the motives for relocation to the MPE (urban environment on the ground) as well as the aspirations to improve MPE conditions (urban environment in the mind).

The objective attributes of the residential environment, once evaluated, become subjective, giving rise to a certain degree of satisfaction (Amérigo and Aragonés, 1997). Thus, the subjective attributes are influenced by personal characteristics. These characteristics would include a normative element whereby individuals compare their real and ideal residential environments. The result of this comparison or evaluation in the words of Amerigo and Argones (1997:48) *"is a positive affective state which the individual experiences towards his/her residential environment and which will cause him/her to behave in certain ways intended to maintain or increase congruence with that environment".*

By using data analysis and theme identification techniques as described in Chapter 3, it was possible to identify and categorise the ideas found in respondents' answers as regard motives for relocation to MPEs and aspirations for improvements in MPE conditions. The basic ideas in respondents' accounts centred around 44 issues held in common across the six MPEs with few exceptions (Figure 6.1).

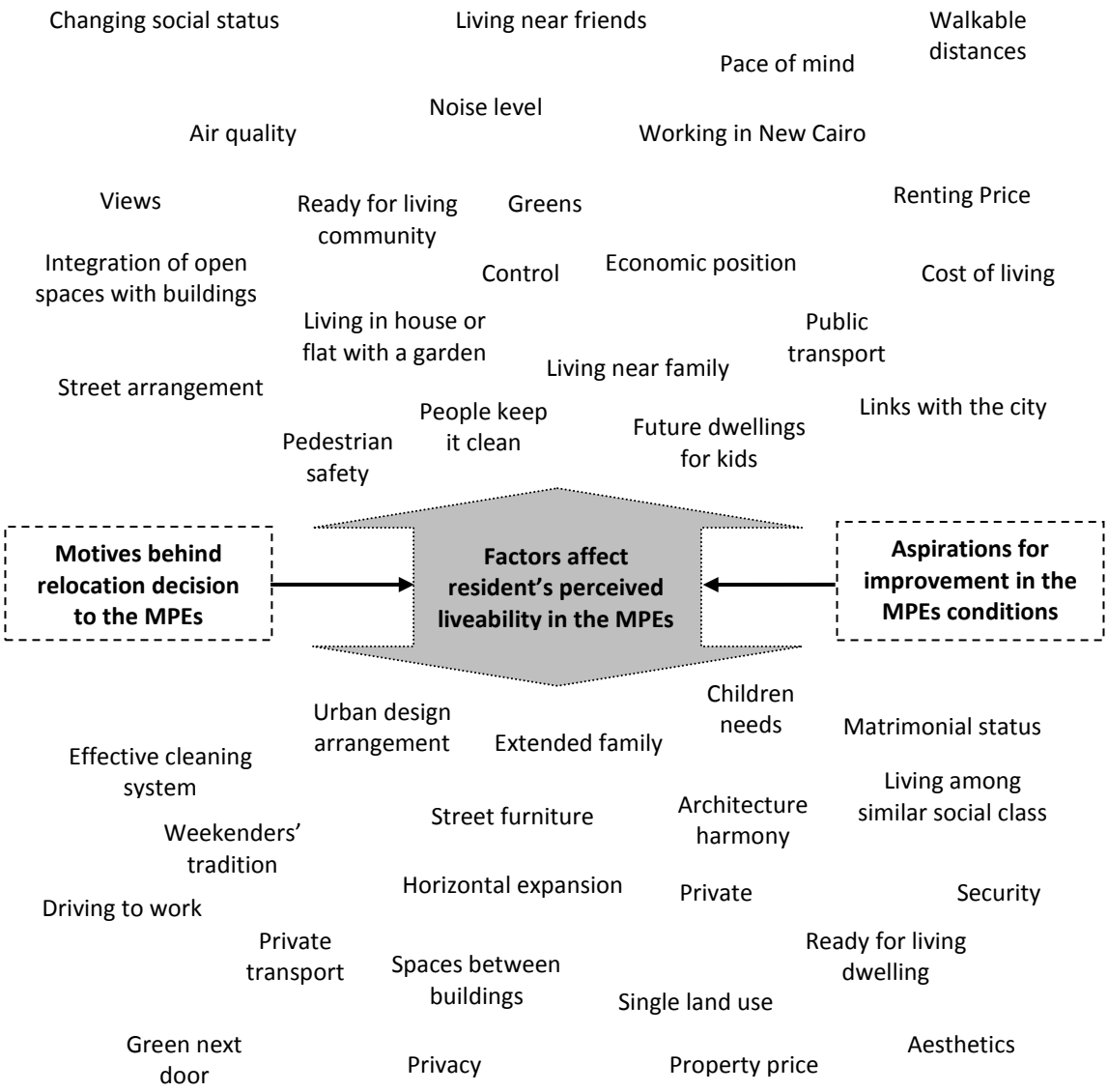


Figure 6.1 The basic ideas found as motives to relocate and aspirations for improvements

They converged on a core of 16 themes (Figure 6.2). It was notable that these themes and their underlying basic ideas were the result of push and pull factors that led to a triggering of the decision to relocate to the new MPEs. Furthermore, it was realised that the aspirations for MPE improvements were sometimes summed up in respondents' accounts in the indication of the desire to move again to a different MPE. In the coming sections these 16 themes will be discussed in turn under the headings of the three dimensions of residential needs in urban environments; socio-cultural, economic and environmental.

Accessibility Links with the city Private transport Public transport	**Sense of community** Living among similar class Living near family Living near friends	**Walkability** Pedestrian safety Walkable distances	**Exclusiveness** Control Private Security
Family obligations Future dwellings for kids Children needs Matrimonial status	**Environmental quality** Air quality Noise level aesthetics	**Complete development** Ready for living community Ready for living dwelling	**Built enviro. quality** Architecture harmony Urban design arrangement
Modern living style Driving to work Dwelling with garden Green next door Weekenders tradition	**Work opportunities** Working in New-Cairo	**Open spaces** Greens Views Integration of open spaces with buildings	**Affordability** Property price Renting Price Cost of living
Cleanness Effective cleaning system People keep it clean	**Social mobility** Economic position Changing social status	**Streetscape** Street furniture Street arrangement	**Density** Privacy Pace of mind Single land use Spaces between buildings Horizontal expansion

Figure 6.2 Core themes converged from the basic ideas found in respondents accounts

6.3 The Environmental Dimension of Liveability

In the previous section an overall picture was sketched of the factors affecting residents' perceived liveability in the MPEs It was found that many ideas expressed in respondents' accounts can be interpreted as factors that affect the environmental dimension of liveability. These ideas converged around a core of six themes including environmental quality, open spaces, built-environment quality, cleanliness, walkability and streetscape (Figure 6.3).

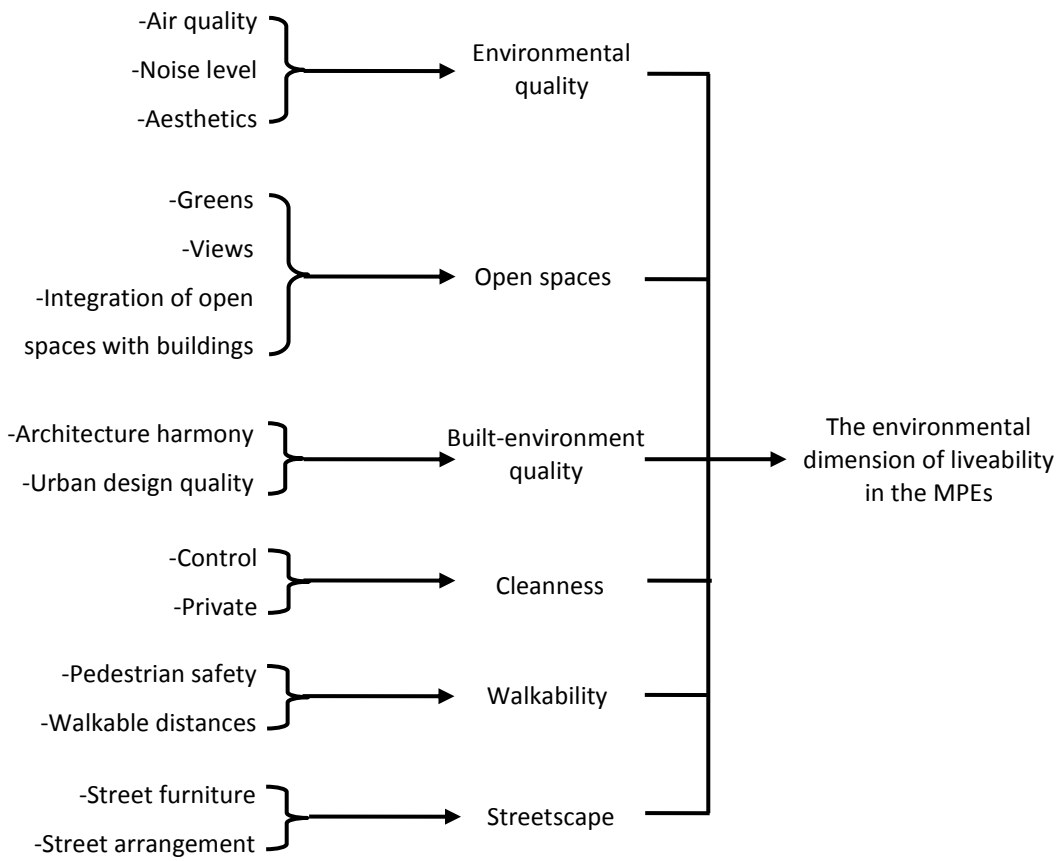


Figure 6.3 The environmental dimension of liveability in the MPEs

Ideas relating to the environmental dimension were given high importance in respondents' accounts. In general, these findings show that people are very concerned about environmental issues, and are aware of many of the factors involved in understanding these problems. This awareness, which many observers assumed did not exist in Egypt, was noted by others such as Hopkins et al. (2001) when they found that 95% of respondents were able to identify at least one environmental problem in their neighbourhood in Cairo. They pointed out that recent development in Egypt has led to such advances as an increase in the literacy rate, life expectancy, income levels, and infrastructure construction, but they added that nevertheless environmental problems have arisen as in development elsewhere in the world,.

Yousry (2007) stressed that Egyptian urban environments have been degrading rapidly. The signs of this degradation, he added, are evident in visual and environmental pollution, ugliness, congestion and a lowered quality of life. However, these have been explained in Rageh (2007:23) account:

> A special study of the quality of urban life in the largest 100 cities of the world was recently undertaken. The study included numerous indicators such as population density, share of green area per individual, level of noise, pollution, and the quality of living environments, etc. The city of Melbourne in Australia occupied first place, while the city of Cairo was down at 84th. [...]. The share of each individual in green space areas is only 30 centimetres square for Cairo, while in Western capitals it amounts to 18 metres square on average. Meanwhile, Cairo's air pollution almost reaches the highest level globally.

All respondents from all six MPEs highlighted ideas related to the environmental dimension of liveability in their accounts (Table 6.4). In the coming sections this will be discussed in detail.

Table 6.4 Consideration of ideas related to environmental dimension of liveability in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	●	●
As aspirations for improvements	●	●	●	✕	✕	✕

[●]: Considered — **[✕]**: Not considered

6.3.1 Environmental Quality

Issues related to environmental quality were frequently considered in respondents accounts and involved issues such as air quality, noise level and aesthetics. All respondents from the six MPEs considered some of these issues in their decisions to relocate. However, only respondents from the Cooperative, and the Improved Cooperative MPEs considered some of these issues as aspirations for improvement (Table 6.5).

Table 6.5 Consideration of ideas related to environmental quality in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	●	●
As aspirations for improvements	●	×	●	×	×	×

[●]: Considered — **[×]**: Not considered

The poor air quality in Greater Cairo is now recognized to be the result of significant environmental problems due to the presence of 'intensive anthropogenic activities' (Khoder (2009). These activities include industrial activities, large electrical power stations, the burning of garbage and agricultural waste, the re-entrainment of dust and windborne dust, in addition to the congestion caused by more than 1.30 million vehicles running in the streets of the city. Particulate concentrations in Cairo are extremely high, amongst the highest measured in the world's largest cities; annual concentrations exceed WHO guidelines by a factor of 5-10 (Roger, 2009). Therefore, it is not surprising that air quality was frequently considered in respondent accounts. For example one respondent (M, 40-50) who has lived in Eskan El-Shabab since 2003 illustrated how the pollution in Cairo was one of the reasons behind his decision to relocate:

> We suffered a lot from the pollution…just like thousands of people living in Helwan [heavy industries area]…my middle daughter suffered from a chronic cough and bronchial asthma…and she was spending most of her time off school because of that…the polluted area was clearly to be blamed…now she is getting better...I can't say that she is fully improved, but she is much better *(Interview ICO-R6)*.

Figure 6.4 Air pollution over Cairo
Image taken from Saladin Citadel

It was found that some respondents from El-Hay El-Khames in particular complained that poorly paved streets led to airborne dust. This was clearly articulated by one respondent (M, 20-30) who has lived in El-Hay El-Khames since 2003:

> We need to clean the flat of dust several times a day...this is very frustrating...thanks to the poor paving of the streets...several times we complained but never had a response from the authorities...usually they reply that they will repave it when construction activities are finished *(Interview SB-R2).*

Figure 6.5 Sources of air pollution in Al-Hay El-Khames
The poorly paved streets that lead to airborne dust

As with air pollution, noise pollution in Egypt ranks second among environmental pollutants according to the survey by the Egyptian Environmental Affairs agency (EEAA, 2007). Egypt has recently witnessed an increase in development of new projects in all activities, particularly in major cities, but without proper planning. This is one of the results of increased population; more commercial and industrial activities are required in residential areas, and in addition high traffic density results from an increasing number of vehicles. The average noise level in Cairo from 7 a.m. to 10 p.m. is 85 decibels, louder than a freight train only 15 feet away. In down-town Cairo, the noise often reaches 95 decibels, which is only slightly quieter than standing next to a jackhammer (Slackman, 2008). Consequently, it is not surprising that noise level was given high priority in respondent accounts. For example this was emphasised as motive for relocation by one respondent (F, 50-60) who has lived in Al-Rehab since 1999:

> After nine or ten hours of work, meetings, phone calls and all types of stresses, plus driving through Cairo's traffic… at this point all you need is to have some peace of mind…you need no more noise…here drivers are prohibited from using their car horns…and young people might be fined if they revved their cars engines or played loud music *(Interview CON-R3)*.

In contrast some respondents from El-Hay El-Khames were the only ones to complain of the constant noise associated with the construction activities in their MPE. The same respondent who complained earlier about the airborne dust in El-Hay El-Khames said:

> The constructions activities prevent the authorities from repaving the streets and prevent us from having a peaceful life...several days ago I had an argument with some builders on a nearby site...they were using a concrete pump at 1:30 in the morning...there is no respect for residents of the area... if I called the police nothing would change *(Interview SB-R2).*

Despite this complaint, in general the quietness of New-Cairo is noticeable because of the clear hierarchy of arterial roads leading to a complete separation between local and through traffic, which means less traffic noise pollution in most of the inner parts of the MPEs. In addition to this the clear separation of land uses makes residential areas quieter than their counterparts in Cairo, where mixed land uses are the dominant feature.

However, issues related to visual pollution or aesthetic quality were often found in respondents' accounts. This was considered as a motive for relocation in an account by one respondent (M, 50-60), his wife (F, 50-60) and their son (20-30) who have lived in Mirage City since 1997:

> **M:** Ugliness is everywhere in our lives...people have stopped appreciating beauty and therefore are adding to this ugliness...in Cairo wherever you look your eyes will be hurt from the visual pollution you face....**Son**: here is a refuge from all the mess outside...**F:** living here is like having a vaccine from the visual pollution we face outside and keeps us going *(Interview GOL-R1).*

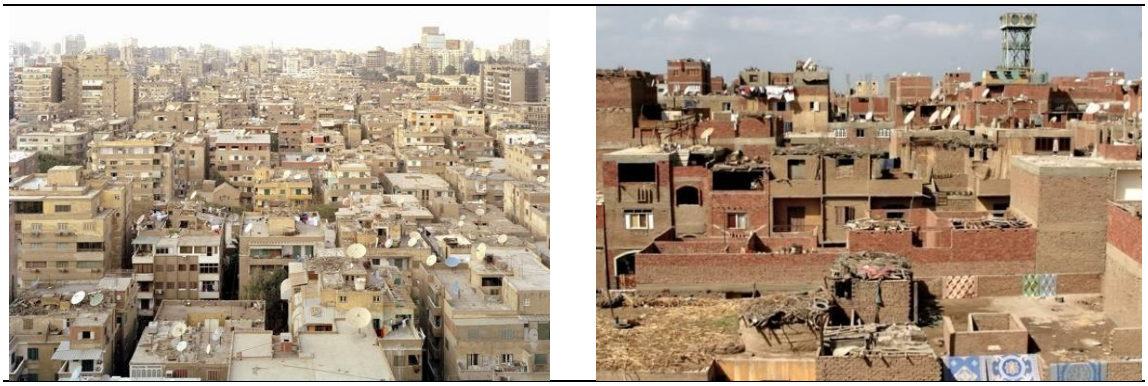


Figure 6.6 Visual pollution in Cairo
Lack of order is one of the repeatedly considered idea in respondents accounts

Nevertheless, some respondents considered an improvement in visual pollution to be needed in their MPEs. One respondent (M, 50-60) who has lived in El-Hay El-Khames since 2001 articulated this in his account:

> I think a bit of care is needed to improve the appearance of the area...it looks odd...we don't like to open the widows or use the balconies because all you will see is hills of rubbish and construction materials...and even buildings have no constancy in their style ...it doesn't look nice at all *(Interview SB-R1).*

6.3.2 Open Spaces

Ideas relating to open spaces were regularly mentioned in respondents' accounts and concerned ideas centred around the amount of greenery, the quality of views and the integration between open spaces and buildings. Apart from respondents living in the Self-built MPE, those from the other six MPEs were found to be considering some of these issues in their decisions to relocate. In addition to this, only respondents from the Cooperative and Self-built MPEs considered some of these issues as aspirations for improvement (Table 6.6).

Table 6.6 Consideration of ideas related to open spaces in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	×	●	●	●
As aspirations for improvements	●	×	●	×	×	×

[●]: Considered — **[×]**: Not considered

Until a recent crash programme to enhance Cairo's shortage of open spaces introduced a number of worldwide recognised projects such as Al-Azhar Park and Ain Al-Sera Park, the city had only five square inches of parkland per inhabitant (Rodenbeck, 2005). Therefore, it is understandable why ideas relating to open spaces were given high consideration in respondents' accounts. One of the most regular ideas mentioned was the amount of greenery in the MPE. For example one respondent (M, 30-40) and his wife (F, 30-40) who have lived in Eskan El-Shabab since 2002 expressed how the amount of greenery motivated him to take the decision to relocate:

> **M:** One of the motives that helped us to take the decision to relocate is the generous amount of greenery in the area...the amount of green here in Eskan El-Shabab makes it feel as if it is not in the desert...it is heaven...**F:** it is nice to hear the birds singing in the morning...it gives you energy for the rest of the day *(Interview ICO-R1)*.

Figure 6.7 The amount of greenery in Eskan El-Shabab
The amount of greenery was on of the most regular ideas to be mentioned in the interviews

Respondents from Al-Hay El-Kahmes mostly indicated in their accounts that the amount of greenery in their MPE was insufficient and needed to be increased. This was articulated by one respondent (F, 50-60) who has lived in El-Hay El-Khames since 1998:

> When you ask me about the things I want to improve here...the first thing that comes to my mind is the green colour...we used to live in Ma'adi...you know how green Ma'adi is...it was a shock to us to be living here after living in Ma'adi...here [El-Hay El-Khames] is very yellow...this colour metaphor is nice [she giggled]...I think the green colour certainly need sto be increased over here *(Interview SB-R4).*

Figure 6.8 Lack of vegetation in Al-Hay El-Khames
The relatively little amount of vegetation in Al-Hay El-Khames is easily notable in comparison with other MPEs

Many respondents, in particular those from Arabella Park and Mirage City, repeatedly considered the quality of views as one of the most important motives for relocating to their MPEs. One respondent (M, 50-60) who has lived in Mirage City since 1999 expressed such an idea:

> The quality of the *el-manazer el-tabe'eyah* view was without doubt an important issue when we decided to live here...it is a golf course...you wouldn't get a nicer view than the ones you get in golf courses...we are used to good views anyway... my wife and I were brought up in Zamalek so the views of the Nile and the Zamalek Club were something in our blood...but the views of the Nile or the club are no longer the same *(Interview GOL-R2).*

Figure 6.9 Quality of views in the MPEs
Left: View in Arabella Park; Right: view in Mirage City

Similarly many respondents, in particular those from Al-Rehab, frequently mentioned the advantage of integration between the open spaces and the buildings and how this integration appealled to them when taking the decision to relocate.

This was clearly expressed by one respondent (M, 30-40) who has lived in Al-Rehab since 2002:

> As you can see we live in a flat but with a garden...the integration between the open spaces and the buildings allowed them [the developers] to have the option of a ground floor flat with a garden...you wouldn't find this option anywhere else...*(Interview CON-R4).*

Figure 6.10 The integration between buildings and open spaces
Left: Private garden for a flat in Al-Rehab; Right: a common green and its relation with buildings

6.3.3 Built-environment Quality

Architectural harmony and urban design quality were both found to be considered repeatedly in respondents' accounts, which were also generally concerned with the quality of the built-environment. Excluding respondents living in the Cooperative and Self-built MPEs, many of those living in the other four MPEs gave consideration to some of these issues in their decisions to relocate. However, only respondents from Cooperative and Self-built MPEs gave consideration to some of these issues as aspirations for improvement (Table 6.7).

Table 6.7 Consideration of ideas related to built-environment quality in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	— ✕	— ●	— ✕	— ●	— ●	— ●
As aspirations for improvements	— ●	— ✕	— ●	— ✕	— ✕	— ✕

[●]: Considered — **[✕]**: Not considered

As discussed in Chapter 2, one of the main aims of the National Organisation of Urban Harmony (NOUH) that was established in 2002 was to address the deteriorating architectural and urban image which is characteristic of contemporary Egyptian Cities. Interestingly many respondents used terms related to architectural harmony in their accounts, terms usually employed by architecture and planning professionals. For example one respondent (M, 20-30) who has lived in Al-Rehab since 2003 explained how the architectural harmony was one of his motivations for in taking the decision to relocate:

> One of those things that attracted us to live here is the architectural harmony and beauty we found in Al-Rehab...I think here in Al-Rehab they set down another dimension of architectural beauty...Al-Rehab is a practical proof that architectural beauty doesn't necessarily mean posh and expensive materials...it proves that architectural harmony is much more important...even when using inferior materials and designs *(Interview CON-R6)*.

Figure 6.11 Unified architecture designs in Al-Rehab
Many respondent were found to be in favour of a unified architectural designs

In contrast many respondents from El-Hay El-Khames expressed their condemnation of the lack of architectural harmony in their MPEs. This was articulated by one respondent (M, 50-60) living in El-Hay El-Khames since 2001:

> I don't know why people are not following the guidelines found in the building codes booklet provided by the local authority...it states clearly the colours and materials that are permitted...people don't follow these and the local authority doesn't care *(Interview SB-R1).*

Figure 6.12 Un-unified architecture design in El-Hay El-Khames
The lack in the unity of architectural features in El-Hay El-Khames was a source of complaint

Also the quality of the MPEs' urban design was found to be significant for many respondents. For example one respondent (M, 30-40) living in Eskan El-Shabab since 2004 said:

> What I liked about the area over here was the quality of the building arrangements and its relation with streets and open spaces...they gave sincere attention to the orientation of the buildings...in most rooms you get the northern *bahary* cooler breeze somehow...at the same time you get a nice view from most rooms without sacrifucing privacy *(Interview ICO-R3).*

6.3.4 Cleanliness

Many respondents frequently considered issues related to the cleanliness of the MPEs. These issues centred on the effectiveness of the cleaning system and the ability of people to keep the place clean. Apart from respondents living in the Self-built MPE, many respondents considered some of these issues in their decisions to relocate. However, once again only respondents from the Cooperative and Self-built MPEs mentioned such issues as aspirations for improvement (Table 6.8).

Table 6.8 Consideration of ideas related to cleanness in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	×	●	●	●
As aspirations for improvements	●	×	●	×	×	×

[●]: Considered — **[×]**: Not considered

Cairo is suffering the typical ills of mega-cities in the developing countries. One of these is the lack of cleanliness in many quarters of the city. Despite continuous efforts to make the city cleaner, all attempts are unsuccessful to a great extent. However this might explain why many respondents gave consideration to issues related to MPE cleanliness in their accounts. One of the ideas repeatedly brought up concerned the effectiveness of the cleaning system in a particular MPE. A couple (F, 30-40) and (M, 40-50) living in Al-Rehab since 2001 expressed such an idea:

> **F:** Here in Al-Rehab we have our own cleaning and rubbish collection system...it is far more effective than any other area...I would confidently say that Al-Rehab is one of the most clean places to live in Cairo, even perhaps in Egypt...**M:** it is almost impossible to find any litter on the ground anywhere here *(Interview CON-R5).*

Figure 6.13 Cleanness quality in some MPEs
Left: Cleanliness quality in Al-Rehab; Right: Cleanliness quality in Eskan El-Shabab

Also many respondents mentioned that one of the issues that attracted them to relocate to a particular MPE was their recognition that residents themselves kept it clean. Such an idea was articulated in an account by one respondent (M, 20 -30) and his wife (F, 20-30) who have lived in Eskan El-Shabab since 2005:

> **M:** When you live in a tidy place you feel guilty if you attempt to ruin its tidiness...this is the case here in Eskan El-Shabab...people keep it clean because they feel that if, for instance, they threw any rubbish in the streets they will be the only ones to do so...**F:** it reminds me of Cairo's underground...it is usually clean and tidy...despite the fact that people who use it are the same as everywhere...have you ever asked yourself why...the answer is simple... cleanliness bring cleanliness and dirtiness bring dirtiness *(Interview ICO-R7).*

Many respondents from both Eskan el-Gehaz and El-Hay El-Khames frequently complained that the situation in both MPEs actually discourages people from keeping it clean. One respondent (M, 20-30) living in Al-Hay El-Khames since 2003 said:

> The poorly paved streets and the uncompleted green areas discourage people from keeping the area clean...many people who live here dump their rubbish on waste land...not only the local residents do this but also the builders too...they dump their construction refuse anywhere...it is a cycle...people dump their rubbish and builders use it as an excuse to dump their refuse...and vice versa *(Interview SB-R2).*

Figure 6.14 Lack of cleanness in some MPEs
Left: Lack of cleanness in Eskan El-Gehaz; Right: Lack of cleanness in El-Hay El-Khames

6.3.5 Walkability

Repeatedly, many respondents gave consideration to ideas relating to walkability in the MPE; this involved ideas such as pedestrian safety and walkable distances. Excluding respondents from Self-built MPE, many of the rest mentioned such issues as influencing decision to relocate. And once again, only respondents from the Self-built MPE considered these ideas in their aspirations for improvement (Table 6.9).

Table 6.9 Consideration of ideas related to walkability in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	×	●	●	●
As aspirations for improvements	×	×	●	×	×	×

[●]: Considered — **[×]**: Not considered

People in many parts of Cairo are usually forced to walk on the roads and alongside cars because of the poor quality of the sidewalks, but often because of the occupancy of pavements by shops or cafes. Correspondingly, many respondents highlighted issues related to pedestrian safety and moving safely around the MPE in their accounts. One respondent (F, 40-50) living in Al-Rehab since 2000 expressed the ability to move around safely as one of motives that made her and her family decide to relocate:

> We realised from the first visit to Al-Rehab that it is perhaps one of the few places in Cairo that you can move around without the need to make stunts between the moving cars...this was a very good first impression about the qualities of the community as whole *(Interview CON-R2).*

Figure 6.15 Walkability in Al-Rehab
Al-Rehab is all well connected with pedestrian foot paths as mentioned by many respondents

At the same time many respondents from El-Hay El-Khames in particular complained about the difficulty of moving around the MPE by walking. This was expressed in an account by one respondent (F, 50-60) and her son (20-30) who have lived in El-Hay El-Khames since 1998:

> **F:** You might think that I am biased because I am comparing here [El-Hay El-Khames] with Ma'adi [an area she was living in before relocating]...but I am definitely not...I will ask you a question...why people are able to move around in Ma'adi by walking and we can't do it over here...what is the difference...I will tell you...Ma'adi was planned for people but here is planned for cars...cars are more important...**Son:** but even cars are suffering from the street bumps and holes *(Interview SB-R4).*

Figure 6.16 Walkability in El-Hay El-Kahmes
It was found that the difficulty of moving around is a common complaint in El-Hay El-Khames

Many respondents mentioned that walkable distances to different services appealed to them when taking the decision to relocate. The same respondent (F, 40-50) in Al-Rehab, who showed how the ability to move around the MPE was one of the factors in her relocation decision, expressed how walkable distances were appealing too:

> One of the things that attracted us in choosing to live in Al-Rehab is the availability of all services within a walkable distance...this is something that must be accredited to the developers...Al-Rehab is not small...despite this we prefer walking to driving...perhaps it also because you walk between nice well kept green areas *(Interview CON-R2).*

6.3.6 Streetscape

The quality of the street furniture and the arrangement of the streets were both found to be commonly considered in respondents accounts mainly concerned with the quality of streetscape. Only respondents of the Controlled MPE considered issues relating to streetscape in their decisions to relocate. Additionally, only respondents from Cooperative and Self-built MPEs considered some of these issues in their aspirations for improvement (Table 6.10).

Table 6.10 Consideration of ideas related to streetscape in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	— ✕	✕	✕	●	✕	✕ —
As aspirations for improvements	— ●	✕	●	✕	✕	✕ —

[●]: Considered — **[✕]**: Not considered

Again Cairo is one of the poorest cities in terms of quality and consistency of street furniture, such as traffic signs, rubbish bins or seats. Consequently, many parts of the city are poor in the quality of street arrangements, including such issues as street marking, speed humps or appropriate sidewalk design. Therefore, it is understandable that some respondents considered such ideas in their accounts. This was expressed by one respondent (F, 50-60) is living in Al-Rehab since 2004:

> One of the things which we love about Al-Rehab is the consistency of the small but important details you find around like rubbish bins or sitting benches...you wouldn't get lost here… everywhere you know exactly where you are by the signs...and you even know where to cross the streets...you wouldn't find this in many places in Cairo *(Interview CON-R7).*

Figure 6.17 The quality of streetscape in Al-Rehab
The consistency of street furniture was found to be appealing for many respondents

Other respondents complained about the poor quality of the streetscape in their MPE. One respondent (M, 30-40) living in Eskan El-Gehaz since 2002 stated:

> They [the developer] need to make more effort to maintain the area...the pergolas and the tilling of the sidewalks can't last forever without maintenance...walking on the sidewalks sometimes is hazardous because of the broken tiles...the area needs some speed humps to reduce car speeds and to have some signs or marks to indicate pedestrian crossing areas...I know traffic lights mean nothing to Egyptian drivers but why can't we have a new start here in the new cities and use traffic lights *(Interview CO-R10).*

6.4 The Socio-cultural Dimension of Liveability

In addition to the ideas found in respondents' accounts and interpreted as factors that affect the environmental dimension of liveability, other ideas were also found as relevant in considering the factors that affect the socio-cultural dimension of liveability. These ideas converged on a core of seven themes including density, modern living style, complete development, exclusiveness, sense of community, family obligations and social mobility (Figure 6.18).

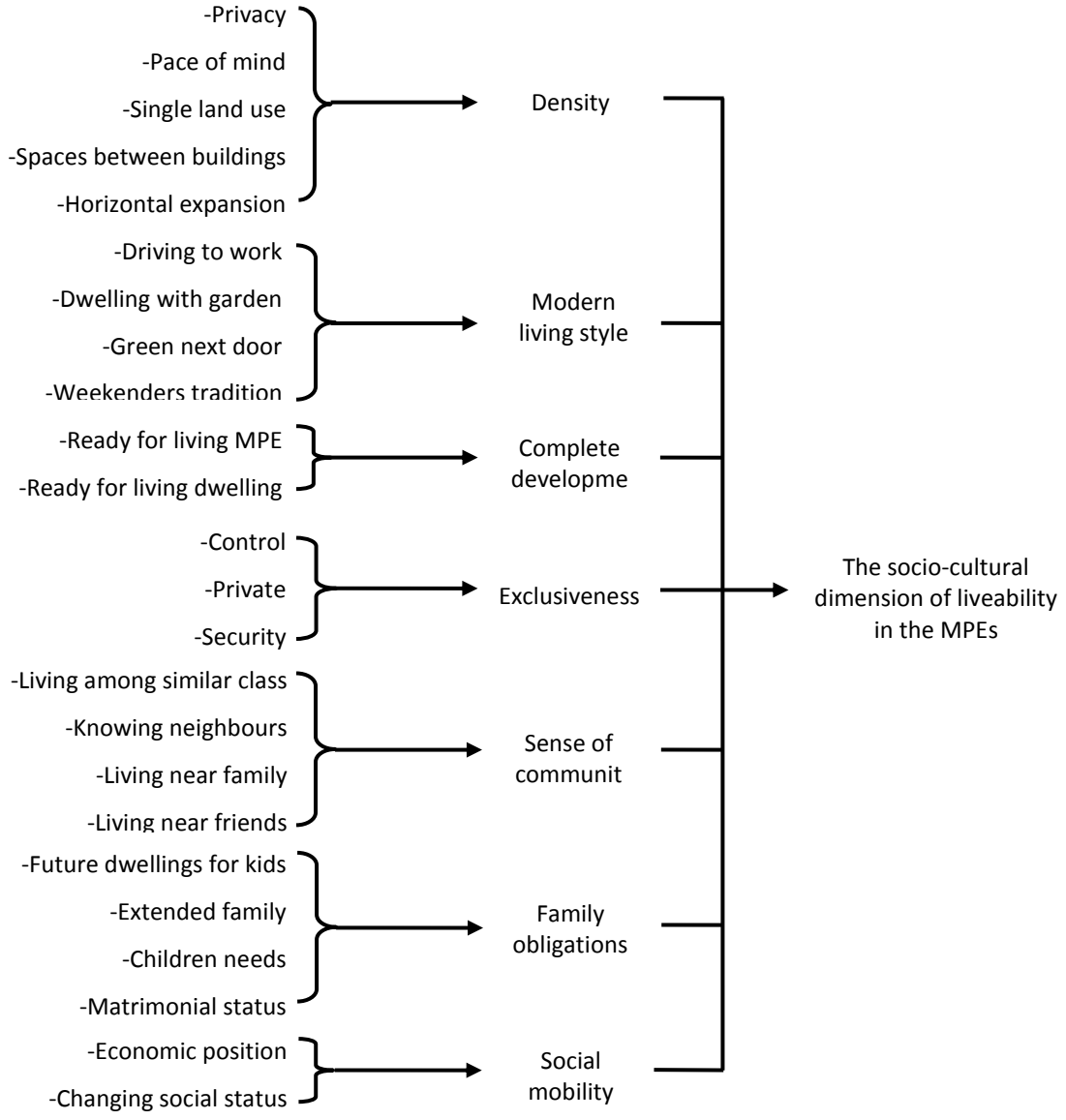


Figure 6.18 The socio-cultural dimension of liveability in the MPEs

The ideas related to the socio-economic dimension were found to be given high consideration in respondents' accounts but with less prominence in comparison with ideas related to the environmental dimension. It was noticeable that many of the issues mentioned in the respondents' accounts to certain extent deviate from the socio-cultural norm of the Egyptians. This socio-cultural transformation has been recorded in a growing body of literature examining its impact on Egyptian identity and consequent behaviour (Mehrez, 2008). Many commentators dread the loss of the Egyptian identity due the current society's socio-cultural transformation((Abaza, 2006; Amin, 2006; Singerman and Amar, 2006; Amin, 2004). Others like Heggy (2003:71-72) question these fears and argues that:

> The lessons of history prove that societies which opt for opening on the outside world, which interact with other cultures, help keep their own cultural specificity intact while promoting its development. [...] Throughout the first half of the twentieth century, thousands of Egyptians were open to Western life and culture without giving up any of their own cultural specificity. In fact, their interaction with another culture enriched them by adding to their own cultural specificity new elements that boosted its positive attributes and helped correct some of its negative aspects. Moreover, it is materially impossible for any society today to lock itself into total or even partial isolation. The globalisation of science and technology and the information and communication revolution are not only a bar to economic protectionism, but render dreams of isolation both impracticable and unattainable.

Many respondents from all six MPEs gave consideration to ideas relating to the socio-cultural dimension of liveability (Table 6.11). In the coming sections this will be discussed in detail.

Table 6.11 Consideration of ideas related to socio-culture dimension of liveability in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	●	●
As aspirations for improvements	●	●	●	✕	✕	✕

[●]: Considered — **[✕]**: Not considered

6.4.1 Density

Ideas relating to the density of the residential environment were regularly mentioned in respondents' accounts and involved issues such as privacy, peace of mind, single land use, spaces between buildings and the advantage of horizontal expansion. Many respondents from all six MPEs were found to be considering some of these ideas in their decisions to relocate (Table 6.12).

Table 6.12 Consideration of ideas related to density in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	●	●
As aspirations for improvements	×	×	×	×	×	×

[●]: Considered — **[×]**: Not considered

As discussed in Chapter 4, Cairo is the most densely populated large urban area in the world, with up to 300,000 people per square mile in some districts sometimes soaring in some back streets to 700,000 (Rodenbeck, 2005). This high density is a direct result of mixed land uses and the extremely compacted urban form. Without doubt this affects individual privacy and makes the city stressful. Many respondents mentioned that they relocated because they were seeking more privacy and peace of mind. One respondent (M, 30-40) living in Al-Rehab since 2005 said:

> We were searching for places in which we can keep up our privacy at the highest level...what can preserve this better than living in an un-crowded place...We are a quiet family and we don't like to be involved with people that much, especially with neighbours...we like to live in a place where we can experience peace of mind *(Interview CON-R8).*

Equally some respondents gave consideration to the spaces between buildings and the advantage of horizontal expansion. Such ideas can be seen in an account by one respondent (M, 30-40) living in Arabella Park since 1997:

> Many cities around the world expand horizontally...I don't know why we loved to live on top of each other and expand vertically...why we are not used to leaving an appropriate distance between buildings...and we complain about being overcrowded and about

traffic problems and poor services...I think we are in desperate need of expanding horizontally rather than vertically (*Interview GAT-R3).*

Figure 6.19 Density of urban form in Cairo and New-Cairo
Left: Satellite image for part of Cairo; Right: Satellite image for part of New-Cairo (Google Earth- from similar height)

6.4.2 Modern Living Styles

Driving to work, living in a dwelling with a private garden, the availability of green areas near the dwelling and the rise of a weekenders' tradition of leisure were repeatedly considered in respondents' accounts. Such ideas can be seen as the local interpretation of modern living styles. Respondents of Controlled, Gated and Golf MPEs were gave consideration to some of these ideas in their decisions to relocate (Table 6.13).

Table 6.13 Consideration of ideas related to modern living styles in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	✕	✕	✕	●	●	●
As aspirations for improvements	✕	✕	✕	✕	✕	✕

[●]: Considered — **[✕]**: Not considered

As a result of globalisation, the growth of cross-cultural contacts have brought about new categories of consciousness, which embody cultural diffusion in the desire to enjoy foreign ideas and to adopt new technologies and practices (Rothschild, 1999). Correspondingly, some respondents translated this desire to enjoy contemporary, globalised lifestyles in their motives to relocate to the MPEs. Therefore, some

respondents considered driving to work as a sign of a contemporary and fashionable lifestyle. One respondent (M, 50-60) living in Arabella Park since 2001 said:

> Roads are more advanced now...it should be very normal to drive to work...people around the world have been doing this for a very long time...I can't believe that there are still some people afraid to move away from the city because they don't want to drive...we are in the 21st century and people need to change to be able to catch up with other nations *(Interview GAT-R1).*

Other respondents considered living in a dwelling with a private garden as a sign of this fashionable lifestyle. This was articulated by one respondent (M, 30-40) living in Al-Rehab since 2002:

> Living in a place with a private garden is becoming an essential component of an up-to-date lifestyle...many daily activities you can't do indoors...there are not many places where you can get this option with a flat...here in Al-Rehab all ground floor flats come with a private garden *(Interview CON-R4).*

Furthermore, having green areas near the dwellings was repeatedly found to be associated with contemporary lifestyle too. Such an idea can be seen in an account by one respondent (F, 20-30) and her husband (M, 20-30) who have lived in Al-Rehab since 2003:

> **F:** With the hectic lifestyles we have now it is necessary to have a place to calm down when you come back home...having green areas near home is very important to cope with life and work stresses...**M:** I have to walk around the community daily to relax myself *(Interview CON-R6).*

Interestingly and in line with the noticeable rise of a weekender tradition among the Cairenes, many people have started to consider the weekend as an important time for leisure; this is emphatically not embedded in Egyptian culture. The ability to respond to such practice in a particular MPE was found to be appealing to some respondents. For example one respondent (M, 30-40) living in Al-Rehab since 2005 stated:

> I work 5 days a week for only one reason...to enjoy the weekend...I spend most of the weekend in the garden...sometimes we invite family members or very close friends to spend some quality time with us...before we moved here we used to drive at least 3

hours to find any place to spend the weekend...but now we don't need to travel anymore *(Interview CON-R8).*

6.4.3 Complete development

Many respondents frequently considered issues related to the ideals of living in a complete development in their accounts. These issues were found to lie around the possibility of relocating to a ready-for-living MPE or a ready-for-living dwelling. Apart from respondents living in the Self-built MPE, many from the other MPEs gave consideration to some of these issues in their decisions to relocate. However, only respondents of the Self-built MPE were found to mention such issues as aspirations for improvement (Table 6.14).

Table 6.14 Consideration of ideas related to complete development in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	×	●	●	●
As aspirations for improvements	×	×	●	×	×	×

[●]: Considered — **[×]**: Not considered

As discussed in the previous chapter, the idea of the MPE is new in the Egyptian residential scene; this is mainly because the characteristics of the very idea of master-planning are based on providing a complete vision for the estate. In addition to this, the idea of delivering 'ready to move in' dwellings is also quite new to Egypt. The norm was for prospective purchasers or tenants to complete the interiors of the dwellings themselves. Interestingly, the presence of the option of having a complete development including dwellings seemed to be appealing to many respondents. For example one respondent (M, 40-50) living in Al-Rehab since 2001 explained how the completeness of the MPE (including the house) was convenient for him:

Al-Rehab is a real community simply because it is a complete development...the developers did everything to make people just come here and enjoy life...all services were up and running when we moved in...I do remember when we were moving here that we just had to bring our stuff from Al-Obor [where they were living in] to here...the

house was ready to move into...we did some alterations afterwards but most of the house is still in its original state *(Interview CON-R5).*

Figure 6.20 The completeness of Al-Rehab
Areas under construction is surrounded by barriers - many respondents pointed at the benefits of this practice

In contrast many respondents from El-Hay El-Khames complained repeatedly about the incompleteness of the MPE. For example one respondent (M, 50-60) who has lived in El-Hay El-Khames since 2002 expressed it as follows:

Many people are still building and others haven't finished them yet and the developer didn't finish the outdoor areas...this is a complete mess...they [the developer] should keep enforcing the timeframe they enforced on me and the few people who started to build earlier in the development *(Interview SB-R5).*

Figure 6.21 the incompleteness of El-Hay El-Kahmes
Lack of enforcing the timeframe to finish construction activities is to be blamed as mentioned by many respondents

6.4.4 Sense of exclusiveness

Issues related to sense of exclusiveness were often considered in respondents accounts and involved ideas such as sense of control, living in a private area and a sense of security. Respondents of Controlled, Gated and Golf MPEs especially gave

consideration to some of these ideas in their decisions to relocate. Interestingly, respondents of the two low income MPEs; the Cooperative and Improved-cooperative MPEs often gave consideration to some of these issues as aspirations for improvement (Table 6.15).

Table 6.15 Consideration of ideas related to exclusiveness in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	✕	✕	✕	●	●	●
As aspirations for improvements	●	●	✕	✕	✕	✕

[●]: Considered — **[✕]**: Not considered

A sense of control over the MPE was found to be appealing to many respondents. Such an idea was articulated by a respondent (F, 20-30) living in Al-Rehab since 2003:

> As I told you, when you are living in Al-Rehab you are living in Al-Rehab...there is no doubt about this... I believe this is a unique quality of Al-Rehab...when you enter from the archways you feel that you are in control of your surroundings...you feel " I am here...I am back" *(Interview CON-R6)*.

Furthermore, the idea of living in a private area was also considered important by some respondents, especially by those living in Arabella Park and Mirage City. One respondent (F, 60-70) living in Mirage City since 2000 explained the advantage of living in a private place:

> Mirage City is a private city within the city...if you know what I mean...it is not really a city...but it is our city...in a society in which is currently characterised by change in norms and ethics and in which wrongs become rights and rights become wrongs, it is advantageous to secure yourself and your family by living in a protective environment if you can...otherwise you too will be dragged to a spot which you wouldn't like *(Interview GOL-R3).*

Interestingly, a sense of security was given consideration as an aspiration for improvement by some respondents from low income MPEs but not by the higher income ones as might have been expected. For example a respondent (M, 20-30) living in Eskan El-Shabab since 2001 said:

> One of the things I would like to be improved here is the sense of security...I am not saying that it is not secure...but it would be nice to increase this a bit...for example by having arm gates on the entry roads to the area...there are security personnel employed by the local authority anyway so it wouldn't really cost a lot of money *(Interview CO-R6).*

6.4.5 Sense of Community

Repeatedly, many respondents mentioned issues relating to a sense of community in the MPE and involving such things as living among a similar class, and living near family or friends. Excluding respondents of the Cooperative, Improved-cooperative and the Self-built MPEs, many respondents in the other MPEs mentioned such issues in their decisions to relocate (Table 6.16).

Table 6.16 Consideration of ideas related to sense of community in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	✕	✕	✕	●	●	●
As aspirations for improvements	✕	✕	✕	✕	✕	✕

[●]: Considered — **[✕]**: Not considered

AS discussed in Chapter 4, Cairo is divided into adjacent and often overlapping social spaces involving the lower, intermediate and upper stratum (Fahmi and Sutton, 2008; Bayat and Denis, 2000; Stewart, 1999; Denis, 1996). Correspondingly, it was found that many respondents gave consideration to living among a similar group. This idea is expressed in an account by a couple (M, 30-40) and (F, 30-40) who have lived in Arabella Park since 1997:

> **M:** The class of people living here in Arabella Park are the same class of people we used to live among in Ma'adi...they are from the same background in most cases...this makes things smoother and creates fewer problems… there are no cultural clashes...**F:** I think it would have been harder to leave Ma'adi if this was not the case *(Interview GAT-R3).*

In a few cases living near family members or friends was considered as an important motive for relocating. One respondent (M, 40-50) who has lived in Al-Rehab since 1997 said:

> My brother moved here first...he was one of the very first to relocate to Al-Rehab...he bought a flat in the 1st phase...we used to live near each other...we couldn't afford to buy a flat here but we rented one here to be near him and his family...unfortunately he left the country in 2003...Although it was a core motive for us in taking the decision to relocate...we do not regret it at all...we found many other advantages of living here *(Interview CON-R1).*

6.4.6 Family Obligations

The need for future housing for children, children needs and changes in matrimonial status were all found considered in those respondents accounts which mainly concerned family obligations. Apart from the two high-income MPEs - Gated and Golf MPEs - some respondents from other MPEs also mentioned such issues in their decisions to relocate (Table 6.17).

Table 6.17 Consideration of ideas related to family obligations in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	×	×
As aspirations for improvements	×	×	×	×	×	×

[●]: Considered — **[×]**: Not considered

Many respondents from Al-Hay El-Khames considered the need for future dwellings for their children as a main motive for relocating to their MPE. Such idea is evident in the account of one respondent (M, 20-30) resident in Al-Hay El-Khames since 2003:

> My dad built this *omara* residential building with the intention of helping me and my brothers have decent accommodation when we married...to be honest without his help I wouldn't be able to get married...however it is only a step and as soon I can afford another place I will move out...I don't like it over here *(Interview, SB-R2).*

Children's needs in the residential environment were repeatedly given consideration by many respondents, particularly those from Eskan El-Shabab and Al-Rehab. One respondent (M, 30-40) resident in Eskan El-Shabab since 2002 stated:

> When I was considering relocating here I was thinking of my children as well...it is normal isn't it...I thought this place would be a nice place to bring them up...I can assure you I was definitely right...the children are very happy here...this place is planned for children's needs...they want to run and play...the amount of green areas facilitates this *(Interview, ICO-R1).*

However, some respondents considered issues relating to their matrimonial status as a motive to relocate to their MPE. This is expressed by one respondent (M, 30-40) who has lived in Eskan El-Gehaz since 2006:

> Marriage...marriage is what brought me here...nothing else to be honest...living in Cairo become very expensive but renting here sis till relatively cheaper than anywhere else...I am a city guy and here it is very quiet for me...when possible I'll return to Abasia [one of the very crowded quarters of Cairo] *(Interview, CO-R11).*

6.4.7 Social Mobility

A few respondents mentioned ideas related to social mobility in their accounts involving ideas such as change in economic position or social status. Only a few respondents from Self-built, Controlled and Gated MPEs mentioned such issues in their decisions to relocate (Table 6.18).

Table 6.18 Consideration of ideas related to social mobility in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	— ✕ —	✕ —	● —	● —	● —	✕ —
As aspirations for improvements	— ✕ —	✕ —	✕ —	✕ —	✕ —	✕ —

[●]: Considered — **[✕]**: Not considered

During the last three decades, many factors have worked together to push large numbers of the population up the social ladder, allowing them to compete successfully with middle and higher classes (Amin, 2004). One respondent (M, 50-60) resident in Arabella Park since 2001 explained how the change in his financial status and hence in his social status was one of his motives in the decision to relocate:

> I am one of those who consider money as a tool not as an aim...I am not ashamed to say that I come from a very humble background...when God gave me the chance to have a

good income in a particular period of my life...I wanted to enjoy it with my family and not to just put it in a steel safe like many people do...I believe that this is the way to thank God for his generosity to me...the first thing I thought of was to have an appropriate family home which would reflect God's gift to us *(Interview GAT-R1).*

6.5 The Economic Dimension of Liveability

As discussed so far, many of the ideas that were found in respondents accounts were interpreted as factors which affect the environmental and the socio-cultural dimensions of liveability. Furthermore, it was found that some ideas can be seen as the economic dimension of liveability. These ideas converged on a core of three themes - affordability, accessibility and work opportunities (Figure 6.22).

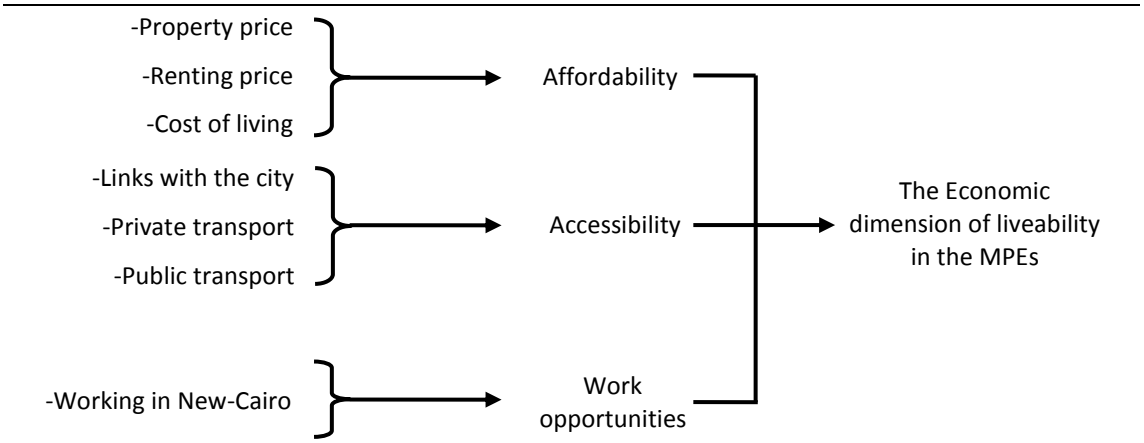


Figure 6.22 The economic dimension of liveability in the MPEs

Unlike the environmental and socio-cultural dimensions of liveability, ideas related to the economic dimension were found to be considered least in respondents' accounts. This can be understood as one of the many manifestations of the economic scene in Egypt attributable to the change in Egypt's social structure and to the rapid rate of social mobility which has been taking place over the last thirty years (Beattie, 2005). Therefore, the radical changes in economic topographies in Egypt as a result of cultural and social transformations in recent years have led to an inversion of polarities and values (Singerman and Amar, 2006). However, the source of this

inversion in Egyptian society has been a source of confusion among many observers and among economists and sociologists in particular. Amin (2004:11-12) for example ascribed this to the fact that:

> [I]t falls on the borderline between two disciplines...The nearest that economist come to discussion of this issue is when they tackle income distribution, but even if they were to have comparable data on personal income distribution over a long period of time, which do not exist for Egypt, such data would reveal hardly anything of changes that accrued in the social structure. The rise or fall in share of say the top 5 percent or the bottom 20 percent of the population, would tell nothing about whether the members of any particular group have risen or fallen in relative income or social status or about the changes that might have occurred in their sources of income...Likewise, sociologists [when tackle the issue]...the concern is usually with providing some indicators of the degree of the change in social structure rather that with its possible relationship to other aspects of economic and social life.

Excluding the two high income MPEs (i.e. Gated and Golf), respondents from the other four MPEs gave consideration to ideas relating to the economic dimension of liveability (Table 6.19). This will be discussed in detail In the following sections.

Table 6.19 Consideration of ideas related to economic dimension of liveability in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	×	×
As aspirations for improvements	●	●	×	●	×	×

[●]: Considered — **[×]**: Not considered

6.5.1 Affordability

When talking about the economics of residential environments, one of the first things to come to mind is affordability. Data analysis revealed that issues related to affordability of living in the MPEs involved issues such as property prices, rental prices and the cost of living. Excluding respondents from Gated and Golf MPEs, many respondents considered at least some of these issues in their decisions to relocate. However, only respondents from the Cooperative, the Improved-cooperative and the

Controlled MPEs were found to consider some of them as aspirations for improvements (Table 6.20).

Table 6.20 Consideration of ideas related to affordability in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	✕	✕
As aspirations for improvements	●	●	✕	●	✕	✕

[●]: Considered — **[✕]**: Not considered

The frequency of the consideration of issues related to affordability varied across MPEs, yet, it seemed to be an explicit reflection of the respondents' socio-economic status. This can be interpreted as the extent to which New-Cairo appears to encapsulate most of the incomes and social strata to be found in Cairo. This stems from its very nature of catering for the lower strata in affordable Cooperative and Improved-cooperative MPEs, for the middle strata in Self-built and Controlled MPEs, in addition to catering for the affluent elites in Gated and Golf MPEs, as discussed in Chapter Five. With dwelling price ranging from £.E 35,000 up to £.E 4,500,000 or higher (£ = 9.8 £.E) and rents from £.E 300 /month up to £.E 12,000/month or higher, this variety in prices reflects the different levels of affordability and this was itself reflected in respondents' accounts. For example one respondent (M, 30-40) resident in Eskan El-Gehaz since 2002 explained how rental affordability influenced his decision to relocate:

> Where else in Cairo you can find decent accommodation in a decent place for only £.E 300 a month...of course here it costs more than the £.E 300 because we need to commute daily to Cairo to work as I work in Maa'di...the cost of living here is more expensive than Cairo...we pay more here for everything even for bread and milk...but what I say...it all comes at a price *(Interview CO-R10)*.

However, property price affordability in some cases was found to be an important factor in the relocation decision; for example one respondent (M, 40-50) who has been living in Eskan El-Shabab since 2000 said:

> I always dreamt of living away from Cairo but all the cooperative housing schemes in the new communities were of those ugly concrete blocks and at the same time I can't afford the nicer private ones...it is only for well-to-do people...however the dream started to come true when they announced this project [Improved-cooperative MPE] in the newspaper...while filling in the application I was almost certain that I wouldn't get it...although I was completely eligible for it...you know how things work in these matters...well...I didn't have any sort of contact or whatever to support my application...however, we were very lucky and found ourselves on the allocation list 9 months later...living in a nice place by paying only £.E 120 a month and about £.E 6,000 or 7,000 upfront is amazing...they need to do it on a larger scale so everybody can have a good place to live *(Interview ICO-R2)*.

Affordability was found to be seen as relative in comparison with other situations for some respondents. One (F, 40-50) who has lived in Al-Rehab since 2000 said:

> Ten or twenty years ago if you wanted to live in a house with a garden in Egypt it was nearly impossible...even if you could afford it...possibilities were limited in Cairo...the only way was to have a chalet or villa in one of the summer holiday resorts on the north coast...now possibilities are wider with the resort-like communities...here [Al-Rehab] you can live in a house with a swimming pool...of course you pay a lot for it...but let us be frank... sometimes people pay more for a normal flat in some parts of Cairo...but here it is far better *(Interview CON-R2)*.

Another example of how affordability can be seen came from a respondent (M, 30-40) living in a rented house in Al-Rehab since 2005:

> My income as an expert in communication and IT is not bad at all...but to pay for owning this house is not easy...to buy it directly from the developers I need a huge down payment and huge monthly and yearly instalments...yes, with my income I can get easily a mortgage...but still I need the down payment...I made my calculations and found it was better for me to rent...actually it is far cheaper than buying...although it is still big money...life is too short *(Interview CON-R8)*.

Living costs also were repeatedly mentioned by many respondents as affecting the affordability of living in their MPE. For example one respondent (M, 30-40) living in Eskan El-Gehaz since 2002 expressed that the cost of living in New-Cairo was higher than in Cairo itself:

> We pay more here for everything even for bread and milk...shopkeepers claim that we are away from Cairo and it costs more to bring different goods over here...this is actually nonsense as we are not really far from Cairo …. only 20-30 km from downtown Cairo...this is not to mention what we pay for basic services like water and electricity...if the government itself is charging more...how we can blame individuals...but indeed these

> issues need to be improved to make our community a better place to live *(Interview CO-R10)*.

The interesting thing here is that not only lower strata respondents complained about the high cost of living, but also the middle/high strata as well. For example, one respondent (M, 40-50) resident in Al-Rehab since 1997 said:

> When we first moved here [Al-Rehab] ten years ago it was understandable why things were a bit more expensive...the community was not completely populated, therefore the shops needed to increase the prices a bit to cover their loses as a result of the low consumption in the community...but now, after ten years, the community I would say is more than 100 percent populated taking into account the surrounding communities who are getting their needs from here...why are shops still charging higher than their counterparts in Cairo? *(Interview CON-R1)*.

6.5.2 Accessibility

It is noticeable now how issues relating to affordability can directly and indirectly influence the economic dimension of liveability in the MPEs. Furthermore this can be seen and interpreted as the level of the individual's accessibility to housing opportunities and capability of coping with living costs. Accessibility is traditionally regarded as one of the most important determinants of urbanisation patterns, and it is often argued that relocation decisions are made in order to minimise the frictional effects of distance (Stanilov, 2003).

Data analysis revealed that issues related to accessibility to the MPEs involved issues such as links with the city, and transportation affordability in both public and private sectors. Excluding respondents from Gated and Golf MPEs, many respondents considered some of these issues in their decisions to relocate. However, only respondents from the Cooperative and the Improved-cooperative MPEs were found to be considering some of these issues as aspirations for improvements (Table 6.21).

Table 6.21 Consideration of ideas related to accessibility in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	●	●	✕	✕
As aspirations for improvements	●	●	✕	●	✕	✕

[●]: Considered — **[✕]**: Not considered

New-Cairo is well connected to Cairo via a number of motorways and, according to NCDA (2007), the city has 1,153 km of paved road and street networks, is served by 22 suburban public bus lines, 3 local bus lines and around 220 licensed 11 seat private carriers (i.e. microbuses) as discussed in Chapter Five. However, it is actually important to interpret the findings here in the light of the current paradigm shift in transport planning which involves changing from 'mobility-based-analysis', which evaluates quality based on physical movement, to 'accessibility-based-analysis' , which evaluates the quality of transport system based on people's ability to reach desired goods, services and activities (El-Geneidy and Levinson, 2006). Therefore it is useful here to distinguish between mobility and accessibility.

El-Geneidy and Levinson (2006) argued that a person who owns a car might have a higher level of mobility than the one who does not, yet this does not necessarily reflect high levels of accessibility; at the same time high level of accessibility can be present with relatively low levels of mobility. These differences between accessibility and mobility are illustrated by one respondent (M, 30-40) living in Al-Rehab since 2005. He tells how accessibility to Al-Rehab City was one of the motivations in his decision to relocate:

> Working in downtown Cairo and living in Heliopolis [east of Cairo] meant driving two or three hours a day each way not to mention the hassle of parking...here [Al-Rehab] I use the City's bus which runs every 15 minutes...half an hour to the nearest Cairo underground station in Hadaey El-Quba and another half an hour to Tahreer Station...five to six minutes to my office...this means I did cut almost 50 percent from my travelling time per day...although now living further away *(Interview CON-R8)*.

Another example of how private transport affordability facilitated mobility and accessibility and where both were considered as a motive to relocate was embedded in the account of one respondent (M, 40-50) resident in Eskan El-Gehaz since 1999:

> Falling car prices and the availability of financing in recent years made it very easy to own a reasonable car with affordable payments...a car is important if you are living away from the city...I use the car to go to work in Cairo and I give my daughter a lift to her university on my way...but if I can't pick her up...she uses public transport to get back and this is not bad at all *(Interview CO-R5)*.

Despite the availability of public transport in New-Cairo, it seems that the presence of private transport is very important even if not used on a daily basis. This is emphasised by one respondent (F, 30-40) living in Eskan El-Gehaz since 2004:

> My husband and I do use the public buses or the private microbuses in commuting to our work in Cairo...this is fine if you use it between say 6:00 am and 11:00 pm...the problem is the night services where we usually rely on the private carriers...this is not at all safe specially for women and children who are commuting alone...living without a car here is not at all pleasant... you might need it in emergencies...we can't afford to own one and many of our neighbours can't either...therefore they [the authorities] have to sort out this problem by providing public buses at night *(Interview CO-R7)*.

6.5.3 Work Opportunities

As discussed so far, issues relating to affordability or accessibility were found to be important in shaping the economic dimension of liveability in the MPEs. Nevertheless they were not often considered as a top priority in respondents' accounts. Such a scenario is in line with Howley et al. (2009) when they noted that economic factors are still a constraint to residential mobility to a certain extent, although this is likely to be much less of an issue than it was previously. They added that greater accessibility levels, traditionally associated with maximising economic well-being, have now brought social and environmental well-being to the top of factors contributing to residential mobility. This clearly shows why data analysis revealed that only a few respondents from both low-income MPEs mentioned working in New-Cairo as a reasonsto relocate (Table 6.22).

Table 6.22 Consideration of ideas related to work opportunities in respondents accounts

	Eskan El-Gehaz	Eskan El-Shabab	El-Hay El-Khames	Al-Rehab City	Arabella Park	Mirage City
As motives to relocate	●	●	×	×	×	×
As aspirations for improvements	×	×	×	×	×	×

[●]: Considered — **[×]**: Not considered

This might be interpreted as the fact that people are more willing and able to commute long distances for employment and services in order to satisfy their residential needs, as Barcus (2004) argued,. Therefore, it is worth noting here that the substantial improvements in transport and income in Egypt in recent decades have facilitated greater possibilities of satisfying residential needs than ever before. This view can be explored in an account by one respondent (M, 30-40) who has lived in Eskan El-Gehaz since 2005:

> We were living in Ain Shams [North of Cairo] and I used to commute daily to here [New-Cairo because I was working in JW Marriot in 2003...I decided then to move here [Eskan El-Gehaz] in early 2005...we bought this flat and moved in less than three months...now after more than two years of living here I think we couldn't bear to live in Cairo any more...yes it is not the best place in New-Cairo but it is far better than living in Cairo...even if I will have to work in Cairo I will go on living here *(Interview CO-R12)*.

6.6 The Liveable Master-Planned Estate

The recurrence of motives and aspirations in respondents' accounts was mainly interpreted as an indication of both the most and the least issues affecting perceived liveability in the MPEs. Collectively across the six MPEs, issues perceived as related to the environmental dimension of liveability in the MPEs were found to be considered most often as pulling and pushing factors towards relocation. In addition, issues related to the socio-cultural dimension were also found to be given a high level of consideration. However, issues related to the economic dimension of the liveability in the MPEs were considered least in relocation decisions.

These findings are generally in line with the discussions in Chapter 2 concerning current residential mobility factors. One reason for this is that in the more developed countries, economic constraints were much more of a determining factor behind residential mobility than residential perceptions up to the 1970s (Clark, 1976). This was explained by the public's seeming inability to exercise their residential preferences for suburban living, due to employment centralisation (Dillman, 1979). This was the case in Egypt up until the 1990s as discussed in Chapter 4; individuals were frequently challenged to choose between either an attractive social and natural environment or economic well-being. Consequently, most people were pushed into living near urban centres. This has changed with the government's adoption of decentralisation polices.

In recent decades, non-economic motivations to relocate are increasingly held to explain mobility (Barcus, 2004). This is confirmed by findings here as it was found that environmental, socio-cultural issues considered ahead of the economic considerations in most cases. Such a scenario follows the argument of Clark et al. (2006) that people are currently giving greater weight to the social and environmental quality perceived in a particular urban environment in their decision process to relocate.

People are giving less weight to economic factors in their mobility decisions in Egypt for several reasons; the main reason appears to depend on the development of an efficient means of transportation combined with increasing incomes for some segments of society. This is in the line with Howley et al. (2009) when they recorded that the substantial improvements in transport and income in recent decades, not only in developed countries but also in some less developed ones, facilitated greater possibilities than ever before for people to satisfy their residential needs. Findings in this study therefore, challenge Toth's (1999) view that relocation in Egypt is solely a result of searching for better work opportunities, and thus a better financial position.

However, collectively across the different MPEs, the most considered aspiration for improvements in the conditions of MPEs was found to centre on issues perceived as related to the environmental dimension of liveability, together with issues related to the economic dimension. However, issues related to the socio-cultural dimension of liveability were found to be considered least. This supports the earlier discussions that economic factors are still a constraint to a certain extent, but that this is much less likely to be issue than it was previously. Some other issues remain important like environmental considerations, and this again supports our earlier discussion that people are currently giving more weight to any environmental quality perceived in a particular urban environment than to all other issues.

It is now becoming clearer that what was not an important issue in the relocation decision ,like for example the economic issues, became more important after moving and settling down in the new community. One explanation for this is perhaps the satisfaction of other residential needs. This is illustrated by Amérigo and Aragonés (1997) when they argued that objective attributes of the residential environment once evaluated, become subjective, giving rise to a certain degree of satisfaction or dissatisfaction with some attributes.

6.6.1 The Role of the Master-Planned Estate Physical Characteristics

Interestingly, a common observation from the interviews is that reasons to relocate or even aspirations for improvements are often related to the MPE's physical characteristics. In other words they are often related to the public sphere not the private one. This observation challenges the classic view of relocation behaviour in which residential mobility is usually prompted by either the inappropriateness of the current dwelling and or major life changes including demographic and employment issues (see for example (Rossi, 1955).

Such views from earlier studies have remained in place as most of the literature still emphasises the role of household and dwelling characteristics, and much less attention has been paid to built environment characteristics as a factor influencing residential mobility (Rabe and Taylor, 2010; van Ham and Feijten, 2008). For example, one informant (M, 60-70) and his wife (F, 50-60) resident in Al-Rehab since 2004 described how the attractiveness of the MPE as whole enabled them to compromise and move to a smaller flat:

> **M:** Before we moved here to Al-Rehab, we lived in Nasr-City for almost 14 years since we returning to Egypt after working for some years in Saudi Arabia...our flat was as huge as 300m^2...we loved it...when they started to advertise for Al-Rehab I personally said: oh NO! Not another new-community in the desert…that was in the late 1990s…years later…perhaps in 2002 we were invited by friends to visit them in their new house in Al-Rehab in the 1st phase...we spent a whole evening with them...and they took us for a walk…**F:** I still remember that night...we couldn't sleep when we came back home...**M:** I think we fell in love with this city at first sight...we decided to sell our flat and buy a house here….the prices were similar…**F:** the same week we went to the sales showroom, but unfortunately there were no units left in any of the first three phases of the city…**M:** it was sold out…as well as houses in the current phase…it was the 4th phase at that time...they advised us to book a 200m^2 flat that would be ready in 2 years or to wait until a new phase opened or perhaps to find somebody who wants to sell his 1st phase house …we were in a hurry and we didn't find any appropriate opportunity…we were feeling down after our dream of a house, but the idea of moving to this city was stronger…quickly we decided to book the 200m^2 flat and later if it becomes possible we can move to a house…**F:** we did only the first part...**M:** oh yes...but we are confident now after almost four years that we took the right decision…**F:** it is the best place you can live in Cairo, there is nothing missing...I mean nothing *(Interview CON-R7)*.

Another example, one respondent (M, 60-70), his wife (F, 50-60) and their daughter (20-30) who have lived in Al-Hay El-Khames since 2000 expressed their intention of moving out despite their satisfaction with their house:

> **M:** When I bought the plot in 1995…the traditional way to have a family house was to buy a plot and build on it...**F:** now you can buy a ready-built one in one of the many residential compounds…**M:** I was always obsessed with the idea of buying a plot and building my own home…I liked the future plans for the area...It seemed that it would be totally different from Cairo with its overcrowding and high densities…here the streets are wider...open spaces and greens are every where... I started to build our dream home...I was one of the very first to build in the area...I was keen to build it to the highest standards I could afford…the house was ready by 1998....but my wife refused to move in the beginning...**F:** yes the area was like a construction site and it was not nice at all…**M:**

> yes it was...but she agreed in the end...especially when I convinced her that the area would be finished in two or three years... we moved in 2000…**Daughter:** the house is perfect for us…but now after seven years since moving and twelve years since my dad started building the house the situation is the same or perhaps worse…**F:** people are still building and the area is still not finished...this was why I originally refused to live here…**M:** to be honest we can't wait any longer…we decided to move to one of the new residential compounds…we know that the house will not be as good or customised to our taste as this one…**F:** it's not about the house only...it's about the whole thing...**M**: yes I realise this now...we put the house on the market last year…but we haven't had a reasonable offer...as soon as we get one we will sell it and move out to a better place *(Interview SB-R3)*.

These two examples show how compromises have been made in terms of the dwelling in favour of the physical characteristics of the MPE. In the first example the compromises involved downsizing the flat from 300m^2 to 200m^2 to enable a prompt move to a desirable place, yet the second involved giving-up a dream house as a result of dissatisfaction with the MPE's physical characteristics.

6.6.2 Variations in Motives and Aspirations: Residential Satisfaction

As discussed so far the overall picture of human needs in the context of residential mobility are often related to the MPE physical characteristics. However, data analysis revealed that though there are similarities in motives and aspirations between some groups of residents, there are considerable variations between others. It was expected that these variations might occur according to respondents' socio-economic status. Surprisingly, data analysis in this study shows that this is not always the case, as it was found that reasons for relocation or aspirations for improvements often vary according to the MPE physical characteristics experienced by respondents. This is clear; example respondents who relocated to the Controlled MPE and the Improved-cooperative MPE had similar reasons to relocate. Equally, respondents who relocated to the Self-built MPE and the Cooperative MPE had similar aspirations for improvements in their MPEs' conditions.

It is possible now to group the MPEs in New Cairo according to their residents' satisfaction and according to the patterns of their motives for relocating there and

the aspirations for improvements. As discussed in Chapter 5, there are two approaches to enhancing liveability in the new MPEs in Egypt; first, the urban policy emphasis on infrastructures and second, the latching onto the landscape idea by some MPE developers. It was noticeable that the provision of infrastructures is mostly equal in all types of MPE in New-Cairo, yet the use made of the landscape has differed. Interestingly, MPEs with developers who embraced their landscape character as an important component of the development were found to be more able to satisfy residential needs. Therefore, it was found that residents of the Golf, Gated, Controlled and the Improved-cooperative MPE were more satisfied with their MPEs than residents of the Self-built and Cooperative MPEs.

It is evident now, however, that the landscape has a great effect on the satisfaction and dissatisfaction with urban environments. As discussed in Chapter 2, there is a connection between satisfaction and quality of life or urban liveability. To sum up, it is apparent from respondents' accounts that landscape character is an important factor in determining the perceived liveability in the new desert MPEs mainly because these deliver alternative residential environments that are more desirable than the ones in the inner city.

6.7 Conclusions

In this chapter the factors affecting residents' perceived liveability in the MPEs were examined. From this examination it became clear that non-economic reasons explain motives for relocation to and from the MPEs. However, aspirations for MPE improvement were found to concern non-economic factors as well. Overall, economic factors were found to be an important factor but people weighed it as less important owing to the ability of the MPEs' in New-Cairo to respond to different socio-economic capabilities. This was helped by developments in transportation and

by increasing incomes in some segments of the society which facilitated greater opportunities for people to satisfy their residential needs than ever before.

Discussion in this chapter revealed that the physical characteristics and, in particular, the landscape features of MPEs are the main factors that affect residential satisfaction. Therefore, residential mobility is triggered foremost by those factors and not by the dwelling characteristics or other life changes. As shown throughout the discussions, variations in the factors of perceived liveability occur according to the physical characteristics of the MPE and not according to the residents' socio-economic background. Therefore, similarities were found in the reasons for relocation between respondents from Controlled and Improved-cooperative MPEs. Similarities were also found in the aspirations for improvements in both the Self-built and Cooperative MPEs.

It can be concluded that the developers who considered landscape characteristics as an important component of their MPEs, were more successful in delivering residential environments that satisfied residential needs. As in Chapter 5, it was noticeable in this chapter that many respondents were pointing to the MPEs as communities. The discussions also revealed that the landscape practices of the MPE developers have direct and indirect effects on residents' perceived liveability. By focusing on the meaning of community and the agendas involved in landscape practices, the next chapter will examine the significance of the emphasis on both these ideas in the development of the MPEs.

Chapter 7

Liveability: Between Community and Landscape

Chapter Seven

7.1 Introduction

In Chapter 5 the strategies used to attract people to relocate to desert MPEs were investigated. The investigation however revealed that these strategies are built on transforming the desert plains into liveable places. For urban authorities, driven by urban policies, this transformation is based on ensuring the implementation of infrastructures and services. Yet for many MPE developers this transformation is based on highlighting the developments' landscape qualities and on addressing the MPEs as communities.

In the previous chapter the factors governing residential satisfaction in MPEs were explored in an attempt to understand the residents' perceived ideas of liveability there. From this exploration it was clear that the physical characteristics of an MPE and in particular its landscape qualities are the main drivers shaping this perceived liveability. Discussions in Chapters 5 & 6 demonstrated that the idea of community was used frequently by both the developers and residents of the different MPEs. Additionally, these discussions showed that the landscape practices of the MPE developers have direct and indirect effects on the residents' perceived idea of liveability. In this chapter the significance of the emphasis on landscape and community will be examined for both developers and residents of the MPEs.

By focusing on ideas of community and landscape, this chapter is the link between the macro and micro levels of the investigation. The aim here is to link the physical context of each MPE with the social process within it. The chapter therefore, will explore the meanings of community in the MPEs and interpret the different agendas involved in MPE landscape practices. Discussions in this chapter, as in Chapters 5 & 6, are based on data from the fieldwork as well as some findings from the previous chapters.

7.2 Community Formation

The idea of building a community through urban planning has a well-established history as discussed in Chapter 2. It was with the rise of master-planning in residential developments that the concept of community became the core of real estate developers' business, both as a marketing device and by facilitating the formation of communities (Grant, 2006). This has been partly influenced by the emergence of new-planning movements in recent years which have put the creation of locally-based communities at the centre of their work (Rosenblatt et al., 2009).

As discussed in Chapter 5, MPE developers in Egypt as elsewhere have latched onto the magical attributes of creating a 'community'. However, this should come as no surprise as the Egyptian Government has long named its main institution concerned with urban development as the New Urban Communities Authority (NUCA). Perhaps one reason for this is the view of the 'community' idea as possessing particular healing powers that can be administered to fix a range of contemporary urban and social problems (Bryson and Mowbray, 2005). This enthusiasm has both intrigued and alarmed more critical commentators (Rosenblatt et al., 2009).

It might seem that the term 'community' provides MPE developers with a convenient term for making sense of their developments' liveability. However, the issues surrounding the formation of 'community' in the MPEs are more extensive than could be captured simply, not least because of their tendency to create more questions that they apparently sought to answer. Talen (2000) highlighted the distinction between two possible forms of community formation in urban environments. For her this could be expressed through a sense of belonging or as localised forms of social interaction. However, the focus here will be on the ways in which the term 'community' has come to deploy discourses of 'liveability' in the MPEs.

It is not only MPE developers who deploy the ideas of community in MPEs. Interestingly, it was found that many ideas put forward by residents interviewed from the different MPEs bore a relation to some domains of sense of community. This implies that there might be a connection between developers' practices and the sense of community, which is reflected accordingly on the overall perceived liveability in the MPEs. To clarify this connection it is useful, therefore to build on Kim and Kaplan's (2004) framework of bridging the gap between physical and psychological attributes that contribute to sense of community in residential environments. As discussed in Chapter 2, this framework identifies four domains of sense of community; 1) community attachment, 2) community identity, 3) social interaction and 4) pedestrianism.

7.2.1 Community Attachment

Hummon (1992) argued that when residents find their residential environment satisfactory they are likely to experience a strong place or community attachment that leads to a greater sense of community. This explains why many interviewed residents were found to be relating many consideration of a move from their current MPE to their overall satisfaction with it. Therefore, it was found that the majority of respondents satisfied in general with their residential settings, as for example respondents from Eskan El-Shabab, were not considering a move out in the near future. Yet many respondents, who were less satisfied, such as respondents from Al-Hay El-Khames, did consider moving out as a distinct possibility.

Another important generator of sense of community is the attachment residents feel to their place because it reminds them of their history, tradition or familiar environmental characteristics (Giuliani, 1991; Sampson, 1988). However, this is not the case in New-Cairo. As discussed in Chapter 5, most MPE forms are new within the residential development scene in Egypt, mainly because they are no longer 'only' catering for those on low-incomes (i.e. public housing) or for temporary residences

(i.e. holiday homes). Therefore, it is clear that the residential environments that they offer are different from those their residents are used to. However this did not prevent many respondents from considering sense of community as an important reason for relocating to their particular MPE. For example a respondent (M, 30-40) who is living in Arabella Park since 1999 expressed this in his account:

> When I come back to Arabella I feel like I am emerging from prison to freedom...living here is like living in a small European town or village...people here know each other...this gives a wonderful feeling...it is indeed different from living in Cairo...there is nothing here that reminds you of being in Cairo except perhaps the car number plates *(GAT-R2)*.

Long-term residence can lead to long-term social integration which creates a sense of community by building-up emotional bonds between residents, their homes and their wider community (Goudy, 1982). This may be true to a great extent. However data from New-Cairo shows that when it comes to residential satisfaction this bond may be weakened. The case mentioned in Chapter 6 concerning the family who spent 12 years in building their dream home in Al-Hay El-Khames shows that even this long period is not enough to create this bond. They were not at all satisfied with their MPE and one of the main improvements they wanted centred on the current absence of sense of community. Another respondent (M, 40-50) living in Eskan El-Gehaz since 1997 expressed dissatisfaction with the MPE and his willingness to leave the area despite having lived there for 10 years:

> Because we are poor they [the local authority-the developer] think that we don't have the right to live in a proper place...my children have many friends here...me too...I have been living here for almost 10 years now...I do have many memories here in this place...if I have the chance to move to another place I will do so...but unfortunately I can't afford it *(CO-R8)*.

Appleyard and Lintell (1972) highlighted that home ownership as a fundamental factor that increases sense of community through a greater attachment to place. Once again in New-Cairo this was not the case; it was found that many respondents who were tenants were very much attached to their particular MPE. For example a

respondent (F, 30-40) who has lived in a rented flat in Al-Rehab since 1997 articulated this in her account:

> The landlord told us when he was renewing the contract 5 years ago that most probably he will need the property by the end of the contract for his son when he marries...the contract ends this year...I told my husband if the landlord didn't renew we have to find another flat here in Al-Rehab and even if we didn't find a nice flat like this one I will accept anything here in Al-Rehab...I can't see myself and the kids living anywhere else...I think my husband shares this with me...[he nodded his head accepting her comment]...anyway let's hope he renews it since I love the house too *(Interview CON-R1)*.

7.2.2 Community Identity: Physical and Social Characteristics

Sense of community can be enhanced when residents are able to associate themselves with their residential environments or with the type of people they live amongst (Twigger-Ross and Uzzell, 1996). In New-Cairo, there is convincing evidence that many respondents were motivated by the MPE's physical characteristics in their relocation decisions in order to distinguish themselves from others. This desire for distinctiveness is one of the principles of community identity (Feldman, 1990). The MPEs' physical characteristics in this sense function in a similar way to social class, and therefore community identification with place can be thought of as comparable with class identification. For example a couple (M, 20-30 and F, 20-30) who have lived in Al-Rehab since 2003 expressed such a scenario in their account:

> **F:** when you are living in Al-Rehab...you are living in Al-Rehab...this makes you feel like you are living in a place which is different and which you can be proud of...**M:** actually people here call themselves *El-Rehabia* [The Rehabians]...**F:** when I talk to somebody at work and they know that I live in Al-Rehab they automatically say to me so you are *Rehabia*...it is good to be linked with such a nice community *(Interview CON-R6)*.

It is suggested that the desire for distinctiveness is related to a desire to maintain the link between the previous and the current residential environment (Lalli, 1992). In many cases respondents mentioned that they were motivated to relocate to a particular MPE because of the privilege of continuing to live among a similar social class in order to maintain a degree of sense of community (see Section 6.4.5). For

example a respondent (M, 50-60) who has lived in Mirage City since 1999 confirmed such ideas in his account:

> Currently in Zamalek where we used to live things are scrambled...in the past it used to be a classy quarter...a quarter in which Pashas preferred to reside...now anyone with money lives there...Here [in Mirage City] you can be a hundred percent sure that the people surrounding you are people from genuinely classy backgrounds, not just those with extra cash in their pockets...thanks to the developer who selects who will live here *(Interview GOL-R2)*.

However, in some other cases this was not the issue, especially when the relocation related to social mobility (see Section 6.4.7). In those cases respondents were trying to associate themselves with different groups in order to be identified as belonging to this particular group. Hormuth (2010) suggested that choosing to relocate to a particular residential area can represent an attempt to change self identity by associating the old-place with old-self and the new-place with new-self. For example a respondent (M, 50-60) who has lived in Arabella Park since 2001 expressed such idea in his reasons for relocating:

> I spent many years away from the country to guarantee a better life...a life for my children than the one I had when I was their age...I sent them to private schools and universities...you know youngsters in those places look to each other...I wanted them to be equal to their peers *(Interview GAT-R1)*.

Living in a residential environment which responds to its residents' needs and demands helps to make them feel self-efficacious, which in turn reflects on their sense of community (Twigger-Ross and Uzzell, 1996). Therefore it is not surprising that many respondents who showed overall dissatisfaction with their MPE as a result of its deficiency in fulfilling their residential needs were frequently considering a lack of sense of community in their accounts.

7.2.3 Sense of Community through Pedestrianism

Many respondents considered as important issues related to pedestrian safety (section 6.3.5) and to children's needs to play safely around the residential area

(section 6.4.6). For example one respondent (F, 40-50) who has lived in Eskan El-Gehaz since 1998 told of her appreciation of having sidewalks and footpaths in her MPE:

> We walk from here [her flat] to the bus stop or to the shops without the need to cross the streets... in general crossing streets here in New-Cairo is a very dangerous thing... streets here are wide and they encourage people to drive very fast *(Interview CO-R2)*.

Another respondent (M, 40-50) who has lived in Eskan El-Shabab since 2003 and who expressed the importance of air quality in his account in section 6.3.1, stressed furthermore that one of the things that motivated him to take the relocation decision was the ability of Eskan El-Gehaz to provide an outdoor environment that responded to his children's needs:

> The outdoors here is designed to make families feel comfortable when their children are playing outside on the common greens...when my children are playing outside I don't worry because I know that as they are not playing in the streets they are safe...actually my daughter needs to be outside very often for her asthma...she has to breathe fresh air *(Interview ICO-R6).*

Despite the fact that the first can be seen as an environmental factor influencing the residents' perceived liveability, and the second as a socio-cultural factor, both might be seen as factors that improve sense of community. Such an interpretation illustrates the proposition of Alexander et al. (1977) that if movement within the residential environment encourages safe walking, it is likely to improve sense of community.

Similarly Brower (1996) argued that when residents of a particular area can access necessary services from within an easy walking distance, it is likely that they may feel a greater sense of community. Therefore, it is not surprising that many respondents, as discussed in Section 6.3.5, mentioned that the fact that distances to different services were walkable appealed to them when taking the decision to relocate. For example one respondent (F, 50-60) and her husband (M, 60-70) who have lived in Al-Rehab since 2004 mentioned such ideas in their account:

> **F:** Here in Al-Rehab people move around and walk a lot to different areas of the community...I go to the shopping mall or the market with my shopping trolley...not just me but many people do the same...when we were living in Nasr-City we had to drive everywhere even if we wanted something from the corner shop...here even my husband who loves playing tennis walks to the club...**M:** oh yes I start my warming up session when I leave home...the club is about 12 minutes walk away...when we were living in Nasr-City I had to drive to the club which was nearly 15 or 20 minutes walk away...**F:** but you wouldn't do it in any case in Nasr-City...but here it is a pity if you don't …. you don't have any reason not to walk *(Interview CON-R7)*.

As discussed in Section 6.3.6, many respondents considered issues related to streetscape such as the quality of street furniture and street arrangement in their relocation decisions or their aspirations for improvements. Although this can be interpreted as an environmental factor that affects the resident's perceived liveability, it could also be understood as a factor that enhances sense of community. Such a scenario follows Gehl's (1996) suggestion that an enhanced sense of community can be achieved by streetscapes designed to create high-quality environments by helping residents to feel comfortable in their engagement with street-side activities.

7.2.4 Formal and Informal Social Interaction

When appropriate, residents were asked in the interviews about the nature of their involvement with neighbours and other people living in the same MPE. Furthermore, they were asked about any involvement in discussing issues related to the MPE with other residents or in the residents' association. Although many commentators, such as Glynn (1986) for example, highlight that interaction between neighbours is a significant factor in maintaining a sense of community in a given residential area, many respondents expressed little desire to become involved with neighbours or other residents within the MPE. They often relate this to issues of privacy as discussed in Section 6.4.1. For example one respondent (F, 50-60) who has lived in Al-Rehab since 1999 expressed such an idea in her account:

> My neighboura are very nice and very friendly but in the same time they mind their own business...I live alone and you know this used to be culturally unacceptable...but here no one interfere in your own private zone...yet at the same time if I needed help I can find many people who are willing to do so *(Interview CON-R3).*

Oldenburg (1989) suggested that informal social contact between residents of the same area and who are not immediate neighbours helps to increase sense of community. In many cases, respondents did not show a great desire to interact with residents living in the same MPE despite the fact that they relocated because of the sense of community that can be experienced in a particular MPE. For example one respondent (M, 40-50) who has lived in Eskan El-Shabab since 1998 mentioned issues related to sense of community in his motives for relocating in his reply when asked about the nature of his involvement with people living in the same MPE but are not immediate neighbours:

> No I don't get involved with people who are not known to me even if I know they are living in the same area...why should I get involved with strangers?...I get involved with people who I know like my neighbours, or people I meet in the mosque but not others...I want to save myself the hassle...more involvement with people brings more problems than benefits *(Interview ICO-R2)*.

This puts into question the nature of the sense of community taking place in the MPEs. However, it is well documented that sense of community can be enhanced by the individual's active engagement with other residents when dealing with common concerns related to their local area (Rothenbuhler et al., 1996). While many respondents in their accounts were considered with issues related to an improved sense of community, few indicated a need to be involved in the MPE. For example one respondent (M, 40-50) and his wife (30-40) who have lived in Al-Rehab since 2001 and were expansive in their account that Al-Rehab gave the feeling of living in a real community, still refused to get involved in the residents' association:

> **M:** we wanted to be involved in the residents' association when they sent us a letter asking for volunteers...we wanted to show our interest...we were enthusiastic about it because this is the real meaning of living in a complete community...we went to the first meeting....**F:** and it was our last....**M:** we couldn't believe that people who you meet around and who are friendly and smile to your face are the same people who attend the

> meeting...there was no agreement on anything and people were shouting as if they were in a war...we decided never to get involved again...it seemed to us that it was better to keep away if we still wanted to enjoy living here *(Interview CON-R5)*.

One more thing that can maintain the sense of community in residential areas is friendship networks or family ties that foster feelings of caring and support (Fleming et al., 1985). This might explain why some respondents considered an important motivation in their relocation decisions such issues as living near friends or family, as discussed in section 6.4.5.

7.2.5 Contemporary Nature of Community

With few exceptions, many MPEs developers in New-Cairo have tried to translate the formation of a community in the MPEs into particular public realm design manifestos. For example, the marketing officer at Talaat Mustafa Group, the developer of the Al-Rehab Controlled MPE, alluded to such practices in his account:

> The spectacular landscaped open spaces from clusters of common greens to the central green areas; all are designed to let people from different areas meet and get to know each other...when they get to know each other they will have emotional connections between themselves and to the place...then they will feel that they are living within a big family and are not isolated *(Interview CON-D4)*.

There was no evidence that the developer of Al-Rehab took the community idea beyond the physical design. Therefore, this appeal to 'community idea' in Al-Rehab seems to be enhanced by the physical characteristics of the estate alone. Such approaches are often criticised in the literature. This is because the attempts to build a liveable community through this kind of practice have been strongly criticised for their physical determinism (Talen, 2000; Audirac et al., 1992). In contrast to Grant (2006), who argued that building a community through physical intervention has been shown not to work in practice, evidence in this study confirms that the physical characteristics have both direct and indirect effects on the sense of community in the MPE. It can be argued here, in line with Talen (1999), that the physical

characteristics of residential environments may be able to create a favourable situation for the formation of a community characterised by contemporary change in the nature of social relations.

Although some MPE practices in New Cairo were able to support a sense of community on different levels, they failed to increase traditional forms of community. This could be because they *"neglect to take into account current dominant social conditions such as increasing social differentiation and consumer culture",* as suggested by Brindley (2003:63). The changing socio-cultural and socio-economic conditions of contemporary Egyptian society as in many other societies has been characterised as increasingly individualistic and relations within the society as liquid, highly mobile and impermanent ((Jarvis et al., 2001; Bauman, 2000; Urry, 2000) Urry 2000). Such factors however lead to reduced time spent on face to face interaction (Wellman, 2001).

The trend is towards increasingly privatised or semi-privatised nature of resident activities in particular places such as social clubs or cafés, where intimate personal relationships predominate over more public forms of engagement in the communal space (Wellman, 2001). Therefore, the findings advocate that, rather than seeing these trends as a demise of community, it may be seen as basically symbolising a shift in the nature of communities and therefore, in the meaning of contemporary community in Egyptian MPEs.

Social interactions between residents are limited, yet at the same time the findings show that many respondents considered moving to the new MPE to become part of a community. This is consistent with the idea that people are more likely to feel part of a particular community even if they have no face-to-face interaction or effective participation in that community (see for example (McBride, 2005; Savage et al., 2005). In this particular case the community formed in the MPE is what Anderson'(1983) called the 'imagined community' or Wellman (1979) called the 'liberated community'.

The sense of community in the MPEs becomes associated with a feeling of belonging, affiliation or membership of a particular location rather than as a consequence of being involved in social interactions (Amit, 2002). In line with Resenblatt et al. (2009) it could be argued that despite the diminution of the traditional meaning of community and its association with physical or social interactions, people still retain strong sentimental ideas about sense of community in their residential environments.

In New-Cairo, the most ardent champions of 'community' are the private MPE developers. Therefore it is not surprising that distinctiveness and status are also involved in the shifting nature of community in these MPEs through the growth of consumerism. Such ideas are becoming the guiding rationality for the conduct of social life as argued by Baudrillard (1998). Particular lifestyles in New-Cairo MPEs are demarcated by different forms of consumption which are clearly reflected in the distinctive differentiations in the characteristics of the different MPEs.

As seen in the previous chapter, respondents motives for relocating to a new MPE together with their aspirations for improvement are shaped by the desires for aesthetically appropriate forms of consumption, as Hayward (2004) suggests, rather than by normative considerations of collective needs. Therefore, it is suggested here that while consumerism has been one of the major factors shaping most MPEs in New-Cairo, it should be not be a surprise that the idea of community has become associated with the aesthetically appealing characteristics of MPEs.

It is notable now that, in addition to the suggestive images of communal life that have been heavily used to promote to a wide range of commodities in the MPEs in New-Cairo, the idea of community itself has been offered and perceived as an aesthetically desirable amenity. Such practice follows Marshall's (2000:xvi) argument that community in the new MPEs is usually offered as an *"option, rather than a fact of life".* However, the transformation of the meaning of 'community' into a product

of consumption has faced wide criticism when perceived as the general 'commodification of community' (see for example (Bartling, 2004).

There is a danger in viewing the idea of community as a commodity since this ignores the social dimension of the very idea of community as involving interaction and participation. Nevertheless, it could be argued here that there is a strong connection between the residents' perceived liveability in the MPEs and their sense of community. Both are to a great extent based on the physical characteristics of the MPEs, and hence on their landscape character.

7.3 Landscape Practices

It is now clear the extent to which landscape practices can respond to residential needs in the MPEs and hence, to the residents' perception of liveability. Landscape could be a specific territory or the entire physical environment; the first is two-dimensional and the second is three-dimensional. In both cases it is definable through its social, visual and ecological aspects; thus, landscape is a mixture of everything present, spatially distributed over the surface and sometimes extended above and below the surface (Kaplan, 2009).

As discussed in Chapter 5, in spite of the fear of the desert's harsh nature in New-Cairo, landscape is offered in the MPEs as a development component that makes it a 'good' community. This landscape is not a natural one, but totally constructed through developers actions that are conceived mainly visually and experientially. To analyse these landscapes we must follow the perceived forms from the beginning to the fulfilment of their multifunctional roles in the provision of a sustainable milieu of human living (Terkenli, 2001).

In Chapter 2 the idea of reading a culture's landscape (Lewis, 1979) was introduced. It is noted that it is unlikely to be a direct reading of the landscape in any fulfilling sense, but that it is possible to analyse it, search how it is made, explore its function, understand its history and therefore to find out what it says as regards the status of a just world in the *here* and *now* (Mitchell, 2008). However, these practices have been offered to people as 'readymade' products. The question now is how landscape practices in these arid-zone MPEs can be interpreted? Meinig (1979) argued that landscapes comprises what people see and their perception of what they see; at the same time, landscape is interpreted by the mind, and therefore, the reader of the landscape is integral to its meaning. Thus, the same landscape might mean different things to different people in different situations. The current landscape practices in the MPEs in New-Cairo will be examined in the light of the agendas behind them.

7.3.1 Physical Intervention: Realising Values

In New-Cairo, the MPE landscape is actively produced; it can be conceived as a pure physical intervention into the desert plains surrounding Cairo and thus it is an act of determination. This determination is usually operated solely by developers and without any involvement from residents. To interpret *"what a landscape is, what it does and why it looks the way it does we need to pay attention to both the broad and the narrow relations of production...that are always struggled over"* (Mitchell, 2008:34). Landscape practices in the MPEs can be seen through the lens of relations of production, as both a consequence of struggle over the aridity of the region and a way to end this struggle by transforming its harsh nature. Landscape is therefore produced as a service that is essential for the existence and convenience of humanity (De Groot et al., 2002).

Like any aspect of the built environment, landscape in the MPEs is produced for specific reasons. Any landscape is functional by nature; functions can be translated into services when they are valued by people, although, functions might exist in the

absence of people (Termorshuizen and Opdam, 2009). In New-Cairo, the first, if not always obviously the foremost function of landscape in the MPEs for the developers is either to directly realise value (i.e. profits) or to establish the conditions (i.e. liveability) under which value can be realised. Accordingly it is not surprising, to see the private sector developers are tackling the issue of landscape more seriously than the public sector, as discussed in (Chapter 5). This is articulated well by the improved-cooperative housing officer at NCDA:

> Those private companies have the means to spend on their developments...it is what they do...they spend and in return they gain high profits...we can't do this...although we are trying but our resources at the end of the day are limited...of course there is no way to compare developments that are purely dedicated to profit with ones like ours which are dedicated mainly to helping people with housing *(Interview ICO-D2)*.

Landscape in New-Cairo is produced through investment that is coordinated through multifaceted fiscal market actions. Therefore, this constructed landscape is a complex investment arena for developers. Like any investment landscape it is speculative, but some developers in New-Cairo do invest in landscape in anticipation of future profits. Although landscape itself cannot guarantee these profits, in general developers invest in the landscape in the belief that it will create conditions for the realisation of sometimes greater profits than anticipated.

For example the cooperative housing officer at NUCA pointed out that the provision of more attractive buildings and vast green areas in Improved-cooperative MPEs is more expensive in the short term but in the long term can secure increased profit: *"yes it cost slightly more than the old schemes but it would cost more to have empty cheaper ghost communities (Interview OI-CG1)".* Similarly in Al-Rehab, the Marketing officer at Arabella Developments in Arabella Park explained:

> We are more generous than our competitors in terms of spending on the details of the outdoors features in our developments...the type of people who want to live in a community like Al-Rehab want more than a flat or a villa...such people want a package of services that comes with the flat or the villa *(Interview CON-D4)*.

Findings in this study confirm that landscape in the MPEs can be seen as functional, by reason of its ability to respond to residential needs in the MPEs. Nonetheless, for developers the realisation of exchange value is its main incentive. This is perhaps under neoliberal market mechanisms; as Harvey (2007:234) argued *"all aspects of the production and use of the built environment are brought within the orbit of the circulation of capital"*.

Some developers freeze some capital in the landscape in order to heightening their revenues. There are no clearer examples of this than the practices followed in both Arabella Park and Mirage City. The first froze capital in the park and the second did the same in the golf course; both developers did this before starting the development and used it as a promotional tool for each MPE. The resulting landscape is indeed functional in the sense that it functions within the struggled-over social relations of production, and hence, landscape serves a purpose (Mitchell, 2008).

Landscape practices can be interpreted here as the attribution of developers 'incentive and development promotions. In Meinig words (1979), landscape practice in New-Cairo can be seen as both 'artefact' and 'wealth', and the interpretation of landscape practices there as attribution of developer incentive is based on an anthropomorphic view. MPE developers in this interpretation have conquered nature and reshaped it to their purposes, and use it as a means of self expression; developers consider their MPE as ecologically dominant and superior to nature. However, the interpretation of landscape practices in the MPEs in New-Cairo as a development promotion is based on the ownership of land, as the primary value of landscape is economic. In this interpretation the MPE developers translate their landscape practices into economic units and give great consideration to market influences, those external conditions that influence value, in accommodating the support systems necessary to service and promote their MPEs.

Figure 7.1 Landscape practices in New-Cairo as artefact and as wealth

Both, interpretations of landscape practices here usually face many aggressive critiques which see it as a confrontational relationship. Those interpreters see landscape as nature, therefore hold nature as dominant and humans as subordinate (Meinig, 1979). This view separates people and nature, and sees MPE developers in New-Cairo and their landscape practices as aggressors and despoilers of nature. It can be argued here that in order to understand the meaning of landscape practices more accurately, we have to reflect in detail on the context in which they occur (Lewis, 1979).

7.3.2 Context Influence: a Product of Struggle

The influence of the context on a particular cultural behaviour might explain many of landscape practices because cultures dictate that certain activities should occur in certain places (Lewis, 1979). This is true since living in the desert does not speak for itself in Egypt, as it symbolises the realm of the dead in Egyptian culture and remains associated to this day with successive displacements of cemeteries (Singerman and Amar, 2006). Therefore, some MPE developers in New-Cairo work hard to turn the desert's ochre soil to green in order to render the desert attractive to people, and to waive away the idea of living in a desert with its associations as a place for cemeteries. The cooperative housing officer at NUCA explained:

> For many years people called the desert new-cities the *torab* cemeteries...to be honest they were pretty much alike...some break boxes in the middle of nowhere...we had to change this centuries old idea in people's minds...for thousands of years Egyptians lived in the green valley and buried their dead in the desert...[for this reason we are now providing] attractive buildings in attractive settings with vast green spaces in between *(Interview OI-CG1)*.

In this sense Lewis's argument that landscapes make little cultural sense if studied outside their context is definitely correct. Although this argument might be 'incomplete' because landscape practices might make little sense culturally if they are 'only' studied in relation to their nearby surroundings (Mitchell, 2008). For example, landscape practices in the MPEs in New-Cairo will appear totally alien if studied only in relation to the surrounding context of desert, but makes more sense if related to the wider context of the region. Therefore, Toblar's (1970) first law of geography, in which everything is related to everything else, but things that are nearer are more closely related than things at a distance, seems to be relevant to the landscape practices in New-Cairo.

This is more evident in the notable nostalgic view of a vanished late-nineteenth, early-twentieth century 'liberal era' of Egypt, as many MPE developers in New-Cairo, especially in their landscape practices, are usually keen to harp back to the positive image of Khedive Isma'il's Cairo with its (Haussmannian-Paris-like) tree lined boulevards, public squares, parks, villas and apartment blocks. In many cases this reconstruction of nostalgia becomes an essential argument in promoting their desert developments. The Marketing officer at Arabella Developments, the developer of Arabella Park, explained:

> We provided our customers with what they needed...we returned them once again to the golden age of Ismailian Cairo...when Cairo was called Paris on the Nile...with many parks...clean...and chic buildings...actually many of our customers were brought up in Zamalek or Garden City...of course the Zamalek and Garden City of the past not the current ruined ones *(Interview GAT-D5)*.

This representation of history in landscape practices is not somehow immanent in the landscape itself; rather it is a product of struggles over meanings that are

attached to landscape (Mitchell, 2008). Landscape practices here can be interpreted as a synergistic resource and a cultural expression. In Meinig's words landscape practices in New-Cairo can be seen as 'habitat' and 'ideology'(1979). The explanation of landscape practices in New-Cairo MPEs as a synergistic resource is based on the integration between people and a managed nature. MPE developers in this sense interact with the nature of the desert, accept its basic organisation, structure and behaviour, and modify it so as to transfer its materials into resources that sustain and improve quality of life.

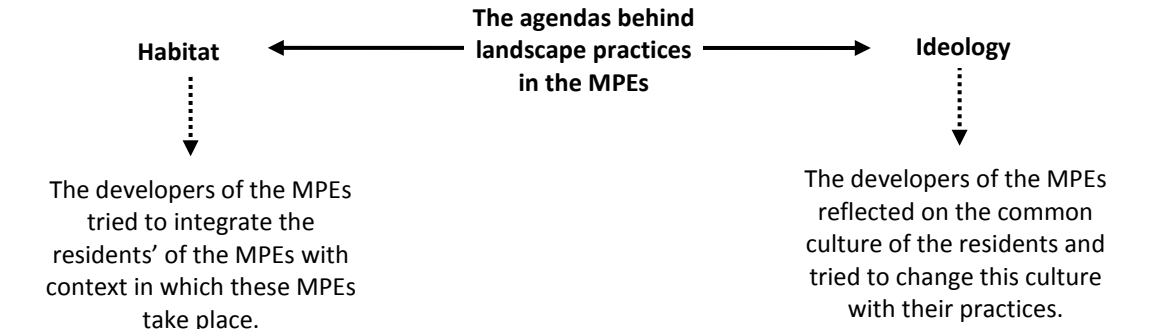


Figure 7.2 Landscape practices in New-Cairo as habitat and as ideology

However, the interpretation of landscape practices in New-Cairo as a cultural expression is based upon the view of landscape as the symbol of the values, ideas, aspirations, hopes and dreams of a culture. In this view the landscape practices of the MPE developers can be seen as the physical expression of the culture; thus, changing the landscape changes the culture, and changing the culture changes the landscape.

7.3.3 Expression of Power: a Governance Tool

Many MPE developers in New-Cairo adopt an intense interventionist approach to their estates in order to maintain their position in the real-estate market. The aim is usually to ensure that the quality of their developments is not compromised during and after the construction phase. This mainly involves ensuring the implementation

and the upkeep of the estates' landscape to the highest standards so that it will continue to attract potential residents both to it and to of the developer's future projects. While the communal spaces are legitimate and relatively easy sites of intervention for the developers, the private ones are harder to govern. To overcome this situation, some developers govern the estate by setting legally-endorsed conventions of any alteration to the estate landscape by residents; these include modifications to buildings and street front appearances. Consequently, residents who deviate from these guidelines receive notice of their legal obligations, and are usually asked to return things to the original status themselves or at their own expense, while failure to do so might subject them to legal action by the developer. As the Marketing officer at Talaat Mustafa Group, the developer of Al-Rehab, explained:

> We are doing here [in Al-Rehab] what the local authority is failing to do in the rest of New-Cairo...in the sale contracts we clearly state that any modification to the buildings, facades or private gardens should be approved by and through us or at least under our supervision....this is to insure the quality of the development's appearance, not just for us but also for its residents *(Interview CON-D4)*.

Landscape practices in the MPEs in New-Cairo can be seen, therefore, as an expression of power, an expression of who has the power to define the meanings to be read into and out of landscape practices, and to determine just what will exist both in and as the landscape (Mitchell, 2008). Foucault (1982) argues that this form of governance is practical as governmental authorities pose themselves a series of problematisations about the territories, techniques and rationalities of rule. This form of governance is implemented with varying degrees of success. The danger occurs when ambitions change, as argued by (Dean, 1999).

Despite the neoliberal-authoritarian political system in Egypt, the exercise of rule is no longer exclusive to the state, especially in urban development, but is increasingly enacted by different actors. Therefore, the expression of power by some landscape practices in New-Cairo can be understood as a governance tool which the MPE

developers use to deal with the development and its residents. These practices could be seen as undermining individual freedom of expression, yet data analysis in this study suggests that these norms of convention are welcomed by residents as a desirable aspect of living in a MPE. This is expressed by a respondent (M, 30-40) who has lived in Al-Rehab since 2002:

> Here in this community [Controlled MPE] you can't install even a satellite dish or an air conditioning unit without getting permission from the developer...and you might get fined if your front garden is not tidy and clean...they are very strict most of the time about whatever might hinder the overall appearance of the community...this make it here a different place to live...we would be worried if they started to be more relaxed about the upkeep of the community *(Interview CON-R4)*.

Hence, the lack of enforcement in some cases was a prime issue of concern as articulated by a respondent (M, 50-60) who has lived in Al-Hay El-Khames since 2002:

> They [the developer] need to enforce the standards they set when they advertised this estate [Self-built MPE]...people should not be left to do whatever they want in their houses, facades and street frontage...this effects the look of the whole estate as well as our property value and our quality of life...they [the developer] do not follow through on any standards they promoted when we built here...they are not doing what they need to do [for the upkeep of the estate] …… they are not enforcing any standards on people *(Interview SB-R5)*.

These show that there is a strong interest between residents and MPE developers to enforce local landscape conventions. It seems that the interventionist approach of some MPE developers to their estates, ensuring the implementation and upkeep of the estate's landscape to the highest standards, no longer needs to be justified as it is welcomed by the residents themselves. It is the lack of intervention that is likely to require justification. Landscape practices here can be seen as expressions of underlying processes and as problem solver. In Meanig's words, landscape practices in New-Cairo can be seen as both 'system' and 'tool'(1979). The interpretation of landscape practices in MPEs in New-Cairo as an expression of underlying processes is based on the holistic view of landscape as a system consisting of interdependent subsystems.

Figure 7.3 Landscape practices in New-Cairo as system and as tool

In this interpretation, MPE developers consider the quality of landscape as essential to the residents' quality of life, and residents' quality of life is an expression of a high quality landscape system. However, the understanding of landscape practice in New-Cairo as a problem solver is based on the idea that natural and human-made elements of the built environment pose a situation needing intervention and correction. Therefore, landscape practices of the MPE developers can be seen as functional, infrastructural, behavioural or aesthetic problem-solving tools.

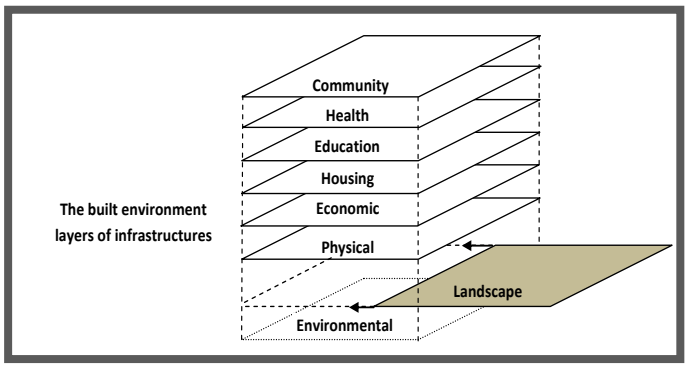
7.4 Conclusions

In this chapter the interactions between strategies to enhance liveability and factors of perceived liveability were examined, focusing on meanings of community in the MPEs and the agendas involved in landscape practices. From this examination it was found that many of the factors in residents' perceived liveability are related, either directly or indirectly, to some domains of sense of community. It was found also that many sense of community domains are related to the physical characteristics of the MPEs and particularly to their landscape. Interestingly, while these physical characteristics were able to support a sense of community they failed to increase social interactions between residents. Therefore, community in the MPEs was found to be associated with the feeling of belonging, affiliation, membership of a particular

MPE, rather than involvement in social interactions. Consumerism is one of the main factors outlining most of the lifestyles in New-Cairo. Consequently the idea of community itself is consumed as one of the commodities available in the MPEs. In addition to this, the community idea has become associated with aesthetically appealing characteristics of MPEs.

Discussion in this chapter revealed that the agendas behind the developers' landscape practices are mainly demarcated by maximising profits or establishing conditions for maximising profits. Nevertheless, these practices can be understood as an influence of the context which led them to become a product of the struggle against the aridity of the region. Hence, landscape was used as a tool to solve the problem of the harsh desert by turning it to a liveable place. Landscape practices in the MPEs, therefore, can be viewed as functional, infrastructural, behavioural or aesthetic problem-solving tools, and also as services.

Every service or infrastructure has a superstructure (Ennis, 2003); the question now is what form the landscape superstructure takes. Ennis (2003: 10) argued that "*to understand the nature of the superstructure it is necessary to understand the purposes of infrastructures, which is to provide a basis for human activity".* Individuals make use of infrastructures to create opportunities to advance their desire to enjoy the good life. Therefore, the superstructure is the social and cultural action which is made possible by the existing infrastructure. MPE developers provide empty spaces which are given significance by people's choice to relocate to them and to make them liveable. Hence there is no liveability in a space without people. People's actions make a place liveable or not. Landscape practices in the MPEs are created by ideas and concepts which 'theoretically' emerge to fulfil people's needs; therefore, these needs form the superstructure of the landscape. It is found that landscape is an important tool to enhance residents' perceived liveability; therefore it might be useful to think of landscape as an infrastructure. This idea will be expanded in the following and final chapter.



Chapter 8

Landscape as Infrastructure:

a Concluding Discussion

Chapter Eight

8.1 Introduction

> It is increasingly obvious that environmental perception is extraordinarily complex. The features of the environment which are seen as important, the way they all combine into the perceived environment, and the way the quality of this perceived environment is evaluated are not only complex but variable...although this variability is lawful and shows regularities. The man-environment interaction is thus crucially linked by perception and cognition and this, in turn is affected by culture.
> **Rapoport (1970:81)**

This study has explored the link between the development of liveable communities in the MPEs and landscape characteristics in New-Cairo. It aimed to contribute to the debate on landscape practices in the desert MPEs, going beyond the rejection discourses. Landscape in the Egyptian MPEs and particularly in its green representation, is usually seen as alien to the surrounding natural environment, requires vast outlays of resources and is largely disconnected from local culture. Therefore, it is not surprising that there is a general rejection of it in the relevant literature, and, when rarely accepted, is seen as something nice to have rather than something essential. A possible reason for this is that most of these studies barely consider anything beyond the physical features and give scant consideration to consider people's needs in such residential environments.

By combining both the social processes and the physical context, this study has demonstrated the significance of landscape characteristics in the MPEs, particularly when related analytically to their residents' perceived liveability. As a result, this study confirms that the landscape characteristics of desert MPEs are an important tool in enhancing their liveability. Therefore, it argues that landscape needs to be given a high significance equivalent to infrastructures in the development of the MPEs. Such an argument can be understood in terms of discussion of residential environments that fulfil human needs.

In this final chapter the aim is to draw together the various interlinked issues which have been raised in the study. These will be discussed in turn, and references will be

made to the findings of particular chapters where appropriate. Thus, the reproduction of a comprehensive summary of all the findings and conclusions of each chapter is clearly not the aim here. This chapter commences by returning to the research question and reflects on the aims and objectives which have directed the study and which have led to the proposal to consider landscape as infrastructure. It will move on to link this proposition to the main landscape theories and positions. To conclude this study the chapter highlights some suggestions for MPE developers and urban policy makers. It also identifies further analytical dimensions that are needed to provide more understanding of the dynamics and likely outcomes of MPE development and practices in Egypt and beyond. The chapter concludes by outlining the anticipated benefits of efficient Landscape Infrastructure Planning.

8.2 Back to the Research Question

This research has questioned the role of landscape in the creation of liveable communities in desert MPEs. The multidimensionality of such a question required the construction of a conceptual framework that represents its complex interrelations. The key elements of these interrelations within MPEs are; the level of residential satisfaction, the services provided as well as the context that embraces these elements. Therefore, a macro to micro analytical approach was adopted, the assumption being that without such an approach the collection, analysis and interpretation of data in this study would have been hollow and confusing.

The ‘macro’ level of analysis was achieved by exploring the salient aspects of the settings which led to the formation of MPEs in Egypt (Chapter 4), together with an investigation of the planning and development strategies used by different stakeholders to persuade people to move there(Chapter 5). The ‘micro’ level of analysis was achieved by exploring the factors of residential satisfaction in the MPEs

(Chapter 6). Linking both levels of analysis was believed to be essential to ensure the credibility, reliability and validity of the analysis and therefore of the entire study. The role of the different stakeholders involved in making the MPEs liveable was fundamental throughout the investigation. Therefore, the qualitative approach designed for this research based on a constructivist style of investigation was indeed useful. This is because it allowed the phenomenon of landscape-liveability to present itself without imposing preconceived ideas.

Using multi-method techniques in data collection and bringing to the fore the experiences of different stakeholders maximised the quality of this study. In view of this, the required data was organised in two groups; the physical context of the MPEs and the social process in the MPEs. For the physical context, the data was concerned with urban policies, promotional approaches, development stages and the physical characteristics of MPEs. This data was obtained through collecting relevant documents and through interviews with key officials from the New Urban Communities Authority and the New-Cairo Development Agency in addition to interviews with planners and developers of MPEs. This data was complemented by web-materials and visual survey. However, for the social process element, the data concerned motives for relocating to the MPEs and aspirations for improvements in their conditions, and was obtained through in-depth interviews with residents from six MPEs.

The methodology used in this study attempted to minimise the influence of the researcher's own values on respondents' accounts in order to increase objectivity. It proved fruitful in achieving the aims and objectives of the study, and opened new questions for further investigations. Accordingly, it facilitated the investigation of the strategies that are used to enhance liveability in MPEs, the factors affecting residents' perceived liveability and and the interactions between both these by focusing on the meaning of community and the agendas behind landscape practices. These will be discussed in turn in the following sections.

8.2.1 Strategies to Enhance Liveability in Master-Planned Estates

To investigate the strategies that are used to enhance liveability in the MPE was the first aim of this study, and was based on investigating the strategies for attracting people to relocate to the desert MPEs. To achieve this aim the study in Chapter 5 described the role of urban policies, explored the promotional approaches and identified the development stages of the MPEs. The key findings are; 1) The change in urban policies led to the rise of different forms of MPE; 2) The implementation of infrastructures and services at the governmental level are the key to enhancing liveability; 3) MPE advertisements usually imply that ideas of landscape and community are the answer to enhancing liveability; 4) With some exceptions, MPE developers build on the quality of the public realm by including its landscape to attract prospective residents.

This study has demonstrated how urban polices have changed over the last decades in Egypt. In parallel with elsewhere, this significant shift in the purpose and practice of urban planning is a response to processes of restructuring the urban environments (Salet et al., 2003). This change can be interpreted as a transition from urban 'managerialism' to urban 'interpreneurialism' in line with the thinking of Harvey (1989). Cairo urban environments have experienced extensive restructuring since the 1970s, but since the late 1980s have also seen a revival of interest in the desert MPEs from which new forms of urbanisation have emerged. The uniformity of this renaissance in Egypt, like elsewhere, seemed to suggest a new era in which urban planning had achieved a new importance (see (Healey, 2004).

There is evidence set out in this study that the revival of interest in MPEs in Egypt is being applauded by an enthusiastic emphasis in urban policies on urban infrastructures as a solution to urban problems and enhancing liveability. While Egyptian urban MPE policies based on the provision of urban infrastructures remain in place, the significance of their ability to sort out urban problems as well as

enhancing liveability has diminished in favour of the grasp on landscape of some MPE developers. Many commentators argued that as a result of fragmented governance and implementation of urban infrastructures under the globalised neoliberal mechanisms a phenomenon of 'splintering urbanism' emerged in many urban environments (Graham and Marvin, 2001). Interestingly, within the Egyptian MPE context, landscape practices not urban infrastructure can be seen as the main cause of this 'splintering urbanism'.

The consistent emphasis in Egyptian urban polices on the provision of urban infrastructures as the means of enhancing liveability in the new MPEs can be considered to mark what Dodson (2009) called an 'infrastructure turn'. However, such an infrastructure turn raises substantial questions about the role of urban infrastructure in the development of MPEs in Egypt. These are well-phrased by Dodson (2009:110) when he stated that *"[s]uch questions range from identifying the potential risks – and potential benefits – of conceiving and planning [urban] areas primarily through an infrastructure frame, to asking whether infrastructure alone can perform the broader strategic spatial functions of planning".*

8.2.2 Factors of Perceived Liveability in the Master-Planned Estates

To explore the factors of residents' perceived liveability in the MPEs was the second aim of this study, and was based on exploring the factors of residential satisfaction in the desert MPEs. To achieve this aim the study investigated in Chapter 6 the motives behind relocation to MPEs and identified aspirations for improving the condition of those MPEs. The key findings are; 1) In general non-economic reasons are held to explain residential satisfaction in MPEs; 2) the physical characteristic of MPEs are the main reason behind residential mobility; 3) In most cases variations in perceived liveability occur according to MPEs' physical characteristics and not according to residents' socio-economic background.

Urban polices have been reversed in Egypt to encourage the development of desert MPEs to cater for more liveable environments. This reversal is a defensive strategy set against the lost unliveable Cairo and has led to the encouragement of new lifestyles in New-Cairo. Central to this reversal is the MPE developers' usage of the landscape and community idea to confront the fear of and struggle against the aridity of the region.

The possible guilty concerns which might arise as regards the suffering of Cairo's residents are covered by the rejection of the city according to the anti-urban discourse. Residents of the new desert MPEs labelled Cairo as polluted, disorganised, densely populated, compacted and stressful. From this resident standpoint, Cairo has become a complex of unliveable places in which nothing can be done to protect oneself except by escape to the new desert MPEs. The formation of risks allowed MPE residents to determine strategies of habitation in order to protect themselves from the urban mess as well as the harsh desert in which these MPEs are situated. According to these risk and fear myths, landscape practices legitimate territorial power and define land. As expressed by Hunter (1985:1):

> Land becomes landscape when seen by man, revealing the record of his activities on the surface of the earth and his relationship with his environment. The perception of landscape reveals his attitude towards it and generates emotions ranging from distrust and fear to reassurance and delight.

Landscape practices in the MPEs reveal processes of disorganising and reorganising forms of residential environment through what Park (2010[1926]) called "moral order". Therefore, MPE developers who were able to define their developments well using the landscape approach were able to deliver liveable places where residents consider these as their property – as their lands. Landscape is therefore a vital ingredient in the resident's perceived liveability in the MPEs of Egypt.

It can be argued here that as regards the two strategies to enhance liveability (i.e. infrastructures and landscape) in the desert MPEs, landscape appears to be more

explicitly responsive to resident's perceived liveability. As Graham and Marvin (2001) argued, one reason is perhaps that the availability of infrastructures is often taken for granted in both developed and increasingly less developed regions. Indeed this does not mean that the provision of landscape is more important than the provision of infrastructures, yet it implies the importance of not downplaying the role of landscape in the discussions of urban environments that fulfil human needs.

8.2.3 Community and Landscape: Meanings and Agendas

The third aim of this study was to understand the interaction between strategies to enhance liveability and factors of perceived liveability by focusing on ideas of landscape and community. This aim was based on examining the extent to which the emphasis on landscape and community can enhance liveability in the MPEs. To achieve this aim the study explored the meaning of community in the MPEs and the agendas involved in landscape practices in Chapter 7. The key findings are; 1) Community in the MPEs is associated with feelings of belonging and membership rather than with social interaction; 2) Community in the MPEs is promoted as a commodity and perceived mainly as an aesthetically desirable amenity; 3) There is a strong connection between perceived liveability, sense of community and the physical characteristics of the MPEs; 4) The main purpose of landscape practices in the desert MPEs is to directly maximise profits and to establish conditions under which profits can be maximised.

This research has attempted to locate a rising phenomenon concerning the emphasis on landscape and community in the development of MPEs in Egypt within an adequate understanding of the context. In order to promote themselves therefore, some MPEs actualise the globalised myth of the optimal place to live by developing residential environments where residents can lose themselves in a constructed utopia against a background of urban misery, and live in a community. The mechanisms of risk control employed by MPE developers through their landscape

practices has influenced the way residents themselves define risk or fear by directly or indirectly holding onto ideas of the sense of community. Risk is understood as a social construct that crystallises, classes, and normalises dangers, fears and anxieties which define and limit a given society (Hacking, 2003). Therefore, it was found that sense of community is based on the landscape practices which reflected the residents' perceived liveability. This illustrates Cosgrove's idea of the relation between landscape and a successful community when he argued that landscape is:

> [A] connecting term...that much of its appeal lies in its capacity to combine incommensurate or even dialectically opposed elements: process and form, nature and culture, land and life. Landscape conveys the idea that their combination is – or should be – balanced and harmonious, and that harmony is visible. Balance and harmony carry positive moral weight, so that a disordered or formless landscape seems something of contradiction. Landscape characteristics thus come to act as a moral barometer of successful [and liveable] community: human, natural or in combination. (2006:25)

This study has demonstrated that the consideration of MPEs in respect of the factors required for them to become liveable places opens up innovative alternatives in understanding how these MPEs are shaped and function. It shows the possibility of securing a grasp on the issues which are relevant to giving support to their residents' perception of liveability. It can be concluded here that the conceptualisation of the built environment as layers of infrastructures offers an innovative means of engagement between the physical context and social process. Landscape is no exception in this engagement. Therefore, it is suggested that it is useful to think of landscape as an infrastructure and that it should be added to the built environment infrastructures propounded by Ennis (2003) and Healey et al. (1995). In this sense the built environment consists of environmental, physical, housing, education, health, community and economic in addition to landscape infrastructures.

8.3 Relevance of Considering Landscape as Infrastructure

The findings of this study have verified the importance of MPE landscape characteristics in residents' perceived liveability. This importance could be summarised as two factors; 1) Its influential ability in determining the level of liveability by directly responding to the many factors of residential satisfaction; 2) Its indirect capacity in boosting some factors of sense of community, which in its turn becomes an important component of residents' perceived liveability. Therefore, considering landscape as infrastructure, referred to as '*Landscape Infrastructure'* hereafter*,* implies the importance of not downplaying its role in the discussions of liveability in the MPEs, as mentioned earlier. Linking the concept of Landscape Infrastructure to the main positions already articulated within the field of landscape is very important for ensuring its significance.

Corner (1991) highlighted the contrast between the different roles ascribed to landscape theory. On the one hand, he argued that landscape theory can generalise and codify knowledge as a basis for practical action; therefore, it is instrumental in this sense. On the other hand, he argued that landscape theory can have a more critical role in resisting and challenging *taken-for-granted* ways of thinking and puts forward alternatives, therefore, it is critical in this sense. Building on these theoretical positions the relevance of Landscape Infrastructure concept will be discussed further in the coming sections.

8.3.1 Development Framework: Challenging conventional Ideals

This study is based on empirical fieldwork in six MPEs in New-Cairo. Therefore, the outcomes which verified the proposition of the concept of Landscape Infrastructure are considered in this sense as a development of an instrumental theory that is typically derived from empirical research. This in general corresponds to the type of landscape theory described by Eckbo (1950) as 'generalising of social experience'.

However, the proposition of the concept of Landscape Infrastructure is specifically in line with the type of landscape theory presented by Nassauer (1995) when developing the concept of 'cues for care' as a means to frame ecological restoration projects in a culturally acceptable way. Instrumental theories in landscape are widely used, similar to the staged approach to site planning codified into a set of principles by Lynch (1960) and Simonds (1998). In this sense Landscape Infrastructure can provide a stable and coherent framework for enhancing liveability in the MPEs.

The attempt to develop the concept of Landscape Infrastructure challenges conventional ways of thinking which consider urban landscape as something nice to have rather than something essential in the development of the desert MPEs. It can be argued here that Landscape Infrastructure has to be given adequate and higher priority in the process of MPE development, rather than being subordinate to other priorities. In this sense the concept of Landscape Infrastructure might be considered as a development of a critical theory that typically opposes taken-for-granted traditions of thinking and puts forward alternatives. In general this corresponds to the type of landscape theory illustrated by Meyer (1997) in her exploration of landscape as 'other', challenging the modern view of landscape as a largely passive setting or ground for architecture, and instead arguing for landscape as autonomous practice expressing its own language of space and form. Landscape Infrastructure, therefore suggests that landscape can act as a strategic agent of the urban environment. This is precisely in line with Corner's (1999) advocacy of 'recovering' landscape, with a consequential recasting of its role as a passive product of culture to an active and strategic agent of culture.

8.3.2 Developing a Landscape Position

As a result of personal interest, questioning the reasons behind the emphasis on landscape and community in the development of the MPEs in Egypt was the main motive for undertaking this research. Inductively, these initiated the search for

relevant theories to provide the basis for assembling a conceptual framework in order to investigate the phenomenon which was then tested deductively. Inductive reasoning in building landscape theory is based on observations as described by Jackson (1984). Thus, like relatively recent concepts and depending on the context of the observed phenomenon, 'Landscape Infrastructure' is a concept which comes with its own language and terminology.

Landscape Infrastructure is proposed in this study to provide a counterweight to urban polices in Egypt which emphasised the 'hard' or 'grey' infrastructure in enhancing the liveability in desert MPEs. In addition, it is proposed as an inclusive planning concept to be used as an alternative to Green Infrastructure in less developed and arid regions. It is similar to the concept of 'Green Infrastructures' coined by (Benedict and McMahon, 2002) which seeks to put the functions of green spaces and the contribution they make to quality of life and quality of place on a more equal basis with those features normally associated with the term 'Infrastructure'. 'Landscape Infrastructure' seeks to put the functions of all landscape components (i.e. landform, water, vegetation, paved surfaces, street furniture and structures) on a more equal basis by considering it as infrastructure.

Adopting Gill et al.'s (2008) explanation of Green Infrastructure, Landscape Infrastructure can be referred to in terms of typologies, functions and benefits. Landscape Infrastructure 'typology' is what is there on the ground. It is the physical features and characteristics of a particular landscape in which landscape infrastructure elements are determined. It is the least subjective way of analysing and interpreting the landscape of specific sites. Therefore, the unit of analysing Landscape Infrastructure typology may vary according to the scale of analysis. Landscape infrastructure 'function' is what it does. Different people will perceive different functions in a particular landscape; hence, it is more subjective and interpretive. Some landscape infrastructure typologies will always perform certain functions, but could also perform others depending on location, scale or

management. However, landscape infrastructure 'benefits' are the added value of planning and delivery. These are the most subjective and interpretive; hence they vary according to human values.

Developing the concept of Landscape Infrastructure offers a way to bridge people's needs in residential environments, thereby providing a potential tool to be used in the development of liveable communities in MPEs. In complex urban environments that are full of social, cultural, economic and environmental tensions, no single tool can hope to offer either a full account of these problems or realistic prescriptions for change. It is possible to argue here that the integration of Landscape Infrastructure with all other infrastructures is crucial for both conceptual and operational advancement of liveability in MPEs.

8.4 The Way Forward

A direct critique of the MPE phenomenon is beyond the scope of this study. Nevertheless, the study itself has been an attempt to analyse critically the dynamics that are at work within this phenomenon which is experiencing increased popularity as a contemporary form of urbanisation in Egypt. However, it is evident now that there is a link between the landscape characteristics of the MPEs in New-Cairo and their residents' perceived liveability. This symbolic influence has without doubt generated needs and demands for practices that hold on to the power of landscape to continue to occur.

The research into MPEs in Egypt has tended to be based on specific forms of MPE, particularly the hyper gated and exclusive ones. In this research it has been argued that a more extensive research approach is needed to grasp the evident diversity of MPE forms emerging in Egypt and their socio-spatial outcomes. Drawing on the findings, it is possible to point to further analytical dimensions needed to provide us

with more understanding of the dynamic forms and likely outcomes of MPE development and practices in Egypt. In the coming sections these dimensions will be discussed.

8.4.1 Notes to Master-Planned Estates Developers and Policy Makers

What might the findings in this study mean for MPE developers in contexts like that of New-Cairo, particularly in their efforts to enhance the liveability of their developments based on ideas of landscape and community? The findings confirm that developers who considered the landscape as an important component of MPE development (i.e. the Improved Cooperative, Controlled, Gated and Golf MPEs) have been relatively successful in providing highly desirable residential environments. They were able to provide MPEs which are aesthetically pleasing, to which residents felt attached and which are homogenous enough to boost the feeling of harmony between residents' goals and aspirations. By contrast, developers who failed to adequately consider the landscape as an important component of MPE development (i.e. Self Built MPEs) or failed to maintain it (i.e. Cooperative MPEs) have been relatively less-successful in providing desirable residential environments.

It might be the case here that the link between landscape practices in the MPEs and providing desirable residential environments is created via intervening variables. In other words, the link between the physical context and the social processes might not be direct; nevertheless the physical context might have a catalytic effect on the social one. The notable desire of MPE developers to formulate communities in their developments is aligned with the residents' attitude towards ideas of community. Based on the physical characteristics of the MPEs, this attitude has become associated with a feeling of belonging, affiliation or membership of a particular location. The physical characteristics therefore boost the sense of community which is not necessarily associated with social interaction or participation. Therefore, it is fair to say that landscape practices might not create a community by

deterministically bringing people together on the basis of physical characteristics, yet it might stimulate other factors which work to enhance sense of community.

While the landscape practices of MPE developers in New-Cairo may create desirable places, as many residents claim, it would appear that the relationship between these desirable places and the formation of a community is far more complex and far more difficult to develop within given contemporary Egyptian socio-culture settings. However, *"it would appear that more innovative approaches to the way developers engage with community may be required if their desire to create friendly and desirable locality-based communities of interactions is also to encourage wider participation"* (Rosenblatt et al., 2009:139).

One way out of this dilemma would be for MPE developers in Egypt to tone down their social aspirations and affirm that they are simply fulfilling residential needs and delivering liveable places by their landscape practices, rather than actively creating communities. Landscape practices in MPEs need not create communities, but rather might be able to increase the probability of doing so in the manner of a form of 'environmental probabilism' (see for example (Bell et al., 2005). Each landscape practice is therefore, a tool rather than a variable with its own outcome. However, the development of MPEs with the possibility of the creation of 'desired places to live' might be a laudable enough reason to use landscape practices as an important feature of these new residential developments.

Therefore it can be argued here that in order to have more desirable places to live in, which might be called 'liveable communities', the landscape has to be given a sufficient priority rather than being subservient to other imperatives. Therefore, by considering landscape 'as' infrastructure it is vital that its planning and implementation takes place, not necessarily before, but at least concurrently with the planning of infrastructure. Although initial planning and implementation of Landscape Infrastructure would usually to be undertaken by developers, especially where Landscape Infrastructure is an integral part of new MPEs, continuing

implementation beyond this initial phase should most probably become the joint responsibility of potentially large number of bodies including local authorities.

There might be apprehension that the incorporation of Landscape Infrastructure planning would add excessively to development cost, but this is by no means self evidently the case. What is being advocated here is, rather a different approach to planning whereby Landscape Infrastructure planning becomes an integral component of the development process and helps to shape decisions concerning planning concepts and post-implementation management strategies.

MPEs in Egypt are encouraged by urban policies for the purpose of providing more liveable environments. Therefore, urban policies should be the driving vehicle whereby Landscape Infrastructure planning is initially implemented and not just left to the goodwill of some MPE developers. As MPE development schemes in Egypt already have to meet a wide range of exacting requirements, it seems equally clear that to be consistently effective Landscape Infrastructure planning needs to become embedded within the planning system as a normal part of the preparation and review of developments. When integrating Landscape Infrastructure planning within the planning process, careful attention would need to be paid from the outset to the potential problems involved in timing and coordination of constituent elements of the process as well as the available resources and the constraints of the context.

8.4.2 Landscape and Community: A Healthy Nostalgia

Through their landscape practices, a number of MPE developers in New-Cairo have used residents' nostalgia for a return to the ideals of living in a defined residential environment – in a 'community' in order to promote their developments, as discussed in Chapter 5. This turn towards nostalgia by developers has proved particularly appealing, particularly when taken into account that 'nostalgia' means a

longing for home (Saab, 2007). Boym (2001:xiii) argued that nostalgia *"is sentiment of loss and displacement, but it is also romance with one's own fantasy".*

In the case of New-Cairo some developers attempted to make the fantasy real, to build this imaginary land and home. Yet the land and home that they are evoking in their MPEs in large part can be seen as myth, vague and a representation of something that never existed in the Egyptian context. However, by concretising this myth through their landscape practices, many MPEs in New-Cairo make their romantic fantasies real and the model for their residents' own nostalgic desires, which proved to be at work, also helped in the formation of desired residential environments.

The term 'nostalgia' is often used *"pejoratively",* yet it is *"pervasive"* in contemporary urban planning (Saab, 2007:192). However, following on from Saab (2007) this might create a number of uncertainties; does this hold on nostalgia indicate a crisis in building in Egyptian urban history? Or is it the result of an aesthetic crisis in contemporary Egyptian urban environments brought on by a desire for a mode of representing the loss of an imaginary past? Does it present contemporary fears, discontents, anxieties or uncertainties in the thinking of the Egyptian? Or is it pointing towards a more hopeful vision of the future by learning from the past experiences?

The findings in this study can neither endorse nor condemn the hold on nostalgia in MPE practices. Yet as it is confirmed as a desired idea by both developers and residents of the MPEs in New-Cairo, the study suggests the search for a way to deepen our understanding of how this might be used more productively. Nostalgia nevertheless can be *"a potentially valuable mode of feeling...one born not necessarily out of delusion or escape but out of necessity, resistance, even hope...much more valuable than harmful*"(West 2000:10).

8.4.3 Landscape Practices: Between Liveability and Sustainability

Contemporary urban planning policies and practices in Egypt, as elsewhere, are challenged by the ideals of sustainable development and at the same time reach out to focus on the delivery of liveable communities in the form of MPEs. However, those opposed to landscape practices in Egypt's MPEs often argue that these practices advocate against any means of a sustainable development (see for example: Fahmi and Sutton, 2008; Kuppinger, 2004; Asfour, 1999; Abdelhalim, 1996). Opposition is based foremost on the idea that these practices increase the contradictions among the goals of sustainable development in what Campbell (1996:298-299) called *"property, resource and development conflicts"*.

It is widely accepted that the central aim of sustainable development is to achieve a balance between its three 'Es'; environment, economy and equity (Berke, 2002). The achievement of this balance has often met with limited success as argued by Owens and Cowell (2002:28):

> In practice, urban planning proved to be one of the most important arenas in which conceptions of sustainable development are contested...it has become clear that trying to turn the broad consensual principles into policies, procedures and decisions tends not to resolve conflicts but to expose tensions inherent in the idea of sustainable development itself.

The property conflict between the economic and equality goals of sustainability *"arises from competing claims on and of property"* Campbell (1996:298). The resource conflict between the economic and environmental goals of sustainability arises from competing claims on the consumption of natural resources and from attempts to *"define the boundary between the developed ... and the undeveloped"* Campbell (1996:299). The "development conflict" between the equality and environmental goals of sustainability arises from competing claims of how to *"increase social equity...by finding greater economic opportunity if environmental protection mandates diminished economic growth"* Campbell (1996:299).

Accepting the idea of the landscape as an important feature of MPEs in Egypt provokes both an opportunity and a threat. On the one hand, it helps in the formation of liveable communities as we have seen, but on the other, it could conflict with the overall goals of sustainable development. Conflict between liveability led by landscape practices and the economic goal of sustainability in MPEs in New-Cairo might arise from these opposing attitudes, to the extent that MPE development could be left to market mechanisms (see for example, Ewing, 1997; Gordon and Richardson, 1997). Yet, conflict with the environmental goal of sustainability might arise from the opposing attitudes concerned in the dominance of nature over the built environment (see for example, Beatley, 2000; Duany et al., 2000). However, conflict with the equity goal of sustainability might occur from opposing attitudes towards the preservation of the declining quarters of inner cities in preference to MPE development in the suburbs (see for example, Bragado et al., 2001; Smith, 1996).

Liveability and sustainability *"represent the big visionary ideas of contemporary urban planning. The future of urban planning may well depend on how it resolves this conflict and creates settlement patterns that are both liveable and sustainable"* (Godschalk, 2004:5). It is possible to think about the MPEs in Egypt as a three-fold pattern of relationships between residents, developers and end products. On the input side of the system are people's needs in urban environments; at the centre are landscape practices and on the output side are sustainable and liveable residential environments which reflect a balance between environmental, economic, equity and liveability values. However, more work needs to be done in order to understand how to boost liveability without compromising sustainability.

8.4.4 Governance Mechanisms in Master-Planned Estates

There is a common agreement among many commentators that MPEs are usually characterised by removal from public regulation (McKenzie, 1996). This view is not

applicable in Egypt as MPEs were introduced in the first place to regulate urban development. Therefore, as discussed in Chapter 5, MPEs in New-Cairo are subject to extensive interventionist planning and policy restrictions involving strong involvement throughout the development phases from the Central Government through the NUCA (New Urban Communities Authority), as well as the Local Authority, the NCDA (New-Cairo Development Agency). Significantly this means that despite the overwhelming association of MPEs with the notion of removal from public regulation, MPEs in Egypt in their private form do not necessarily mean a lessening of the public capacity to supervise, control and guide the direction of development. However, this needs to be questioned in the light of the power relations that usually operate in such authoritarian-neoliberal systems as that in Egypt.

This has been illustrated with the case of the planning officer mentioned in Chapter 5, when the coordinates of land allocated to a new MPE in New-Cairo were changed by a phone call. In addition to this public sector intervention, however, and in order to maintain their position in the real-estate market many developers of MPEs in New-Cairo adopt an intense interventionist approach to their estates with aim of ensuring that the quality of the development is not compromised during and after the construction phase. This mainly involves ensuring the implementation and the upkeep of the estate's landscape to the highest standards so that it continues to attract potential residents and to the developer's future projects. The challenge of this increased intervention by the developer might create anxiety about the future and the sustainability of this upkeep should the developer withdraw from this role through one circumstances or another.

Several forms of estate governance have been identified in the MPEs of New-Cairo to manage communal properties and to enforce the local conventions. These might be implemented by the MPE developer having a permanent management unit in place which cooperates with the residents association and funded by a premium paid by

residents, as in the case of the Controlled MPEs – Al-Rehab. Another form of governance is for the residents association to outsource the function to a management body, as in the case of the Golf MPE – Mirage. Moreover, the MPE governance might be done by the residents union itself, as in the case of the Gated MPE – Arabella Park.

These forms of governance are to a great extent voluntary, as developers are trying to care for their business and residents are acting out of the ethical substance of their own lifestyles. The danger occurs when ambitions change. One way out is to govern the MPEs through 'community development' (Cheshire et al., 2009; Rosenblatt et al., 2009; Gwyther, 2005). This might be applicable by probing further than considering the notion of 'community' in Egyptian MPEs as simply a promotional technique and as 'only' a feeling of belonging to a particular place without involving participation and input. However, the understanding of how to assure the sustainability of MPE governance needs to be enhanced by investigating the nature of community development in the Egyptian MPEs.

8.4.5 Creating Liveable Community or Socio-Spatial Polarisation

> [T]he idea of community denies the difference between subjects and the social differentiation of temporal and spatial distancing. The most serious political consequence of the desire for community, or for co-presence and mutual identification with others is that it often operates to exclude or oppress those experienced as different. Commitment to an ideal of community tends to value and enforce homogeneity.
> **Young (1990:234)**

The characteristics of some MPEs in New-Cairo, as projected through its developers' landscape practices became quite distinct from those of the surrounding region. Consequently, a dichotomy has clearly been constructed between these MPEs in New-Cairo and the surrounding harsh desert. The distinctive characteristics of these MPEs are notably 'physical' as well as 'social', although, the social characteristics of

MPEs in New-Cairo are not to be understood as juxtaposed to the distinct social strata of the Cairenes.

The predicament is that the physical distinctiveness of these MPEs could work to boost socio-spatial polarisation within New-Cairo and support the general negativity that has been associated with Egyptian society in terms of class differentiations. This is true because this distinction has been concretised in the minds of residents to the extent that 'self/other' attitudes exist in New-Cairo, not only in the upper-income MPEs but sometimes 'surprisingly' in the lower MPEs too. It might be understood here that landscape practices of New-Cairo MPEs might create a liveable community but still encourage socio-spatial polarisation.

As MPEs in New-Cairo have diverse development characteristics in general and in landscape practices in particular, there is an expectation of seeing different forms of social dynamics and community life, not least because of the socio-spatial polarisation to which they appeal. With some exceptions, it was clear that variations in landscape practices in the MPEs reflect the diversity in the socio-economic backgrounds of Egyptian society. This is in line with the thinking of Cosgrove (1998:15) who states that:

> Landscape represents...specific way of experiencing the world, developed by, and meaningful to certain social groups...It represents a way in which certain classes of people have signified themselves and their world through their imagined relationship with nature, and through which they have underlined and communicated their own social role and that of others with respect to external nature.

The understanding of such complex forms of social dynamics, which might be generated by landscape practices in Egyptian MPEs, is far from complete. Therefore, an approach that facilitates the understanding of these forms of social interactions and community life is required.

8.5 Concluding Remarks

By proposing landscape as infrastructure, it would be useful to conclude the enquiry with the notions of connectivity and continuity as characteristics of efficient infrastructure planning. This is because in a capitalist-neoliberal society like Egypt it is impossible to avoid the differentiation between socio-economic needs and capabilities. Nevertheless, it is possible to lessen its effect by grasping onto the notions of connectivity and continuity. Building on the ideas of (Kambites and Owen, 2006), several forms of connectivity and continuity of Landscape Infrastructure can be highlighted, including connectivity and continuity of spatial and residential needs as well as connectivity and continuity between different stakeholders and administrative boundaries.

Spatial connectivity of Landscape Infrastructure is vital when relevant to the need for the linear continuity that allows the fulfilment of people's needs in a particular MPE to be connected to the wider urban environment. To secure optimum connectivity of Landscape Infrastructure, it is likely to take the form of continuously connected networks extending over MPE, local, city and regional scales. Similarly, the different interests and uses of Landscape Infrastructure will coincide or overlap and sometimes will conflict; that is why connectivity between different stakeholders (i.e. urban authorities, MPE developers and residents) should be considered widely when planning for Landscape Infrastructure. To achieve the optimum benefits for all stakeholders, Landscape Infrastructure needs to be planned with significant levels of involvement by these various stakeholders.

Furthermore, the fulfilment of people's needs in urban environments does not recognise administrative boundaries because such fulfilment extends from the immediate MPE to neighbouring MPEs and to the entire city and perhaps to the whole region. Thus, it is vital that Landscape Infrastructure planning should involve operational connections between different administrative bodies (i.e. central

authorities, local authorities and developers). In effect, this demands a form of partnership approach which would facilitate the highest level of cooperation and coordination.

The tendency towards greater connectivity of Infrastructures and continuity is reflected in contemporary urban policies in Egypt. The particular argument here is that these inherent attributes of Infrastructures should characterise all stages of the urban planning process including landscape. However more work needs to be done to advance a framework of connectivity and continuity of Landscape Infrastructure to insure its sustainability for more liveable communities in Egypt and beyond. In conclusion and drawing on Mossop (2006:179):

> If we think of landscape as an infrastructure which underlies other urban systems, rather than equating it with nature or ecology we have a much more workable conceptual framework for designing urban systems. This is particularly apt where those systems no longer function in a core/periphery model but as a matrix. This framework of landscape infrastructure should provide the most permanent layer of urban development to preserve viability of natural systems and regional cultures.

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Appendices

Appendix A: List of Interviews

New-Cairo Residents Interviews

Household Interviews

Code	Date	Tenure and Social Group	Participants	Moved in Since	Moved From	Means of Transportation
Cooperative MPEs: Eskan El-Gehaz						
CO-R1	28.08.07	Flat Owner Low/Middle	Head (M) 20-30 Spouse (F) 20-30 Son 0-10	2005	Ain Shams (Cairo)	1 Car Public transports
CO-R2	08.09.07	Flat Owner Lower	Head (M) 40-50 Spouse (F) 40-50 Daughter 10-20	1998	Omrania (Giza)	Public transports
CO-R3	08.09.07	Flat Owner Lower	Head (M) 30-40 Spouse (F) 20-30	2000	Zawya (Cairo)	Public transports
CO-R4	09.09.07	Flat Tenant Low/Middle	Head (M) 20-30 Spouse (F) 20-30	2004	Shobra (Cairo)	1 Car Public transports
CO-R5	19.09.07	Flat Owner Low/Middle	Head (M) 30-40 Spouse (F) 30-40 Son 10-20 Daughter 0-10	1999	El-Salam (Cairo)	1 Car Public transports
CO-R6	19.09.07	Flat Owner Low/Middle	Head (M) 20-30	2001	Menia (upper-Egypt)	1 Car Public transports
CO-R7	21.09.07	Flat Owner Lower	Head (M) 30-40 Spouse (F) 30-40 Daughter 10-20	2004	Mataria (Cairo)	Public transports
CO-R8	21.09.07	Flat Owner Lower	Head (M) 40-50 Spouse (F) 30-40 Son 10-20	1997	El-Mahala (Nile-Delta)	Public transports
CO-R9	22.09.07	Flat Owner Lower	Head (M) 30-40 Spouse (F) 20-30	2005	Shobra (Cairo)	Public transports
CO-R10	25.09.07	Flat Tenant Lower	Head (M) 30-40	2002	Basateen (Cairo)	Public transports
CO-R11	19.10.07	Flat Tenant Low/Middle	Head (M) 30-40	2006	Abasia (Cairo)	1 Car Public transports
CO-R12	19.10.07	Flat Owner Lower	Head (M) 30-40 Spouse (F) 30-40	2003	Ain Shams (Cairo)	Public transports

Code	Date	Tenure and Social Group	Participants	Moved in Since	Moved From	Means of Transportation
Improved Cooperative MPE: Eskan El-Shabab						
ICO-R1	07.09.07	Flat Owner Lower	Head (M) 30-40 Spouse (F) 30-40 Daughter 10-20 Daughter 0-10	2002	El-Hadaye (Cairo)	Public transports
ICO-R2	07.09.07	Flat Owner Low/Middle	Head (M) 40-50	2000	Bolak (Giza)	1 Car Public transports
ICO-R3	10.09.07	Flat Owner Low/Middle	Head (M) 30-40	2004	Masr-Kadima (Cairo)	1 Car Public transports
ICO-R4	12.09.07	Flat Owner Low/Middle	Head (M) 40-50 Spouse (F) 40-50 Daughter 10-20	1998	Ghamra (Cairo)	1 Car Public transports
ICO-R5	13.09.07	Flat Tenant Lower	Head (M) 20-30 Spouse (F) 20-30	2001	Asaffra (Alex)	Public transports
ICO-R6	14.09.07	Flat Owner Low/Middle	Head (M) 40-50 Son 10-20	2003	Helwan (Cairo)	1 Car Public transports
ICO-R7	14.09.07	Flat Tenant Low/Middle	Head (M) 20-30 Spouse (F) 20-30	2005	Zayed (Ismaailia)	2 Car
Self-built MPE: El-hay El-Khames						
SB-R1	18.09.07	House Owner Middle/High	Head (M) 50-60 Spouse (F) 40-50 Son 10-20 Daughter 10-20 Daughter 0-10	2001	Dubai (UAE)	3 Cars
SB-R2	24.09.07	Flat Owner Middle	Head (M) 20-30	2003	Nasr-City (Cairo)	1 Car
SB-R3	19.10.07	House Owner Middle/High	Head (M) 60-70 Spouse 50-60 Daughter in law Daughter 20-30	2000	Nasr-City (Cairo)	6 Car
SB-R4	05.11.07	House Owner Middle/High	Spouse (F) 50-60 Son 20-30 Daughter in law	1998	Ma'adi (Cairo)	5 Cars
SB-R5	05.11.07	House Owner Middle/High	Head (M) 50-60 Spouse (F) 40-50 Son 10-20 Daughter 10-20 Son 10-20	2002	Damam (KSA)	4 Cars
Controlled MPE: Al-Rehab City						
CON-R1	24.08.07	Flat Tenant	Head (M) 40-50 Spouse (F) 40-50	1997	Heliopolis (Cairo)	2 Cars

Code	Date	Tenure and Social Group	Participants	Moved in Since	Moved From	Means of Transportation
		Middle/High				
CON-R2	24.08.07	House Owner High	Spouse (F) 40-50 Son 10-20	2000	California (USA)	3 Cars
CON-R3	20.10.07	Flat Owner Middle/High	Head (F) 50-60	1999	Mhndsen (Giza)	1 Car
CON-R4	20.10.07	Flat Owner Middle/High	Head (M) 30-40 Spouse (F) 30-40	2002	Zaitoon (Cairo)	2 Cars
CON-R5	20.10.07	Flat Owner Middle/High	Head (M) 40-50 Spouse (F) 30-40	2001	Al-Obor (New city)	2 Cars
CON-R6	01.11.07	Flat Tenant Middle/High	Head (M) 20-30 Spouse (F) 20-30	2003	Sporting (Alex)	1 Car
CON-R7	02.11.07	Flat Owner Middle/High	Head (M) 60-70 Spouse (F) 50-60	2004	Nasr-City (Cairo)	2 Cars
CON-R8	02.11.07	House Tenant High	Head (M) 30-40	2005	Dooki (Cairo)	2 Cars

Gated MPE: Arabella Park

GAT-R1	26.10.07	House Owner High	Head (M) 50-60 Spouse (F) 50-60	2001	Riyadh (KSA)	4 Cars
GAT-R2	26.10.07	House Owner High	Head (M) 60-70 Spouse (F) 50-60	1999	Ard Elgolf (Cairo)	3 Cars
GAT-R3	08.11.07	House Owner High	Head (M) 30-40 Spouse (F) 30-40 Daughter 10-20 Daughter 0-10	1997	Ma'adi (Cairo)	3 Car

Golf MPE: Mirage City

Code	Date	Tenure and Social Group	Participants	Moved in Since	Moved From	Means of Transportation
GOL-R1	07.11.07	House Owner High	Head (M) 50-60 Spouse (F) 50-60 Son 20-30 Daughter in law	1997	Heliopolis (Cairo)	7 Cars
GOL-R2	06.03.09	House Owner High	Head (M) 50-60 Spouse (F) 50-60	1999	Zamalek (Giza)	3 Car
GOL-R3	13.03.09	House Owner High	Spouse (F) 60-70 Son 30-40 Daughter in law	2000	Nasr-City (Cairo)	5 Cars

Residents Group Interviews

Code	Date	Participants
Cooperative MPE: Eskan El-Gehaz		
CO-RGI1	06.09.07	(M) 30-40
		(M) 30-40
		(M) 40-50
		(M) 40-50
		(M) 50-60
Improved-cooperative MPE: Eskan El-Shabab		
ICO-RGI2	13.09.07	(M) 20-30
		(M) 10-20
		(M) 40-50
		(F) 30-40
Controlled MPE: Al-Rehab City		
CON-RGI3	23.08.07	(M) 20-30
		(M) 10-20
		(M) 10-20
		(F) 20-30
		(F) 20-30
		(F) 10-20
		(F) 10-20

Officials Interviews

Officials from Central Government

Code	Date	Participant	Occupation	Affiliation
OI-CG1	17.10.07	(F) 40-50	Cooperative housing officer	NUCA
OI-GC2	31.10.07	(F) 30-40	New Cairo planning officer	NUCA
OI-GC3	31.10.07	(M) 50-60	Development coordinator	NUCA
OI-UH1	25.09.07	(F) 50-60	Projects coordinator	NOUH
OI-UH2	21.10.07	(M) 50-60	Planning and Development officer	NOUH
OI-UH3	23.10.07	(M) 30-40	Studies and research officer	NOUH
OI-EE2	26.09.07	(M) 20-30	Nature protection officer	EEAA
OI-EE1	27.09.07	(M) 30-40	Enviro. Info./ public awareness officer	EEAA

Officials from Local Government

Code	Date	Participant	Occupation	Affiliation
OI-LG1	09.09.07	(F) 50-60	Environmental affairs officer	NCDA
OI-LG2	09.09.07	(M) 30-40	Planning permeations officer	NCDA
OI-LG3	18.09.07	(M) 40-50	Planting and irrigation officer	NCDA

OI-LG4	20.09.07	(M) 50-60	Head of New Cairo Development Agency	NCDA
OI-LG5	24.09.07	(F) 50-60	Development and follow up officer	NCDA
OI-LG6	24.09.07	(M) 30-40	Roads network officer	NCDA
OI-LG7	03.10.07	(M) 40-50	Utilities officer	NCDA

Developers and Key Individuals Interviews

Developers

Code	Date	Participant	Occupation	Affiliation
CO-D1	11.10.07	(M) 30-40	Cooperative housing officer at (NCDA)	Eskan El-Gehaz
ICO-D2	28.10.07	(F) 40-50	Improved-coo. Housing officer at (NCDA)	Eskan El-Shabab
SB-D3	09.09.07	(F) 40-50	Land subdivision officer at (NCDA)	El-Hay El-Khames
CON-D4	06.11.07	(M) 50-60	Marketing officer at Talaat Mustafa Group	Al-Rehab City
GAT-D5	08.11.07	(M) 40-50	Marketing officer - Arabella Developments	Arabella Park
GOL-D6	18.09.07	(M) 40-50	Marketing officer at ATIC Group	Mirage City

Key Individuals: Academics and Planning Practitioners

Code	Date	Participant	Occupation	Affiliation
KI-AC1	27.08.07	(M) 60-70	Urban planning professor	Cairo Uni.
KI-AC2	17.09.07	(M) 40-50	Urban planning lecturer & researcher	Ain Shams Uni.
KI-PP1	30.09.07	(M) 40-50	Architect	Private practice
KI-PP2	04.11.07	(M) 60-70	Renowned urban planner	Private practice

Appendix B: Themes of Interviews

Residents Interviews' Themes

1) Household characteristics:

-Dwelling type: Flat / House

-Tenure: Owners / Tenants

-Length of living in the MPE: Date of relocating

-Moved from: Area(s) lived in before relocating

-Social group: Low – Low/mid – Mid – Mid/high – High – Ultra high

-Means of transportation: Private / Public

-Household structure: Family members – Gender – Age – Occupation

-Place of Schooling: Cairo / New Cairo

-Place of work: Cairo / New Cairo

2) Motives behind relocation decision.

3) Aspirations to improve the living conditions in the MPE.

Officials Interviews' Themes

1) Role and responsibilities.

2) The role of the institution of affiliation in the rise of MPEs phenomenon.

3) The urban policy towards attracting people to the MPEs.

Developers Interviews' Themes

1) Role and responsibilities.

2) The approaches that are used in to promote the MPEs.

3) The strategies that are used in the development of these MPE.

Academics and Planners Interviews' Themes

1) Personal interests in the MPEs phenomenon.

2) The attitude towards the current forms of the MPE and their developers practices.

-Cooperative MPEs.

-Improved-cooperative MPEs.

-Self-built MPEs.

-Controlled MPEs.

-Gated MPEs.

-Golf MPES.

Page 1 of the Respondents Interview Form

apl School of Architecture Planning and Landscape

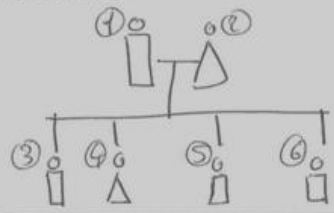
(1) Newcastle University

Interview Form

Interview Code	CH-R5	**Date**	(Wed) 19/9/2007
Time	7:20pm — 9:35pm	**Recording file**	CH-19-09-07.wav
Community	Eskan EL-Gehuz	**Address**	Block 65A – 24
Dwelling	Flat	**Tenure**	Owners
Moved in	1999	**Moved from**	EL-Salam
Social group	Low — Mid	**Transport**	Public + Car (1)

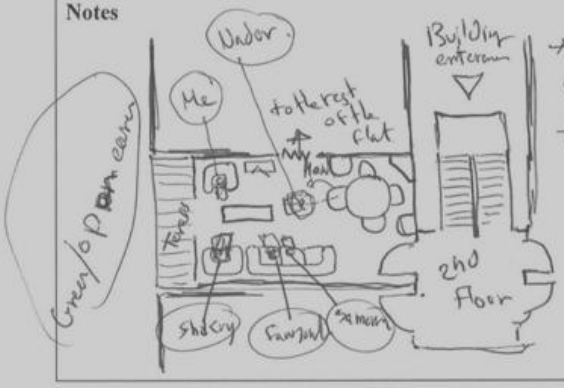
Family members	Gender	Age	Occupation
(1) Shokry	M	Late 30s	Cars Mechanic in Cairo
(2) Fawzeyah	F	~~Mid~~ 30s	House Wife
(3) Nader	M	Mid Teens	Student
(4) Sameera	F	around 10	"
(5) Omar	M	~~Less than 7-8~~	Nursery
(6) Abd EL-Rahman	M	Baby	—

Family structure



Interview participants

Notes



* The building is off road — had to walk to reach the entrance.
* They are happy with their view from the balcony
* Spend time in the Common area infront of their block.
* BBQ with friends in several events

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(٢)

Motives for moving

ما الذي جذبكم للانتقال والعيش في التجمع الخامس واسكان الجزيرة؟

Economic

* رخص ثمن الوحدة حيث انها مدعمة من الحكومة ـــــ
* دخل كان السكان في البداية كانت قليلة، السعر حيث كنا نضطر احياناً لدفعها حوالي ضعفها من القاهرة ـــــ ،
* الآن الأمور احسن حالاً، ولكنه لا تزال قليلة لشيء ما ـــــ

Social

* التمكن من قضاء بعض الوقت مع الجيران والأصحاب خصوصاً في أوقات الصيف حيث نستطيع المشي بين المباني ـــــ ،
* [illegible] الأولاد يستمتعون أكثر منا بالمناطق المفتوحة التي حيث يلعبون بأمان ولكن هناك مشاكل قد تذكر ،

Cultural

* القاهرة اصبحت لا تطاق ـــ فكان الأسرة الانتقال الى مناطق ابعد ولكن هناك مشكلة في الانتقال للعمل اصبحت احسن حالاً من ذي قبل ـــــ

Environmental

* الهواء هنا النقي الخاص ابعد من القاهرة ـــ ، كذلك المناطق المفتوحة تقلل شيء من التلوث خصوصاً في اوقات الصيف الحارة ـــ فالبيئة ربما الى هنا افضل ـــــ

Others

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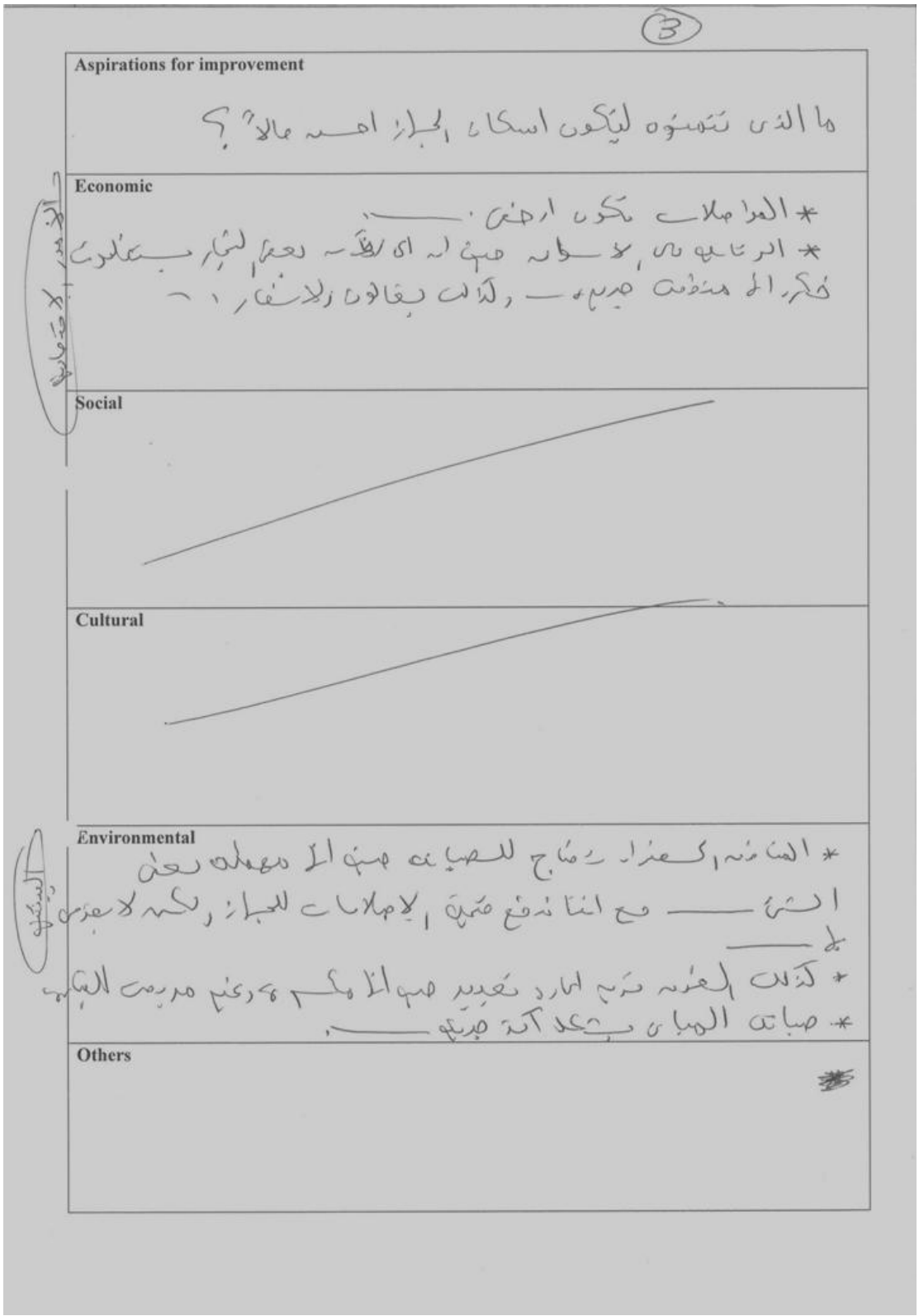
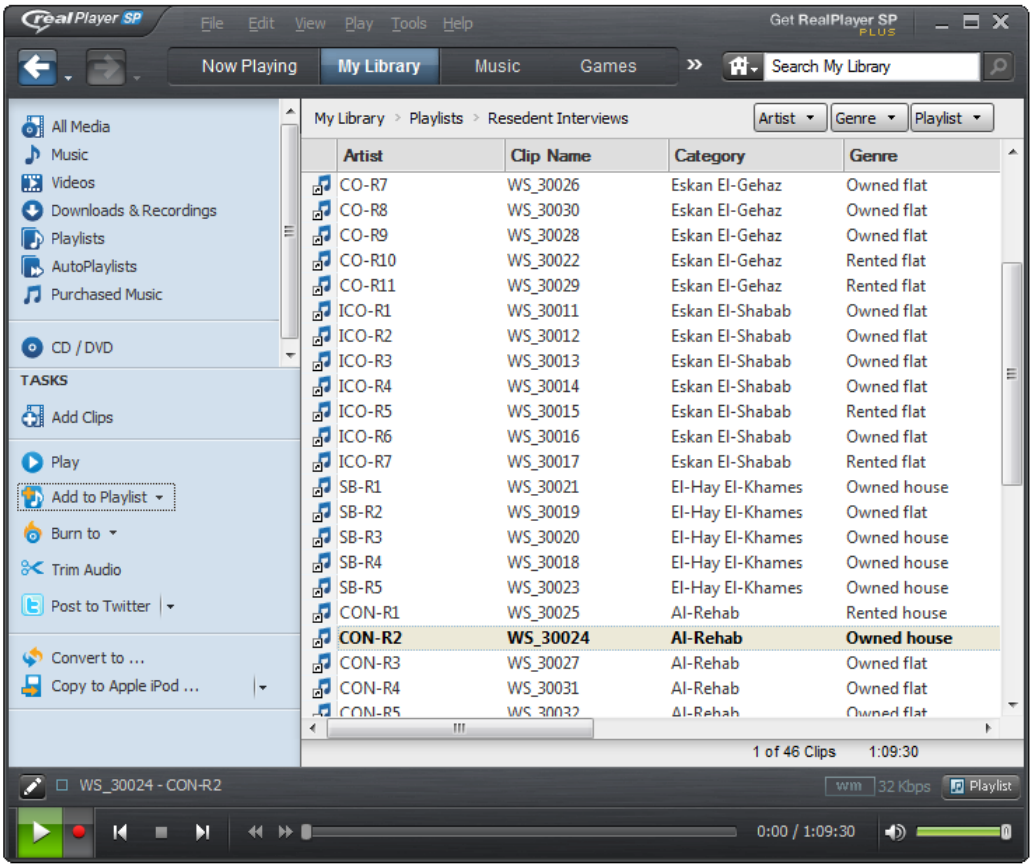
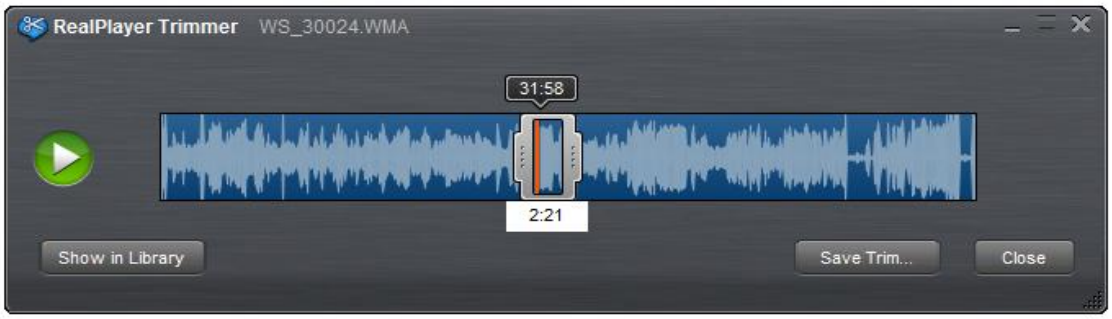


Appendix C: Organising the Interviews

Marking the significant sections of the interviews was possible using the RealPlayer programme that gave the option to trim the digital recordings and categorise them.



Example 1: Basic idea relevant to motives for relocation: Move around safely



The relevant passage in Arabic:

المشارك: احنا اخدنا بالنا مناول مره زرنا فيها الرحاب انها وحدهمن اندرالأماكن في القاهرة اللي ممكن تمشي فيها و مش محتاج تعمل بهلوان حاولين العربيات اللي ماشيه.

تامر: وده عمل فرق في ايه يعني؟

المشارك: ده ادى انطباع هايل عن مميزات المجتمع هنا ككل.

Translation to English by author

Respondent: We realised since the first visit to Al-Rehab that it is perhaps one of the only few places in Cairo that you can move around without a need to make stunts between the moving cars.

Tamer: how this made a difference in your decision?

Respondent: This was a very good first impression about the qualities of the community as whole

The used quote:

We realised since the first visit to Al-Rehab that it is perhaps one of the only few places in Cairo that you can move around without a need to make stunts between the moving cars...this was a very good first impression about the qualities of the community as whole.

Example 2: Basic idea relevant to motives for relocation: Walkable distances

The relevant passage in Arabic:

المشارك: واحده من الحاجات اللي جذبتنا عالشان نعيش هنا في الرحاب هي توافر جميع الخدمات حوالينا و على مسافات مشي مناسبه ...ودي حاجه تحسب للشركه ما فيش شك.

تامر: ايوه بس الرحاب صغيره نسبيا...عالشان كده من الطبيعي تلاقي كل حاجه عل مسافات مشي مناسبه.

المشارك: الرحاب مش صغيره...و مع ذلك احنا بنفضل المشي عن السواقه.

تامر: طب ليه بتفضلو المشي عن السواقه؟

المشارك: يمكن عالشان الواحد بيمشي مبين مناطق خضره و معتنى بيها.

Translation to English by author

Respondent: One of the things that attracted us to choose Al-Rehab to live is the availability of all services within walk able distances...this is something need to be accredit to the developers.

Tamer: yes but Al-Rehab is a small place...so it is normal that you have things within walking distances.

Respondent: Al-Rehab is not small...despite this we prefer walking than driving.

Tamer: so why you prefer walking than driving.

Respondent: perhaps it also because you walk between nice well kept green areas.

The used quote:

One of the things that attracted us to chose Al-Rehab to live is the availability of all services within a walk able distances...this is something need to be accredit to the developers...Al-Rehab is not small...despite this we prefer walking than driving...perhaps it also because you walk between nice well kept green areas.

Example 3: Basic idea relevant to motives for relocation: Affordability

The relevant passage in Arabic:

لمشارك: عشره ولا خمستاشر سنه فاتيت لو كنت عايز تسكن في بيت بجنينه في مصر كان تقريبا شبه مستحيل.

تامر: الناس ماكنتش تقدر على تمنه.

المشارك: حتى لو كنت تقدر على تمنه...الفرص كانت بسيطه اوي...الحل الوحيد كان انك تاخد شاليه ولا فيلا في وحده من القرى السياحية في الساحل الشمالي...دلوقتي الحلول بقت اكتر مع تواجد المجتمعات اللي زي القرى السياحيه.

تامر: بس الناس بتدفع فيها كتير اوي.

المشارك: طبعا حتدفع كتير...بس خالينا صرحة...الناس بتدفع اكتر سعات كتيره في مجرد شقة في بعض المناطق في القاهرة...بس هنا افضل بكتير.

Translation to English by author

Respondent: Ten or twenty years ago if you wanted to live in a house with a garden in Egypt it was nearly impossible.

Tamer: people couldn't' in general afford it.

Respondent: even if you can afford it...possibilities were limited in Cairo...the only way is to have a chalet or villa in one of the summer holidays resorts in the north coast...now possibilities are wider with the resort-like communities...here [Al-Rehab] you can live in a house with a swimming pool.

Tamer: but people pay a lot for it.

Respondent: of course you pay a lot for it...but let us be frank... anyway people pay sometimes more for a normal flat in some parts of Cairo...but here is far better

The used quote:

Ten or twenty years ago if you wanted to live in a house with a garden in Egypt it was nearly impossible...even if you can afford it...possibilities were limited in Cairo...the only way is to have a chalet or villa in one of the summer holidays resorts in the north coast...now possibilities are wider with the resort-like communities...here [Al-Rehab] you can live in a house with a swimming pool...of course you pay a lot for it...but let us be frank... anyway people pay sometimes more for a normal flat in some parts of Cairo...but here is far better.